The

Local Mitigation Strategy

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for

Miami-Dade County

and its

Municipalities, Departments and Private Sector Partners

LMS

Miami-Dade

June 30, 2007

The Miami-Dade Local Mitigation Strategy
June 30, 2007

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The Local Mitigation Strategy
of
Miami-Dade County and its Municipalities and Partners

Introduction

Miami-Dade County is made up of thirty-five municipalities plus a large unincorporated area referred to as the "Unincorporated Municipal Services Area" (UMSA). While referred to as cities throughout this document, officially, some are cities, others are towns and still others are villages. These municipalities consist of both coastal and inland communities; urban, suburban and rural communities; communities that are heavily industrialized, some with an agricultural base and those that are almost completely residential. The county has two of the five largest cities in the state of Florida (Miami and Hialeah) and one city, Islandia, so small it has no infrastructure whatsoever.

In the spring of 1998, the state of Florida contracted with and provided funding to each of the counties within the state to develop a Local Mitigation Strategy (LMS). Miami-Dade County is a highly diverse community yet because of a hurricane named Andrew we all have a profound appreciation for hazard mitigation and a willingness to make the "Strategy" work. Consequently, all of the municipalities in Miami-Dade County have participated in the Local Mitigation Strategy (LMS) at one time or another and have formed, with many other organizations, what we refer to as the LMS Working Group.

The LMS Working Group

During the development of the LMS each municipality designated a representative to the Working Group. Additionally, each of the major departments within the county government assigned a representative to the Working Group to address the issues of the unincorporated portions of the county and the county owned and operated facilities that lie within the boundaries of the municipalities. In order to streamline planning, the Working Group was divided into seven subgroups, which, for convenience sake, used the groupings that were already in place within the county as "divisional emergency operations centers" (DEOC) and are loosely based upon geographical proximity. The subgroups are as follows (with new cities added where appropriate):

Group 1: Aventura, Bal Harbour, Golden Beach, Miami Gardens, North Miami Beach and Sunny Isles Beach.

Group 2: Bay Harbor Islands, Biscayne Park, Indian Creek Village, North Miami and Surfside.

Group 3: Doral, Hialeah, Hialeah Gardens, Medley, Miami Lakes, Miami Springs, Opalocka and Virginia Gardens.

Group 4: El Portal, Key Biscayne, Miami, Miami Beach, Miami Shores and North Bay Village.

Group 5: Coral Gables, Palmetto Bay, Pinecrest, South Miami, Sweetwater, and West Miami.

Group 6: Cutler Bay, Florida City, Homestead, Islandia and the Miccosukee Tribe of Indians of Florida.

Group 7: Miami-Dade County departments, divisions and offices – offices and divisions that operate fairly independently of their parent department act on their own in the LMS Working Group.

Other active participants in the Working Group include state and federal agencies, colleges, universities and schools (including the Miami-Dade County Public Schools), hospitals, not-for-profit organizations and private sector companies.

The makeup of the Working Group is not limited to the any particular organization or jurisdiction. Numerous others have expressed the desire to participate in the Local Mitigation Strategy and are welcome to do so. It has been asked why federal and state agencies and private sector companies should participate in the LMS. Well, the answer is easy: They live here and work here, too; our disasters are their disasters.

Each organization, (municipality, county department or other participating organization) appoints an official representative to the Working Group who will vote on behalf of the organization and will be the "voice" of the organization. Each organization is encouraged to solicit participation and commentary from its citizens, employees and members.

It must be noted, however, that to be considered a participant of the Local Mitigation Strategy and receive the benefits thereof, a municipality, county department or any other organization must attend at least two of the four quarterly meetings held each year. The Working Group endorsed this policy unanimously on September 20, 2001. However, any organization may substitute regular participation and attendance on an active LMS committee or subcommittee in lieu of attendance at the quarterly meetings.

Although the state of Florida's LMS development contract with Miami-Dade County and its municipalities officially terminated in August of 1999 there was a presumption in both the contract and in the publication *The Local Mitigation Strategy: A Guidebook for Florida Cities and Counties* that the Working Group or other successor entity would continue in some form far beyond that date. The requirement for the development of evaluation criteria and review and revision policies implies continuity, as does a long-term conflict resolution policy utilizing the Working Group as part of the process. In any event, the continuation of the Working Group has been addressed as part of the Local Mitigation Strategy even though not required by the contract.

LMS Committees

In order to streamline the Working Group's activities, various committees may be formed, each addressing an area of concern. Initially, committees were formed to deal with flooding, evacuations, funding, community education, external policy, agriculture and wildfires. Other committees may be formed as needed. To act as a "board-of-directors" and to guide pol-

icy between meetings of the Working Group, a Steering Committee has been formed with members representing the organizations found within the Working Group (i.e. municipal, county, educational, not-for-profit and private sectors). The Steering Committee will also act as a review committee for the establishment of this Local Mitigation Strategy and the prioritization of the projects therein. Membership on any committee shall be voluntary and subject to the review and approval of the Working Group. A committee member who fails to attend a reasonable number of committee meetings may be dropped from participation in the committee by a majority vote of the other members of that committee. As stated above, serving on a committee may act in lieu of attendance at the quarterly LMS meetings.

Program Continuity and Meetings

In September 1999, The Miami-Dade County Local Mitigation Working Group voted to continue the LMS program with or without state funding. The Steering Committee will meet as needed and the full Working Group will meet once each calendar quarter. Working Group meetings will be noticed by e-mail to the official representative of each jurisdiction and to other interested parties. The representatives are encouraged to post meeting notifications prominently, on community bulletin boards or in some other way, to notify the public or other interested parties at least thirty days prior to each meeting. Meeting times, dates and locations will also be posted on the LMS website: www.miamidade.gov/oem/lms.asp.

In March 2000, the Working Group determined that the LMS master document needed to be updated two to three times each year and the updates, including the deletion of completed or abandoned projects, the addition of new projects and amendments to existing projects, will be published and forwarded to the Florida Division of Emergency Management. In December 2000 it was finally agreed to by the Working Group that the LMS master document would be updated and published on June 30th and December 31st of each year.

The LMS Coordinator working through the Miami-Dade Office of Emergency Management (OEM) and with the assistance of the LMS Steering Committee, will undertake to organize the updates. All additions, deletions and amendments must be received at OEM at least thirty days prior to each agreed upon publication date or risk not being included in the final publication for that time period.

At all times, the latest published version of the Local Mitigation Strategy will be posted on the Miami-Dade County Internet website – www.miamidade.gov/oem/lms.asp – for public scrutiny and commentary. An email address, mdlms@miamidade.gov, has been established for such commentary, which is strongly encouraged; let us hear from you.

On June 6, 2000 the Miami-Dade Board of County Commissioners passed Resolution R-572-00 formally adopting the Local Mitigation Strategy as official county policy thus further promoting program continuity. Because Miami-Dade County has a metropolitan form of government with a home rule charter, this means that each of the municipalities within the county has also automatically adopted the LMS unless they choose not to and to date, none have opted out.

On September 13, 2000 Miami-Dade County, along with its municipalities and other organizations was designated by FEMA and the Florida Department of Community Affairs to be a "Project Impact Community." At the December 6, 2000 meeting of the LMS Working Group, it was agreed that the LMS Working Group would become the Project Impact Working Group and that the Local Mitigation Strategy would continue under the auspices of Project Impact. Henceforth, Project Impact and the Local Mitigation Strategy became synonymous. Additionally, the LMS Steering Committee will continue its functions under Project Impact. On May 30, 2001, a formal "signing ceremony" took place at Vizcaya Museum and Gardens when many members of the Working Group signed a proclamation, each becoming a "Project Impact Partner." Although FEMA no longer endorses Project Impact, it has indicated that it will not abandon the Project Impact communities as long as their grants are still in effect. Conversations within the Working Group indicate that Project Impact will continue in Miami-Dade County regardless.

On June 7, 2005, the Miami-Dade Board of County Commissioners passed Resolution R-710-05, which states that grant applications filed under the auspices of the Miami-Dade Local Mitigation Strategy no longer have to go to the Commission for approval, but instead authorizes the county manager to "*Apply for, receive, expend and amend applications for grant funds for projects listed in the Miami-Dade County Local Mitigation Strategy.*"

As of this publication date of June 30, 2007, the LMS Working Group is still going strong and there are over 150 completed mitigation projects at a value exceeding 200 million dollars. Additionally, there are many Pre-Disaster Mitigation (PDM) program projects that have been recently awarded and millions more in Hazard Mitigation Grants Program (HMGP) still pending form the 2004 and 2005 hurricane seasons. The HMGP funding that has become available as a result of Hurricanes Katrina and Wilma in 2005 will lead to significant mitigation advances in the near future.

Part I – The Strategy

Guiding Principles

Federal, State and Regional Governmental Entities

The federal, state and local entities that perform hazard mitigation functions are almost too numerous to name. However, some of the more prominent ones are: the Federal Emergency Management Agency (FEMA), the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), U. S. Army Corps of Engineers (USACE), Natural Resources Conservation Service (NRCS), Florida Division of Emergency Management (now part of the governor's office), Florida Department of Community Affairs (DCA), Florida Department of Transportation (FDOT), South Florida Water Management District (SFWMD) and many more.

The government entities which are located in and affect Miami-Dade County and its municipalities that perform hazard mitigation functions are varied and represent all levels of government: federal, state, county and local.

The Federal Emergency Management Agency has funded hundreds of hazard mitigation projects following Hurricane Andrew and to a lesser extent following the 1993 March windstorm or "Storm of the Century," the February, 1998 "Groundhog Day" storms and more projects have been implemented following Hurricane Irene in 1999 and the October 3, 2000 floods (pre-Tropical Storm Leslie), the tornados of March 27, 2003, the hurricanes of 2004 (Charley, Frances, Ivan and Jeanne) and most recently: Katrina, Rita and Wilma. FEMA also delves deeply into mitigation as administrator of the National Flood Insurance Program.

The U. S. Army Corps of Engineers is responsible for restoration and renourishment of most of the county's beaches, maintenance of the Intercoastal Waterway, maintenance of Government Cut and the Miami Harbor entrance, and some shared responsibility with the South Florida Water Management District for the canal and levee systems throughout the county. Mitigation functions in these areas by the Corps are multiple and varied.

The South Florida Water Management District (SFWMD) maintains canal, pumping, and drainage systems throughout the county and controls when control structures are opened and closed thus flood control mitigation opportunities exist to benefit all of South Florida. These structures, located throughout the county, also mitigate against saltwater intrusion into our drinking water supply. The SFWMD was the lead agency in the completion of the C-4 Basin Initiative, which is , to date, the largest mitigation project ever sponsored by FEMA, both in dollars and in scope of work.

The United States National Park Service controls Everglades National Park that covers one third of the land area of Miami-Dade County and Biscayne National Park that covers over

half of Biscayne Bay. One of our municipalities, the City of Islandia, lies entirely within the boundaries of Biscayne National Park.

The Florida Department of Environmental Protection oversees considerable flood plain management and also controls the state park system, two of which, Oleta River and Bill Baggs State Recreation Areas, lie within Miami-Dade County; state parks that are vulnerable to hurricanes and storm surge because of their locations, one on Biscayne Bay and the Intercoastal Waterway and the other on Key Biscayne, a barrier island.

The United States Department of Agriculture's Farm Service Agency provides assistance to the farming community similar to that which FEMA provides to counties and municipalities. Also, the Natural Resources Conservation Service (formerly Soil Conservation Service) helps with mitigation such as canal bank restoration and stabilization.

The United States Forestry Service and the Florida Division of Forestry both keep fire trails and fire breaks open, conduct controlled or prescribed burns and assist with debris clearance, all of which mitigate and facilitate fire control by keeping fuel levels low.

The Florida Department of Transportation must be a major participant in any mitigation endeavors undertaken throughout the county. They, along with the Miami-Dade Expressway Authority, maintain and control our major thoroughfares including the expressway system. They also control, along with Miami-Dade County Public Works, Florida East Coast and CSX railroads and the Town of Bay Harbor Islands, the twenty-three movable bridges that cross the Miami River and the Intercoastal Waterway.

Municipal Agencies and Their Mitigation Functions

The municipalities of Miami-Dade County each have within their makeup certain departments and agencies which affect and promote mitigation. While these agencies may have slightly different names from city to city, the role they perform in the mitigation function remains the same (e.g. public works or public services or community services, etc).

Police and fire rescue departments: The municipalities of Cutler Bay, Doral, Islandia, Miami Gardens, Miami Lakes and Palmetto Bay use the services of the Miami-Dade Police Department and each of the remaining municipalities maintains its own Police Department while the cities of Coral Gables, Hialeah, Key Biscayne, Miami and Miami Beach also maintain their own fire departments with the balance of the cities using Miami-Dade Fire Rescue for this service. While these departments, except for their own buildings, do not truly do mitigation as it pertains to this strategy, they can be an extremely helpful as sources of information because they are the first responders to most of our hazard events and their insights into preventive measures can be invaluable. The police and fire departments also conduct educational seminars to residents to spread awareness on emergency preparedness.

The building department (or building & zoning): The functions of this department relate extensively to a wide range of mitigation projects and on-going mitigation activities. In most of

our cities, the Building Official is responsible for interpreting and enforcing all laws, codes, ordinances, regulations and municipal policies related to the construction, improvement, expansion, repair or rehabilitation of buildings within the city. This department ensures that all new construction complies with the Florida Building Code which in itself is a major contribution to hazard mitigation. The department usually is responsible for the prevention of development in Special Hazard Areas; preservation of open space; general control of land use intensities; and coordination between the capacity of public infrastructure in relation to proposals of private development. This department also ensures all proposed development in the city conforms to the city's comprehensive plan as it relates to urban design of public areas and buildings, infrastructure planning and maintenance of flood data and other statistical information.

Planning and Development Department: Often is a part of the building department and even, at times, a part of public works. However, a number of our municipalities maintain planning and development as a separate entity which interacts within the mitigation strategy in many ways and must be part of the overall strategy especially in the area of urban land use..

Public Works Department: In most of our cities this department is responsible for construction and maintenance of roads, bridges and waterways and storm water management including drainage system development, inspection and maintenance, all functions that relate in various ways to hazard mitigation. Public works activities are a major component of any mitigation strategy.

Mitigation Goals and Objectives

In a community as large and diverse as metropolitan Miami-Dade County no single list is going to include every conceivable mitigation goal or objective. However, we can start with the philosophies necessary to bring the community together as a single mitigating entity.

Mitigation goals and objectives must be consistent with the goals and objectives of the county and the individual municipalities' master plans, their codes and ordinances, as well as other endeavors that reflect the aspirations for the welfare, safety and quality of life of their citizens.

Goals

1. The primary mitigation goal is to reduce vulnerability to natural, technological and societal hazards from all sources but especially, in South Florida, from hurricanes, tornadoes, major rainfall and other severe weather events.

2. Related to the above is the goal to mitigate the extent and severity of the problems created by these hazards and to, collaterally, secure the necessary commitments and, to the maximum extent feasible, the necessary resources to implement mitigation activities in annual action plans to achieve these goals.

3. To prevent any additions to the list of "Repetitive Loss Properties" published annually by the FEMA National Flood Insurance Program (NFIP) and to reduce the number of repetitive loss properties to a point where the municipalities and the county can qualify as a category A or B Community (i.e. a community containing no more than nine repetitive loss properties). A repetitive loss property is a single property that has two or more NFIP flood insurance claims of $1,000 or more.

4. To assure incremental improvements in municipalities' standing and classification in the Community Rating System (CRS), with the related consequences of making flood insurance under the NFIP more affordable and reachable, while improving cities' effectiveness in coping with flood hazards, problems and emergencies. It is also a goal of the Local Mitigation Strategy to ensure that all the municipalities in Miami-Dade County are or will become members of the CRS program.

5. Increase the continual dissemination of information on a repetitive basis with respect to the existence of flood hazards and the availability of measures to mitigate the problems presented by such hazards.

6. Continually improve and maintain cutting-edge, state-of-the-art, effectiveness of the cities' emergency preparedness and disaster response capacity.

7. To increase the level of coordination of mitigation management concerns, plans and activities at the municipal, county, state and federal levels of government.

8. To secure an enforceable commitment for the implementation of the local hazard mitigation strategy.

Objectives

1. To follow the mitigation recommendations espoused in the FEMA publication *Building Performance: Hurricane Andrew in Florida*, a document that dramatically sets forth the many deficiencies brought to light by Hurricane Andrew.

2. Protection of expressways, major highways and other thoroughfares and, more importantly, our bridges and causeways to provide for continuous, free flowing traffic and circulation as needed for the effective and unencumbered provision of emergency services and evacuation operations.

3. Protection of "critical facilities" vital to the safe and continuous operation of countywide infrastructure including hospitals and health facilities; water and sewer facilities; major airports; the seaport; electrical, natural gas and telephone systems; bus and rail lines; schools and waterways.

4. Protection of critical facilities vital to disaster response, including the structures occupied by the Fire and Police Departments and all other emergency-related personnel, equipment

and facilities involved with the transportation, communication, and energy requirements for an effective response to a major rainstorm, hurricane, tornado, terrorist act or other similar disaster event.

5. Addition of building envelope protection – including window and door protection – and inclusion of a continuous load path from roof to foundation on all structures within the county.

6. Reduction or mitigation of low points in the county's or cities' topography; specifically to encourage the flow of storm water away from structures and toward streets where storm drainage systems are concentrated and to eliminate or modify surfaces that would otherwise drain toward these low points.

7. Reduction and mitigation of rainstorm hazards and problems.

8. Reduction and mitigation of storm surge hazards and effects by encouraging greater setbacks from shorelines for new developments of waterfront properties, encouraging retrofitting and elevation of structures with high priority consideration for those built on waterfront properties, seeking opportunities to acquire, exchange or otherwise secure limited control of waterfront real estate.

9. Goals related to existing soil conditions.

10. Reduction and mitigation of problems from structures built below base flood elevation (BFE). These "old law" buildings were constructed under the older Dade County Building Code, which only required the finished floor elevation of a structure to be 13" above the crown of the road. The goal is to reduce the number of and eventually eliminate structures built with a finished floor elevation below the BFE.

11. Collection of flood data information and analysis and completion of a countywide database which incorporates a wider range of property data, topographical data, storm drainage data, rainfalls data, building permit data, data on insurance, history of flooding, etc.

9. Enhancement of the land component of real estate values throughout the county, thereby creating a market driven, rather than regulatory environment for the "substantial improvement" (i.e. more than 50% of value) of structures with current finished floor elevations below BFE.

10. Enhance public information and involvement and increase the public awareness of hazards and problems and educate the public through a widespread program of general information, media coverage and participatory involvement.

11. Initiate organizational, managerial and administrative goals to make mitigation a mainstream function of government affairs; spread the responsibilities throughout many de-

partments and agencies to ensure continuity and a full integration of mitigation management functions in the operations of government.

Policies, Ordinances and Programs Affecting Mitigation

Each municipality is similar in that it is located in Miami-Dade County, Florida. The same federal, state and county laws govern each. Each individual municipality is unique and has its own municipal ordinances, policies, procedures, and programs that differ according to specific needs and priorities. The basic federal, state and county documents affecting hazard mitigation listed are generally applicable throughout the municipalities. Other documents vary; therefore data sources for each have been listed according to the respective municipal government. Adherence to these policies, ordinances and programs is an integral part of the Miami-Dade LMS.

There are many federal, state and county laws and policies that affect hazard mitigation and all the members of the Working Group. Some of those are:

Federal:

1. The Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288 as amended (The Stafford Act) is interpreted by Title 44 of the Code of Federal Regulation (44 CFR) and governs FEMA and emergency management and sets forth the federal concepts for hazard mitigation. It also defines the Coastal Barriers Resources Act (44 CFR 206 subpart J) and describes floodplain and environmental management (Parts 9 and 10). The Disaster Mitigation Act of 2000 (DMA-2K) has also redefined much of this and those changes have been incorporated into this document. Much of FEMA has been further redefined by the "Post-Katrina Emergency Management Reform Act of 2006," which was enacted by Congress and signed into law by the President in the Fall of 2006.

2. The National Flood Insurance Program (NFIP) and the Community Rating System (CRS) FLA-15, July 1996, sets up a community rating system for flood insurance offering incentives for communities and credits for eighteen floodplain management activities.

3. National Fire Code, 1993 and NFPA 101 Life Safety Code define uniform fire safety standards adopted by rule by the State Fire Marshal.

4. Title 15 of the Code of Federal Regulations, which defines the Coastal Zone Management Act (15 CFR Parts 923 and 930).

5. Title 40 of the Code of Federal Regulation which defines the National Environmental Policy Act including such mitigation measures as included in the National Emission Standards for Hazardous Air Pollutants (Part 61), Toxic Substances Control Act (Part 763), the Resource Conservation and Recovery Act and CERCLA (the Superfund).

6. Title 29 of the Code of Federal Regulations that defines the Occupational Safety and Health Act containing many hazard mitigation measures.

7. Presidential Decision Directives 39 and 62 are the authorities directing the development of terrorism response.

State:

1. State of Florida laws which are pertinent to hazard mitigation include:

    a. Chapter 161 – Beach and Shore Preservation

    b. Chapter 255 – Public Property and Public Buildings

    c. Chapter 373 – Water Resources

    d. Chapter 403 – Environment Controls

2. The South Florida Water Management District provides guidelines that control the canal network within Miami-Dade County and its municipalities.

3. South Florida Fire Prevention Code, 1992-93 (adopted by the County Commission) defines standards for fire prevention and allows controlled burns as mitigation.

County:

1. Board of County Commission Resolutions

    a. R-572-00, which establishes the Miami-Dade Local Mitigation Strategy as official county policy
    b. R-710-05, which authorizes the county manager to apply for, receive, expend and amend applications for projects listed in the Miami-Dade Local Mitigation Strategy.

2. Pertinent Miami-Dade County laws include codes and ordinances that govern municipal activities, as follows:

    a. Chapter 8(b) of the county code, which deals with emergency management;

    b. Chapter 17, i.e. the Housing Code, focused on maintaining the housing stock in decent safe and sanitary conditions;

    c. Chapter 24 covering the activities of the Department of Environmental Resources Management (DERM) for permitting hazardous materials;

d. Chapter 28 of the county code which deals with subdivision regulations;

e. Floodplain Management Program sets the criteria for elevations and assesses the risks for flooding for different areas of the County;

f. Miami-Dade County Comprehensive Emergency Management Plan mandates that municipalities have emergency management plans, as well as recommends the performance of hazard mitigation activities;

g. Miami-Dade County Comprehensive Land Use Plan dictates current land use and controls future land use and growth throughout the county;

h. The Public Works Manual, especially Section D5, concerning coastal construction;

i. Dade County Environmental Protection Ordinance, Coastal and Freshwater Wetlands Regulations, Sections 24-58 and 24-59.

3. Miami-Dade County Landscape Maintenance Special Taxing Districts provide tree-trimming programs that prevent more severe damage during windstorms.

4. Miami-Dade County and all of the municipalities use the Florida Building Code (FBC), adopted in March 2002, as a standard. In deference to the South Florida Building Code that it replaced, the High Velocity Hurricane Zone portion of the FBC applies to Miami-Dade and Broward Counties and allows for stricter design and construction measures in addition to ASCE 7-98, especially the requirements to protect windows, walls and roofs from wind-born debris.

5. The Local Law Enforcement Mutual Aid Agreement with Miami-Dade County designed to coordinate and supplement local resources.

6. The Statewide Mutual Aid Agreement for Catastrophic Disaster Response and Recovery establishes a local resource for all Working Group members that are presently signatories, which, in Miami-Dade County, is all except the city of Islandia that lies entirely within Biscayne National Park and has no infrastructure.

Municipalities:

a. The Basic Emergency Management Plan sets forth the procedure for all activities of the municipality before, during and after emergencies.

b. A Stormwater Management Plan, which is focused on flood-related hazards and defines the relevant mitigation goals, evaluates appropriate and feasible mitigation measures and prioritizes such measures into an Action Plan for systematic implementation.

c. A Floodplain Management Plan governing development in the floodplain. All cities within the county are striving to establish a floodplain management plan and participate in the Community Rating System. NFIP has stated that this document, the Local Mitigation Strategy, may serve as a floodplain management plan for its participants.

d. A Comprehensive Land Use Plan controlling growth and development within the municipality.

Effectiveness Evaluation

Following Hurricane Andrew in 1992 and continuing for several years thereafter, the county government and the governments of most of the municipalities did an in depth evaluation of existing policies, ordinances and programs. The big question was "why was the damage so severe?" And, "what could we have done to prevent this extent of damage?"

As a result of the evaluations, many revisions came to pass, especially in the Florida Building Code. As noted in the previous section, the load standards of section 6 of the American Society of Civil Engineers Standard 7-88 were adopted as part of the code. New measures for community protection came to be. For example, storm shutters must now pass certain impact tests; in fact, storm shutters or other type window protection are now required on all new buildings. Requiring heavier decking, tighter nailing and stronger internal bracing has strengthened roof structures. These tougher standards remain in effect in Miami-Dade County in the new Florida Building Code and especially in the High Velocity Hurricane Zone section thereof. (Note: At the 2003 National Hurricane Conference in New Orleans, the Miami-Dade Building Code Compliance Office was presented the national award for mitigation for their fight to retain the tougher, stricter building codes.)

The Miami-Dade LMS calls for an "evaluation of existing municipal mitigation policies, ordinances and programs." Hurricane Andrew forced it. South Florida is still in the process of this evaluation and a continuous effort to increase the effectiveness of these programs. Many recommendations are included in the aforementioned FEMA publication: *Building Performance: Hurricane Andrew in Florida.* This has all been built into our version of the Local Mitigation Strategy.

Analysis of Existing Policies, Ordinances and Programs

The achievement of the mitigation goals and objectives of the community presupposes clear goals and measurable objectives, both with consensus support from the county and the municipalities. The ability of existing policies, ordinances, and programs to help the community achieve its goals and reach its objectives can only be analyzed at this time if certain assumptions are made regarding what the goals and objectives are to be. Thus, the following assumptions are made: Municipal governments' ordinances, policies and programs will continue to be the primary tools used to effectuate hazard mitigation projects; funding for hazard mitigation projects will continue to be provided by state and federal sources; the goal of reducing the cost to the

community, both monetary and human, of future hazards is primary in determining what policies to adopt, what programs to implement, and what objectives to measure.

Based on the above assumptions, the challenge of "strengthening" existing policies, ordinances and programs is not to improve or increase them, but to clarify, simplify and prioritize them in a way that persuades local government to place more emphasis on implementing them. In addition, local programs designed to understand and take advantage of state and federal funding opportunities must be emphasized. Finally, the appropriation of funds needs to maximize the reduction of costs to the community of future hazards.

As the population grows in Miami-Dade County, hazard mitigation laws must prevent new structures from being built in areas susceptible to unusual occurrences. For example, new building construction in low lying flood areas must be limited or built in such a manner to withstand flooding or wind damage. Similarly, future construction sites of natural gas, electrical and nuclear power plants must have mechanisms in place that will self contain, or significantly limit, effects of potential catastrophic incidents.

Local government and the private sector must provide ongoing training and information sessions for the public. Clear, unbiased knowledge is a key ingredient for safety enhancement for the public. Ongoing training could include public information notices and continuous training sessions at local libraries, hospitals and schools. Part of the cost for this training should be borne by those private parties who ask or have businesses that may contribute to an unusual occurrence. For example, construction of a new electrical substation, a natural gas company building a new facility, a professional dry cleaner establishment, a new gas station, etc. would have impact fees assessed to offset the mitigation training costs.

Training and equipment to prepare for and subsequently resolve hazard situations are necessary and vital. Alternative financial resources must be assessed and located in addition to including these costs in all respective governmental budgets.

Periodic review and revision of the local government ordinances, policies and programs must occur no less than once every other year.

Each municipality that has not yet done so should adopt a floodplain management ordinance and participate in the community rating system program. At the present time, the Miami-Dade Local Mitigation Strategy will serve as a floodplain management plan if adopted by a municipality.

Conflict Resolution Procedures

The Miami-Dade County Local Mitigation Strategy Working Group has established procedures to resolve conflicts between member entities that may arise from the development of the LMS as required by the Florida Department of Community Affairs. It has borrowed extensively from the *Regional Dispute Resolution Process of the South Florida Regional Planning Council*.

These procedures are designed to clearly identify and resolve problems as early as possible, to utilize procedures in a low-cost to high-cost sequence, to allow flexibility in which procedures are used, to provide for the appropriate involvement of affected and responsible parties, and to provide as much process certainty as possible.

There are two basic components: process initiation and settlement meetings. Additionally, there are five optional components: pre-initiation meeting, situation assessments, mediation, advisory decision-making, and referral to other dispute resolution processes.

The Working Group consists of representatives from Miami-Dade County, its incorporated municipalities, county departments and other participating organizations.

In the event of a dispute, parties named in the Initiation Letter (see below) are automatically allowed to participate. Other jurisdictions, public or private organizations, groups, or individuals must be suggested by a named party and agreed to by a majority of the named parties before inclusion; or recommended for inclusion by a mediator mutually selected by the named parties.

Other jurisdictions, public and private organizations, groups, or individuals seeking to become named parties can submit a written petition to the Working Group. Such groups will become named parties if agreed to by a majority of the named parties or by a mutually selected mediator. Named parties have twenty-one days to respond to the Initiation Letter.

Each named party must appoint a representative who should have authority to act. Jurisdictions are encouraged to designate a representative before one is needed. This person will be responsible for the party's interests and maintain communication throughout the process. The representative must be named in writing.

- Pre-Initiation Meeting: Any jurisdiction, organization, group or individual may request an informal pre-initiation meeting with the Working Group coordinator.

- Initiation Letter: The conflict resolution process begins with an Initiation Letter from a jurisdiction's governing body, which is sent to all named parties and the Working Group coordinator. This must be accompanied by either a resolution or written authorization from the same governing body.

  The Initiation Letter must identify the issues to be discussed; named parties to be involved; name of the initiating party's representative; others who will attend; and a brief history of the dispute that indicates why this dispute is appropriate for this process.

- Response Letter: The named parties must send a response letter to the Working Group coordinator and all other named parties. The response letter must indicate the respondent's willingness to participate in a settlement meeting and include any additional issues for dis-

cussion as well as a brief description and history of the dispute from the respondent's point of view.

- Situation Assessment: At the request of a jurisdiction, organization, group, or individual, the Working Group coordinator or other neutral party can perform a situation assessment at any time, before or after initiation of the process. The situation assessment can involve examination of documents, interviews and assessment meetings, and can result in a recommendation concerning the issues to be addressed, parties that may participate, appropriate dispute resolution procedures, and a proposed schedule.

Private interests may ask any member of the Working Group to initiate the process. Any public or private organization, group, or individual may request that the Working Group recommend use of the process. The Working Group can recommend that a potential dispute is suitable for the process and transmit its recommendation to the potential parties.

All requests must be in writing and provide all required information. A Working Group representative must respond after reviewing the petitioner's request; meeting with the requesting organization, group, or individual; and performing a situation assessment. If the Working Group representative agrees with this process, a recommendation will be sent to the potential parties.

Settlement Meetings: At a minimum, the representatives of the named parties must attend the first settlement meeting. This meeting may be facilitated by a member of the Working Group or a mutually agreed upon neutral facilitator. At the initial settlement meeting the named parties must consider adding named parties; consider guidelines for participation; identify the issues to be addressed; explore options for a solution; and seek agreement.

If the settlement meeting is not held or it produces no agreement to proceed with mediation or advisory decision making, then the participating parties may formally withdraw from the process or proceed to a joint meeting of the governing bodies (as in Florida Statute 164); litigation; administrative hearing; or arbitration.

Mediation: If two or more named parties submit a request for mediation to the Working Group, then a representative of the Working Group will assist them in selecting and retaining a mediator. Alternatively, the named parties may request that the Working Group coordinator make the selection or request similar assistance from the South Florida Regional Planning Council.

A mediator who understands hazard mitigation issues and is acceptable to the named parties shall mediate all disputes. Mediators shall be guided by the Standards of Professional Conduct, Florida Rules for Certified and Court Appointed Mediators, Rules 10.020-10.150 F.A.C.

Advisory Decision Making: If two or more named parties submit a request for advisory decision making to the Working Group, then a representative of the Working Group will assist

in selecting and retaining an appropriate neutral. Alternatively, the named parties may request that the Working Group coordinator make the selection. A neutral party that understands hazard mitigation issues and is acceptable to the named parties shall handle all disputes.

Initial settlement meetings are scheduled and held within thirty days of receipt of the initiation letter. Additional settlement meetings, mediation, or advisory decision-making must be completed within forty-five days of the date of the conclusion of the initial settlement meeting.

Timeframes may be altered by mutual agreement of the named parties. The optional components of this process may be used in any order.

In the early stages of the process, the parties should address deferring or seeking stays of judicial or administrative proceedings while using this process.

The form of all agreements shall be determined by the named parties and may include: inter-local agreements; concurrent resolutions; memoranda of understanding; contracts; plan amendments; deed restrictions; or other forms as appropriate.

Agreements signed by the party's representative may be in the form of a recommendation to a formal body and subject to its formal approval.

Two or more parties may reach agreements even if all of the named parties don't agree or don't sign a formal agreement.

After settlement meetings, mediation, or advisory decision-making, the named parties must submit a joint report to the Working Group. The report must contain any statements that any of the named parties wants included as well as:

- An identification of the issues discussed;
- A list of potentially affected or involved jurisdictions, public or private organizations, groups, or individuals (even those who are not named parties);
- A timeframe for starting and ending informal negotiations, additional settlement meetings, mediation, advisory decision making, joint meetings of elected bodies, administrative hearings or litigation;
- Any additional assistance required;
- A cost allocation agreement; and
- A description of responsibilities and schedules for implementing and enforcing agreements reached.

Appropriate opportunities for public input should be considered during the process. Applicable public notices and public records requirements must be observed (Chapters 119 and 120, F.S.).

The participants agree to make every effort to keep costs at a minimum. All costs are to be shared equally among the parties unless otherwise agreed upon or as recommended by a mediator mutually selected by the parties.

To the extent possible, the confidentiality provisions of Chapter 44, F.S. will govern mediation under this process. By participating in this process, participants agree not to offer any comments, meeting records, or written or verbal settlement offers as evidence in subsequent judicial or administrative action.

Hazard Identification & Vulnerability Assessment

As was touched upon in the introduction to the LMS, metropolitan Miami-Dade County is a large and diverse place and therefore vulnerable to many hazards. Since the establishment of the LMS in 1998, we have had eight major disaster declarations and four emergency declarations for hurricanes, tornadoes and major flooding, which are the main hazards that threaten Miami-Dade County. While our hazards are as diverse as our community and our culture and, although each municipality within the county is different and has unique characteristics, the hazards and vulnerabilities are very similar because of climate, terrain and other features. It is worth noting that Miami-Dade County **is not** subject to the risk of avalanches, dam failure, earthquakes, landslides, volcanoes or severe winter storms and these events are not addressed in the LMS.

We can, however, start with the basic types of hazards that do affect us:

1. Natural Hazards (hurricanes, tornadoes, floods, etc.);

2. Technological Hazards—accidents involving manmade facilities or functions (hazardous material spills, nuclear power plant accidents, airplane crashes, etc.);

3. Societal Hazards—major disruptions in normal governmental and community functioning (riots, mass migration, terrorism, etc.).

Let us take each of the above varieties of hazard and examine which of these we have experienced and to which we are most vulnerable. The appendices to this document contain a matrix that assesses each jurisdiction as it's affected by each of the disaster events that could occur in Miami-Dade plus charts of hurricanes and major rainfall events affecting South Florida over the last 100 years as well as maps of Miami-Dade County flood zones, repetitive loss properties, evacuation zones, flammable natural areas and the county's comprehensive land use plan.

Windstorm

Traditionally, we look at hurricanes as the major destructive force to strike south Florida and, they certainly are. However, the area is also subjected to tornadoes and severe thunderstorms that are almost always accompanied by dangerous lightning. Mitigation for all of these is similar so we will address the issue of windstorm as a single hazard condition. The problems inherent with floods caused by the rainfall that usually accompanies hurricanes are discussed later under the topic of "Flooding."

Background and History

South Florida juts out into the Atlantic just asking for a hurricane to show up. And, they do. Since 1904, thirty-two hurricanes and tropical storms have come within seventy-five miles of Miami-Dade County, most of them passing directly over us. As mentioned above, there have been numerous presidential declarations in recent years resulting from hurricanes or tornadoes: Hurricanes Andrew (August 1992, DR-955), Georges (September 1998, ER-3131), Floyd (September 1999, ER 3143), Charley (September 2004, DR-1539), Frances (September 2004, DR-1545), Jeanne (September 2004, DR-1561), Katrina, August 2005, DR-1602, Rita (September 2005, ER-3259)and Wilma (October 2005, DR-1609); the "Storm of the Century" (March 1993, DR-1982) and for the Groundhog Day 1998 (DR-1204) and March 2003 (DR-1460) tornadoes and storms. We were also brushed by Tropical Storm Gordon and Hurricane Michelle, neither of which resulted in a declaration but, nonetheless, did extensive crop damage in our agricultural community. Hurricane Ivan in 2004 and Hurricane Dennis in 2005 came close enough to require activation of our Emergency Operations Center and to contemplate evacuations. Hurricane Irene in 1999 and the October storm of 2000 (which would later become Tropical Storm Leslie) were also declared events that impacted us and are discussed below under "Flooding."

The entire population of Miami-Dade County, some 2.3 million people, all resides within twenty miles of the coast with no hills to buffer the wind. Some have remarked that Hurricane Andrew did no damage beyond twenty miles inland; but that's because there is nothing beyond twenty miles inland except the everglades. And so, everybody and every thing in Miami-Dade County are vulnerable to the hazards of windstorm.

What We Know Now

Unlike other natural hazards, windstorm events, hurricanes, tornadoes and severe thunderstorms don't sneak up on us the way they used to. Modern technology provides a warning. For thunderstorms and tornados we have as much as an hour or more notice that conditions are favorable for an occurrence. That's not much time, but it's a warning. With hurricanes, we know days and even weeks in advance that one is on the way. So, here's this hurricane out there; it's dangerous, deadly even, and it's on the way; it may come here and, there is nothing that we can do to stop it. We can't stop it but the LMS Working Group has developed a number of measures to mitigate against the full force of the storm.

What to Do About It

Arguably, the best way to prevent damage from severe windstorms is to build stronger structures to withstand them. Miami-Dade County prides itself by having established the nation's, if not the world's, toughest building codes. Everywhere one goes one sees construction material vendors pointing out that they have received the Miami-Dade County "product approval." As noted earlier, the Miami-Dade Building Code Compliance Office received a national mitigation award for their fight to retain the tough codes during the process of developing a single statewide *Florida Building Code*. The new code contains a section called the HVHZ – the High Velocity Hurricane Zone – that applies principally to Miami-Dade and Broward counties. This new code also mandates window protection on all new construction, major renovation and any repair of substantial damage.

That new code now requires window protection, but what about the buildings already standing. The LMS Working Group sponsors several mitigation programs to retrofit these structures with shutters as well as other windstorm mitigation measures such as adding additional hurricane straps to the roof and strengthening entry doors. Our residential shuttering program installs shutters on the homes of low-income citizens. Our institutional shuttering program installs window protection on buildings owned by municipal, county and other eligible organizations. We have also retrofitted many public schools to protect the building and to serve as hurricane evacuation centers.

Another condition that usually accompanies a hurricane is **Storm Surge,** that dome of water that comes ashore with a hurricane. Using the SLOSH II computer model from FEMA and the National Weather Service along with historical data, those areas in the county that are vulnerable to damage from storm surge have been noted and the evacuation areas found in Appendix C of this document are based on this information.

Flooding

Background and History

During the early stages of development in Miami-Dade County, the land was frequently inundated for long periods due to the flat topography, low land elevations and the high groundwater table in the Biscayne aquifer. To remedy this situation, and to make the land suitable for habitation, various local governments and private entities initiated the construction of the canal system that exists today. This system was designed to remove water to the east and ultimately to Biscayne Bay using gravity flow. However, the excavation of the canal system exposed the Biscayne aquifer, the county's primary source of drinking water, to saltwater intrusion. In order to stem the flow of salt water into the Biscayne aquifer, salinity control structures were constructed at the mouths of both primary and secondary canals throughout Miami-Dade County.

In addition, the early design of the canal system did not consider additional development in the western parts of the county. These western areas are lower in elevation, and thus more

flood-prone. Therefore, drainage from these areas is dependent on the areas to the east being drained, and thereby making room in the canals to drain the western areas.

Due to the unexpected development in the western areas and the general increase in population and development throughout the county, the primary canal system has exceeded its design capacity for drainage. The system relies on gravity to discharge, and is inadequate to remove stormwater volume caused by major rain events, particularly considering large tidal surge that may accompany tropical storm events.

Today, the canal system in Miami-Dade County consists of over 616 miles laid out in approximate one to two-mile grids. The canal system is divided into 360 miles of primary canals and 260 miles of smaller secondary canals. The primary system, including most of the salinity control structures, is operated by the South Florida Water Management District. The secondary system is the responsibility of Miami-Dade County. In general, the secondary canal system connects into the primary system, which empties into Biscayne Bay. The ability to move water in the secondary system is dependent on the available capacity of the primary system, which, in turn, is dependent in part on the proper operation of the salinity control structures.

The principal functions of the canal system are:

1. To maintain adequate groundwater levels in the Biscayne aquifer, to provide for both water supply and to prevent salt-water intrusion. In general, the canal system recharges the Biscayne aquifer during the dry season when flow is conveyed from Lake Okeechobee and the water conservation areas into the urbanized areas. Conversely, during the wet season, groundwater flows from the aquifer into the canals and is discharged to the ocean, as needed, to prevent flooding.

2. To provide for drainage during periods of excess rainfall, when the control structures must be operated to prevent overtopping of canal banks.

Recent Flood Events

Two recent flood events changed the way water managers, emergency managers and residents approached disasters in south Florida. Prior to Hurricane Irene, the focus had been on hurricanes as potential wind hazards, and not particularly flood events.

In October 1999, Hurricane Irene (DR-1306) developed and started a path towards south Florida. Initial projections were correct in stating the hurricane would impact the west coast of Florida, and Irene traveled through the state and, on October 15, passed just to the west of Miami-Dade County.

Although the hurricane did not pass directly through the county and no exceptionally high winds were experienced, the heavy rainfall associated with this storm did hit Miami-Dade County, and the impacts were severe. Some roads were impassible for weeks, electricity was out in certain areas, and residents and businesses suffered heavy losses.

As a result of Hurricane Irene, the Miami-Dade County Board of County Commissioners created a Flood Management Task Force, to analyze why certain areas were so heavily impacted by floodwaters. After eight months of meetings with affected residents and industry, the Task Force offered eighteen recommendations. These recommendations are being implemented where possible, and progress is being tracked.

On October 3, 2000, a low-pressure system, later to become Tropical Storm Leslie, developed off the west coast of Cuba, and headed toward South Florida (DR-1345). Water managers and weather officials closely tracked the storm, and preemptive measures were taken to start moving water out of the canals.

However, weather forecasts called for 4-8 inches of rainfall from this storm, and unfortunately, once the storm passed over south Florida, it exploded, dumping 14 to18 inches of rainfall over a linear area in the center of the county. Equally as unfortunate were residents and businesses that experienced a similar result as in Irene.

Immediately after this so-called "no-name" storm hit, the county commission reconvened the Task Force, to re-examine the problem. This Task Force recently released an updated report that includes additional data concerning the flood events.

Hurricane Katrina in August, 2005 was every bit as much a flood event as it was a windstorm. Large areas in south Miami-Dade County were impacted by flooding, especially in the agricultural community.

Where Are We Now?

Because Miami-Dade County is located in a unique low-lying area, it is particularly susceptible to flooding from major rain events and storm surge. The county is surrounded by and interspersed with canals, lakes, rivers, the everglades, the Atlantic Ocean and Biscayne Bay. Miami-Dade County lies close to sea level, and its water supply lies just below the surface of the ground. Major rain events sometimes leave rainwater nowhere to drain, causing flooding in parts of the county.

Total structures last counted in the unincorporated area of Miami-Dade County consist of 112,600 structures in Special Flood Hazard Areas, and 132,400 in X and X-500 zones. Due to the variety of factors such as storm paths, intensity and duration, the low-lying topography of the total area, and seasonal variations in groundwater elevations, any number of structures from a few to the total numbers stated above could be impacted from the flood hazard. The types of flood hazards that have potential to occur are listed below.

Coastal Flooding

Coastal flooding has potential to impact residential and commercial development along the east coast of south Florida, and Biscayne Bay, primarily through storm surge and inundation

by a hurricane or tropical rain event occurring in the Atlantic Ocean. Although these impacts have potential to occur from a storm with a path from west to east, this type of impact would be rare.

The county's coastline consists of mainly residential development, and county and state parks. Dune lines and some mangrove fringes do exist over part of these geographical areas.

Hurricanes

Hurricanes have potential to impact all areas of Miami-Dade County, depending upon their origin, makeup and path. As demonstrated above, hurricanes have heavily impacted county residents, without displaying heavy winds or structural damage, as earlier, more powerful storms (Andrew, 1992) have displayed. Weather forecasters and emergency managers now have to look at a hurricane's potential for flooding, and not just structural damage, when a storm is impending.

Tropical Weather

Due to the impacts of the storm of October 2000, all tropical weather systems have to be carefully monitored, several days before they make landfall. Because of the time needed to move water through canals to increase capacity, more advanced monitoring is needed.

Inland Flooding

Both Hurricane Irene and Tropical Storm Leslie traveled through the interior of the state, and affected inland areas. Canal and groundwater elevations, when combined with seasonal rainfall variations and the volume of the potential storm, result in a definite flood hazard to inland areas.

Elevations of Pre-FIRM Structures

Pre-FIRM structures represent a potential flood hazard, in that, due to the relatively flat terrain, older structures built lower will experience more of a hazard than structures built to FIRM elevations. In fact, because newer structures may be sited close to the pre-FIRM buildings, their potential risk for flood damage may be even greater.

Other Hazards

Windstorm and floods are our major hazard events but not by any means the only hazards to threaten south Florida and Miami-Dade County.

Natural Disasters

Mother Nature does things to us other than hurricanes and floods, which have been covered in detail above. The following is a look at some of the other natural disasters that occur in Miami-Dade County.

Agriculture Losses

Agriculture is second only to tourism in the economy of South Florida. Besides the devastation caused by hurricane and tropical storms as discussed above, we have endured hard freezes, severe drought, the Mediterranean fruit fly, citrus canker and now the pink hibiscus mealy bug, all of which can cause – have caused – as much damage as any storm could. The Miami-Dade LMS Working Group has an agricultural committee, composed of interested members and established to address and mitigate the various problems of the agriculture community. Losses in the agricultural community have numbered in the hundreds of millions of dollars in recent years. These losses are not only from crop damage but also include loss of irrigation systems, damage or destruction to greenhouses and other growing facilities and loss of transportation equipment.

Drought

In addition to its impact on farming, as noted above, severe drought has many other dynamic effects on our community. Water shortages have been acute in recent years causing annoyances such as curtailed lawn watering and car washing, but also major threats to our drinking water supply by allowing salt water intrusion into the ground water. The LMS flood committee addresses the impact of not enough water as well as the issue of too much.

Epidemic Diseases

While epidemic diseases are certainly a threat to Miami-Dade County and its citizens, mitigating factors are under the control of the federal government through the Centers for Disease Control and Prevention, the Food and Drug Administration and other agencies. Therefore, this threat is not one that can be easily mitigated through the Local Mitigation Strategy.

Extreme Heat

As anyone can attest who has been in Miami in August, heat can be a hazard with which we must contend. Miami-Dade County has a large elderly population that is especially susceptible to the affects of extreme heat. One of the mitigation methods used is to open air-conditioned

shelters during the hottest times of day. Other mitigation methods are continuously being looked at.

Wildfires

While Miami-Dade County does not have vast forests that can catch fire, we do have considerable natural areas that are subject to wildfires (See map in Appendix D). The Miami-Dade Park & Recreation Department oversees undeveloped natural areas and the Miami-Dade Department of Environment Resources Management oversees the EEL or Environmentally Endangered Lands program. Also, over one third of this county falls within Everglades National Park that has huge areas vulnerable to wildfire. The major harm from wildfires in Miami-Dade County isn't so much from the fires themselves but from ensuing smoke that drifts into the urban areas. This can be extremely dangerous to the very young, the elderly and those with respiratory problems. The LMS Working Group has a wildfire committee made up of interested parties such as the National Park Service, Florida Division of Forestry, Miami-Dade Fire Rescue and several others. The prime interest of the committee is to promote controlled or prescribed burns, which removes the fuel load and dramatically reduces the chance of a wildfire.

Tsunami

The possibility of a tsunami hitting Miami-Dade County is extremely rare and experts from the National Weather Service predict that at no time would a tsunami wave height be greater than ten feet at impact with the barrier islands such as Miami Beach and Key Biscayne thereby affecting only the immediate shoreline beach area. This area is similar to the "V" zones of a FIRM issued by the National Flood Insurance Program. The effects of Tsunami in Miami-Dade would be similar to those of storm surge of a like wave height and are mitigated in a similar manner.

Technological Hazards

Mother Nature isn't the only villain causing hazards in the county; people keep causing hazards, too.

Hazardous Materials

A bleach factory. A plating plant. A tire warehouse. A propane distributor. A cold storage facility. Plus, chemicals in trucks and chemicals in rail cars continuously passing through. What do they all have in common? Hazardous materials in abundance in our county that must be dealt with to protect our citizens. Miami-Dade County, the city of Miami and the city of Hialeah fire rescue departments each maintains a hazardous materials response (HazMat) team. Miami-Dade OEM routinely holds training classes in various HazMat subjects. Additionally, the locations of all HazMat sites as defined by Section 302 of the Federal Emergency Planning and Community Right-to-Know Act are contained in the Local Mitigation Strategy critical facilities inventory as well as documentation on the facilities mentioned above.

Nuclear Power Plant

Miami-Dade County is the home of Florida Power & Light's Turkey Point nuclear power plant and all the possible mishaps that may occur. Miami-Dade OEM and FPL have developed complete evacuation plans and other consequence management procedures to deal with problems at the plant. While the risk of disaster from a nuclear plant accident is very low, practice drills and exercises to maintain readiness in the rare event of an accident are constantly carried out. Furthermore, FPL is an active member of the LMS Working Group and continuously contributes to our mitigation measures. Appendix D contains a map of the Turkey Point Power Plant 10-Mile EPZ (Emergency Planning Zone) and the land uses therein.

Transportation Accidents

Miami International Airport is one of the busiest airports in the world in both passengers carried and in the air cargo arena. The Port of Miami is the world's leading cruise port and is also one of the busiest container ports on the eastern seaboard. Furthermore, the Miami River is the fifth busiest port in the state of Florida. Our railroads are Amtrak, CSX, Florida East Coast Railroad and TriRail plus our own Metrorail and Metromover systems. The southern terminus for the Florida Turnpike, I-75 and I-95 are all in Miami-Dade County. There are twenty-three drawbridges in the county – twenty-one automobile and two railroad – that could cause major interruptions if a malfunction should occur. So what does this all means in the way of hazard events? In recent years Value Jet, FineAir and Chalk's Ocean aircraft all crashed in Miami-Dade County. Carnival Cruise Lines' MS Ecstasy caught fire as it departed the port and Norwegian Cruise Lines' SS Norway experienced a boiler explosion while in port. Between 1995 and 2000 there were 53 train accidents within the county borders. And, of course, the too-many-to-count traffic accidents on our major roadways. Suffice it to say, there is much to mitigate and this area is one of our countywide initiatives that may be found in Part II of this document.

Societal Hazards

The citizens of this county are a unique blend from many cultures with many languages and ethnic backgrounds and because of this conflicts are sure to occur. Among these societal hazards are:

Mass Migration

We have continuous mass migration situations in Miami-Dade County from the Mariel boatlift in 1980 to the constant stream of Cuban rafters to boatloads of Haitian refugees that must be addressed. Miami-Dade Office of Emergency Management addresses this mass migration issue in a portion of a plan called the "Caribbean Mass Migration" annex to the Comprehensive Emergency Management Plan. This plan brings together federal, state and local agencies that have the responsibility to deal with the subject.

Change in Cuban Government

To most of the United States, a change in the government of Cuba is inconsequential. However, this is not true of Miami-Dade County with its large Cuban refugee population. In 2006, for the first time, the Miami-Dade County Emergency Operations Center was activated when Fidel Castro turned over the reins of government to his brother Raul.

Riots and Demonstrations

Unfortunately, Miami-Dade has experienced too many riots and demonstrations over the years for various reasons such as racial incidents (McDuffie, etc.) or cultural conflict (the Latin Grammies), not to mention the many issues that surfaced during the Elián Gonzalez affair.

Terrorism

Terrorism is not new to Miami-Dade County. During the 1960s there were numerous bombings in this community attributed to radical Cuban groups opposed to any persons or organizations that espoused moderation toward Fidel Castro and his regime. It's believed by many that south Florida is a favored place for Middle East terrorists to hide and scheme. The LMS Working Group has established a terrorism mitigation committee to study and develop counter terrorism measures. The committee has already determined that one excellent measure is to develop a curriculum to help school children understand and cope with future terrorism. Additionally, the Miami-Dade County Domestic Preparedness Strategy (DPS), which includes homeland security and terrorism mitigation measures, is, by reference, included in the Local Mitigation Strategy.

Data Sources Identified

We have identified the following data sources as being important and comprehensive to the accomplishment of our mitigation goals. However, additional data sources will surely be discovered as we proceed with the task of mitigation.

FEMA

- National Flood Insurance Program repetitive loss inventory. This has been updated during 2003 and in 2005 to include every repetitive loss property in Miami-Dade County.

- Flood Insurance Rate Maps, hurricane storm surge maps, and previous natural hazard computer modeling results. A FIRM restudy was begun in early 2003 by the FIRM subcommittee of the LMS flood committee to update the county's FIRM maps. This restudy continues in 2005.

- The FEMA website www.fema.gov has a wealth of accumulated data that can be extremely valuable in developing mitigation measures.

Other U. S. Government Databases and Information Sources

- National Hurricane Center and the National Oceanographic Atmospheric Administration (NOAA) historical storm related data.
- The National Weather Service Miami Forecast Office data files.
- National Hurricane Center "SLOSH" models.
- National Priorities List (NPL)
- Comprehensive Environmental Response, Compensation and Liability Information System List (CERCLIS – the "Superfund")
- No Further Remedial Action Planned List (NFRAP)
- Emergency Response Notification System List (ERNS)
- RCRA Corrective Action Tracking System List (CORRACTS)
- Resource Conservation and Recovery Information System List (RCRIS)
- Hazardous Waste Data Management System List (HWDMS)
- Facility Index Data System List (FINDS)
- Toxic Release Inventory System List (TRIS)
- U. S. Immigration and Naturalization Service databases.

State of Florida

- Florida State University Department of Meteorology hurricane historical database.
- State-Funded Action Sites List (SFAS).
- State Sites List (SITES).
- Solid Waste Facilities List (SLDWST).

- Petroleum Contamination Tracking System Report (PCTS).
- Stationary Tank Inventory System List (TANKS).
- Hazardous Waste Compliance & Enforcement Tracking System List (COMHAZ).
- South Florida Water Management District (SFWMD).

Miami-Dade County

- Municipal and County Emergency Management Plans and Comprehensive Plans.
- Municipal and County Floodplain Management Plans.
- Miami-Dade Stormwater Management Master Plan and Capital Improvements Projects.
- Miami-Dade County, Department of Environmental Resources Management (DERM) GIS database.
- Miami-Dade County, Information Technology Department, Critical Facilities Inventory and other GIS databases.
- Enforcement Case Tracking System Report (ECTS).
- Fuel Spill Report (FSPILL).
- Hazardous Waste Report (HW).
- Industrial Waste Reports.
- Underground Storage Tanks Report (UST).
- Agriculture extension services and databases.

Municipal Agencies

Staff resources, records and data files.

Additional Resources

- The American Red Cross will provide information regarding shelters, as well as staff resources and records.

- Internet web sites provided by the Florida Department of Community Affairs as part of the Local Mitigation Strategy Guidebook.

Private Sector Interests

The first task in this section was to identify private sector interests that would benefit from participation in the LMS process. It is difficult to identify any private sector interest that would not benefit from the LMS process and this is the concept adopted by the Working Group. The method used to accomplish private sector involvement has been to merely ask – which has met with considerable success since the private sector in south Florida also experienced Hurricane Andrew and the other disaster events. By mitigating damages to the private sector we are mitigating against the economic impact of lost jobs, lost inventory and lost quality of life. Also, most business leaders realize that it is to their benefit and to the benefit of their employees to have the schools, hospitals and municipal building in their communities intact following a disaster event.

Meetings have been held with several private sector groups including hospitals and health service organizations, insurance industry representatives, the banking industry, the cruise lines that are based in the Miami area, engineering firms and VOAD (Volunteer Organizations Active in Disasters). The area's institutes of higher learning have been especially interested in LMS, not only the public schools – Florida Atlantic University, Florida International University, Miami-Dade College and the University of Florida – but the private schools including Barry University, Florida Memorial University, Johnson & Wales University, St. Thomas University and the University of Miami as well. Miami-Dade County Public Schools plus several private schools take part.

Finally, we approached the various chambers of commerce that exist throughout the county and found considerable interest in contributing to the LMS project.

A number of private sector interests are not only active in LMS now but plan to continue as active members of the Working Group especially as we move into the more active phases of the strategy. The LMS Working Group is also heavily involved in the development of the new Emergency Support Function 18 (ESF-18) that is intended to improve business recovery from a disaster event.

Prioritizing Mitigation Initiatives

Once the vulnerability assessment and risk analysis are complete and the hazard mitigation opportunities have been identified, proper priorities must be established concerning each proposed project's impact on life safety, on quality of life, cost effectiveness and value to the overall community including but, by no means limited to, value as compared to other similar projects especially during times of limited funding availability.

Prioritization of countywide projects may be accomplished by the LMS Steering Committee or other "review committee" established by and representing a cross section of the Working Group. The Miami-Dade Office of Emergency Management's LMS Coordinator or his designated representative will act as the committee facilitator. The committee's primary function will be to review and act on recommendations with respect to its evaluation of mitigation initiatives and its ranking of the priorities for their implementation. In a similar manner, each municipality, county department or other organization will prioritize the projects that affect only that jurisdiction and submit to the Steering Committee a complete, prioritized list for inclusion in the LMS.

Miami-Dade Office of Emergency Management will be responsible for soliciting, securing, evaluating, and generally acting as the technical & administrative staff for the management of the prioritization process and for the coordination of the implementation of initiatives selected for priority treatment.

The first step in prioritization is the adoption of a list of potential mitigation initiatives that:

1. Reduce vulnerability;

2. Study and identify cost beneficial mitigation activities, including engineering studies;

3. Identify mitigation initiatives found in existing local government capital improvement plans for future funding consideration;

4. Recommend program and policy actions and revisions to further promote effective hazard mitigation.

5. Adoption of evaluation criteria for the initiatives included in the above list.

The prioritization process has been divided into three parameters: suitability, risk reduction potential and cost. Within each parameter are recommended measures to be considered during prioritization of the project:

- Appropriateness of the measure: How well and effectively does it relate to identified hazards and vulnerability targets and problems? Does the initiative help achieve mitigation goals? How many and, to what extent?

- Community acceptance: Do most communities accept it completely, partially or is it not likely to be accepted by the community at all – the "not-in-my-backyard" situation?

- Environmental impact: Will the initiative have a positive or negative impact on the environment or, perhaps, none at all?

- Legislation: Can the initiative be implemented within existing laws and regulations or will it require action at the legislative or senior management levels? How does it relate to current legislative intents?

- Scope of the benefits: Does the measure benefit the entire county, multiple municipalities, a limited number of the communities or, perhaps, a single community?

- Potential to save lives: How many lives, if any, will this measure save or protect?

- Importance of benefits: What is the effect of the measure on essential services such as life safety, human health and the basic necessities of life?

- Inconveniences avoided: Will completion of the project cause significant inconvenience to the community (traffic problems, business interruptions, delays, loss of power)? Or, will nuisances be few?

- Economic effects and property damage avoided: What will be the adverse economic effects of the measure? Will there be business losses or property damage?

- Number of people to benefit: Will a large number of people benefit or only a few? Over 100,000? Over 10,000? Less than 10,000?

- Estimated costs: What is the initial cost of the project or measure? Less that $100,000? Less than $1,000,000? Over $1,000,000? And, what will it cost to maintain in the future? High or low maintenance costs?

- Benefit to cost ratio: To what extent do the economic benefits exceed the cost of the initiative using FEMA technical analysis criteria?

- Financing: Are there methods available for financing the cost of the initiative? Does it qualify for available loan and/or grant programs? How well does it relate to the priorities of loan and grant sources? Are matching funds available if required?

- Affordability: Can we afford this? What is the initiative's cost in relation to available resources at county and municipal levels? What is the cost of maintenance and can we afford to maintain it once it's complete?

- Repetitive losses: The facility was damaged at least once. How will this measure affect repetitive losses? Greatly reduced? Somewhat reduced? Unaffected?

- Other issue or factors: What unknown issue may crop up? Is the measure consistent with existing master or emergency plans?

The process itself will follow these steps:

1. The LMS Coordinator will communicate with the various municipalities and other Working Group members at least semi-annually inviting them to submit projects for implementation within the framework of the Local Mitigation Strategy.

2. The LMS Coordinator evaluates the proposals in terms of the above criteria and submits the findings to the review committee.

3. Using the priority matrix (see appendix F), the review committee rates and ranks the countywide initiatives, formalizing those selected, as "Priority Initiatives" and includes them, along with the prioritized project lists from the various other jurisdictions, in Part II, "The Projects" section of the LMS.

4. The final step is for the local municipalities and the review committee to collaborate in the preparation of implementation programs for hazard mitigation initiatives derived from the prioritization process.

The above process provides a context for identifying the most relevant hazard mitigation initiatives. It provides a means to coordinate these initiatives and pool the ability to justify and secure resources on a far more effective basis than if each community were to seek them on its own.

Evaluation Criteria and Procedures to Review and Revise the LMS

The LMS Steering Committee or other review committee will meet prior to each publication of this document, *the Local Mitigation Strategy*, but at least once annually to review, update and revise the LMS as well as the evaluation criteria used in the review process. The annual review would be most effective if held in the spring of each year prior to the beginning of hurricane season, June 1st. Additionally, a special meeting of the committee should be convened immediately after any significant event such as a hurricane, destructive tornado, severe hazardous materials spill or any other occurrence where mitigation could benefit the community. Results of the committee's actions will then be distributed to all affected parties by the LMS Coordinator.

The evaluation criteria should include:

1. Have there been any new mandates from federal, state or local agencies that require changes to the Local Mitigation Strategy? Any new or changing laws, policies or regulations?

2. Are there any societal developments or significant changes in the community that must be added to the current LMS? Does the LMS still reflect the concerns of the community? Are the demographics the same? Has there been any growth or development in hazard areas?

3. Have there been any changes in funding sources or requirements?

4. Are there any recent technological developments that should be reviewed for inclusion in the LMS document?

5. Should the LMS be updated to include any new forms of hazards or areas of vulnerability within our community?

6. Have there been any changes in the Comprehensive Plan or any other form of standard operating procedure?

7. Have any of the mitigation opportunities been implemented? Are the priorities for implementation the same?

8. What are the recommendations or lessons learned from any major incidents that have occurred during the past year?

When it convenes, the review committee should first address each of the points in the evaluation criteria to determine if they are still valid and make any adjustments found necessary. When satisfied that the criteria are appropriate, the committee will then compare each of the outstanding mitigation opportunities against the criteria. All existing mitigation opportunities that are determined to still be viable projects will be left standing. All those that are determined to be no longer workable will be set aside for further review and revision or, dropped as no longer feasible.

Miami-Dade County Critical Facilities Inventory

Miami-Dade County and the municipalities therein, along with the many other participants in the Local Mitigation Strategy, received from the Florida Department of Community Affairs maps depicting areas vulnerable to storm surge, inland flooding and wind which were augmented by data provided by the Tropical Prediction Center of the National Weather Service (National Hurricane Center) and statistics gathered based on actual vulnerabilities learned from Hurricane Andrew and other disaster events.

Using data supplied by the municipalities and the various county departments, a database has been developed which includes the critical facilities inventory, NFIP repetitive loss data, historic flood data and the locations of hazardous materials that fall under the jurisdiction of Section 302 of the Federal Emergency Planning and Community Right-to-Know Act. This data has been supplied by the Miami-Dade County Department of Environmental Resources Management (DERM) and the State Emergency Response Commission.

Flooding in South Florida is virtually always the result of excessive rainfall. Historical flood data has been compiled by DERM based on flooding by two principal causes, low elevation (the saucer effect) and clogged, damaged or insufficient storm drains. This is augmented by data from the National Weather Service.

Repetitive loss data has been gathered from FEMA and the National Flood Insurance Program through the various city building officials and Community Rating System coordinators. Unfortunately, there are over 2,500 repetitive loss properties in Miami-Dade County, a number too large to be included in this document (See map at Appendix E). The repetitive loss data will be maintained by DERM and the municipal building officials separately and will be continuously updated as more information is acquired.

Similarly, Miami-Dade and the municipalities control a huge inventory of properties. Therefore, due to its voluminous size, the listing of non-critical municipal public building and facilities will be maintained separately by the county and each municipality.

A critical facilities inventory is maintained by Miami-Dade Office of Emergency Management (OEM) and Miami-Dade Enterprise Technology Services Department (ETSD) that includes those facilities that have been deemed critical by the state and federal governments. A copy has been supplied to the Florida Division of Emergency Management as well. The inventory includes GIS coverage for the following: the Miami-Dade County street network, day care centers, medical facilities (MMF, hospitals, nursing homes, adult living facilities), Miami-Dade fire stations, municipal fire stations, Miami-Dade police stations, municipal police stations, solid waste management sites, sewage treatment plants, sewer pump stations, water treatment plants, Miami-Dade County schools, hazardous materials sites, municipal critical facilities inventory, the Miami-Dade evacuation network, and hurricane evacuation centers.

While the state and federal government defines critical facilities as those listed above, the Miami-Dade LMS Working Group has defined critical facilities in three types or levels, which are:

- Level 1 – A facility that must remain available in all circumstances and at all times. The community cannot do without this facility at all. Protective measures are an absolute must.

- Level 2 – A facility that must be restored within twenty-four hours or risk dire consequences to the community.

- Level 3 – A facility that must be restored within seventy-two hours or the community may suffer major problems.

The Working Group concludes that any facility that the community can do without for more than seventy-two hours is not truly critical; important perhaps, but not critical.

These facilities that are important but not critical include such venues as sports arenas, shopping malls, governmental buildings, churches, general service hospitals, etc. It also includes facilities with a social importance to certain groups such as the Freedom Tower to the Cuban community and the Holocaust Memorial to the Jewish community. A listing of important facilities is also kept in inventory and this inventory is available to those so authorized.

Part II – The Projects

Potential Mitigation Initiatives for Metropolitan Miami-Dade County

Part II of the Miami-Dade Local Mitigation Strategy – The Projects – is a compilation of countywide initiatives and projects. Each initiative or project is included herein as one or more descriptive paragraphs with a reasonable cost estimate where available. The idea of the project list is to let the world know that we thought of this before a disaster occurred. Each submitting jurisdiction or organization will also maintain a full, detailed project description as well as a detailed project budget, which may be required for a grant application. Additionally, the Miami-Dade County Domestic Preparedness Strategy (DPS), which includes homeland security mitigation measures, is, by reference, included in the Local Mitigation Strategy. Projects included in the DPS will be considered to be LMS projects.

Countywide Initiatives

In the course of developing the Local Mitigation Strategy, it became apparent that certain mitigation measures had a countywide scope while others were on a smaller scale and best dealt on the departmental, municipal or private sector level. The countywide measures are referred to in this document as "initiatives" while the departmental, municipal and private measures are referred to as "projects." The countywide initiatives are listed in the order of priority as determined by the LMS Working Group and its Steering Committee. The LMS Working Group has been reluctant to prioritize these initiatives because each is of vital importance to all entities taking part in the development of the Local Mitigation Strategy. However, in deference to the State Division of Emergency Management, all projects and initiatives have been prioritized using methods discussed earlier in this document. The county, municipalities and all other members of the LMS Working Group reserve the right to, at any time, add to, delete from and in other ways change the order of priorities presented here.

Shuttering and Windstorm Protection

There is one mitigation method that far exceeds all others in effectiveness and in benefit-to-cost ratio and that is shuttering or the installation of window protection against windstorms. Window protection is required by code in Miami-Dade County for all new construction and any substantial renovation. The LMS residential shuttering program and the LMS institutional shuttering program are two examples of LMS projects aimed to completely protect every facility in the county. Any project undertaken by an LMS participant that provides window protection or any other means to protect the building envelop is encouraged and will always be considered as part of the Miami-Dade Local Mitigation Strategy. Shuttering and other windstorm protection not only protects the building and its contents but, in many cases, frees up one or more shelter spaces because the occupants of the building may no longer have to evacuate.

Initiative 1: Flood Control and Reduction

Almost all of our communities consider the stormwater drainage systems to be one of the top priorities for mitigation. Measures to consider are increased use of injection wells (allowed in salt intruded areas only), increased number of ground recharge systems (French drains) and new, improved storm sewers. Partnership with the private sector is vitally important to make improvements, for example, to private parking lots that flood along with the adjacent public street. Other measures include facility elevation and/or retrofit and repetitive-loss property buy-outs. Additionally, the initiative will encourage all municipalities not now a part of the National Flood Insurance Program's Community Rating System to participate in the program in the future. This initiative will seek to include recommendations made by the Miami-Dade Flood Management Task Force that was formed following Hurricane Irene in 1999 and the Governor's South Florida Flood Task Force formed following the October 3, 2000 storm (T.S. Leslie).

Cooperating agencies should be Miami-Dade Department of Environmental Resources Management (DERM), Miami-Dade Office of Emergency Management (OEM), Miami-Dade Public Works, Miami-Dade Water and Sewer Department (WASD), Florida Department of Transportation (FDOT), South Florida Water Management District (SFWMD), U.S. Army Corps of Engineers (COE), United States Department of Agriculture (USDA), the National Park Service (NPS), FEMA including the National Flood Insurance Program (NFIP) and the municipalities.

Initiative 2: Sheltering and Evacuation

Miami-Dade County has far too few hurricane evacuation shelters. This initiative is to develop more evacuation centers, shelters of last resort and short-term shelters to be used for hazardous materials or other chemical, biological or radiological situations caused by spills, terrorism, vandalism, etc. Miami-Dade County Public Schools (MDCPS) currently provide the bulk of the shelter space. Transportation is currently provided by Miami-Dade Transit Agency and MDCPS school buses. Develop methods to increase volunteer personnel to work in shelters. The ultimate goal is for all to be able to safely shelter in place. Additionally, this initiative includes windstorm protection to every possible building in Miami-Dade County.

Cooperating agencies should be OEM, Miami-Dade Community Action Agency (CAA), the American Red Cross, Miami-Dade County Public Schools (MDCPS), Miami-Dade Transit Agency (MDTA), Miami-Dade Police (MDPD), Miami-Dade Fire Rescue (MDFR), the Humane Society, South Florida Regional Planning Council (SFRPC), National Weather Service (Miami Forecast Office and the Tropical Prediction Center), the United States Coast Guard (USCG), the municipalities and the private sector.

Initiative 3: Counter-Terrorism

Terrorist acts have been a concern in Miami-Dade County since the late 1950's and early 1960's when Fidel Castro came to power in Cuba, just 90 miles off the coast of Florida. At that time there was a wave of bombings, which have continued off and on ever since. As for the Al Qaeda type terrorist, Miami offers an ideal hiding place with our large foreign population, over

ten million tourists each year, and a couple of large universities. The time has come to address the concept of mitigation of terrorism rather than just preparation and response.

Cooperating agencies should be OEM, American Red Cross, Health Department, MDFR, MDPD, MDTA, FBI, ATF, USCG and, the municipalities.

Initiative 4: Debris Clearance

The hazard mitigation measure planned for debris is to reduce the cost of debris clearance by developing a plan of action prior to any event that generates large quantities of debris (hurricane or other severe windstorm). The tree trimming measure (see below) is a method to reduce any volume of debris.

Miami-Dade County has developed and will implement the "Coordinated Debris Clearance Plan" (CDC). The plan will be in place before any storm and reduces costs by eliminating competition or bidding wars for services of the contractor. Additionally, the plan locates staging area and storage sites and identifies removal methods. The plan also addresses hazardous materials handling, both pre-season pickup and amnesty days as well as post-event handling methods. This hazard mitigation initiative also addresses the acquisition of the necessary tools and equipment to handle debris. The plan was successfully implemented in the unincorporated part of the county following Hurricane Irene.

Cooperating agencies should be Miami-Dade Solid Waste Management (SWM), OEM, Public Works, FDOT, Miami-Dade Expressway Authority, Miami-Dade Park & Recreation Department (Parks), DERM, SFWMD, the Cooperative Extension Service and the municipalities.

Initiative 5: Canals and Waterways

The canals and waterways of metropolitan Miami-Dade County form a huge system and these canals and waterways directly affect more than eighty percent of the municipalities as well as the unincorporated (UMSA) portion of the county. This initiative is to clean and maintain included exotic weed control, dredge when and where needed, clear banks of potential debris, and stabilize banks to prevent erosion. Clean canals allow better control of water levels, which greatly improves storm water management and the drainage system. (Note: This initiative is closely tied to Initiative 1: Flood Control and Reduction.)

Cooperating agencies should be Public Works, OEM, Parks, WASD, DERM, SFWMD, COE, USDA Natural Resources Conservation Service (NRCS), USCG, National Park Service, Florida Inland Navigation District and the municipalities

Initiative 6: Tree Trimming

This initiative is to develop measures that reduce debris and protect the infrastructure from damaged sidewalks, curbs, water & sewer lines, power and phone lines (underground and overhead) and clogged storm drains. Also, the initiative identifies the best trees to plant; those that can stand wind, flood or drought. The concept is to develop specifications for contract prun-

ing for unincorporated county and municipalities and to develop training classes in proper technique for homeowners and county/city employees.

Cooperating agencies should be the Cooperative Extension Service, SWM, OEM, Public Works, MDCPS, Parks, DERM, SFWMD, Miami-Dade Housing Agency, Florida Division of Forestry and the municipalities.

Initiative 7: Transportation Systems

Before, during and after a disaster event, it is imperative that transportation systems continue to operate. Roads must be passable for evacuation and later for emergency vehicles. The airports, rail and ocean terminals must be open to allow emergency operations to proceed.

Sometimes, the transportation becomes the event. There were 18 railroad accidents in Miami-Dade County between January and October of 1998. (Railroads serving Miami-Dade: Amtrak, Tri-rail, CSX, Florida East Coast, and Metrorail.) In the past ten years there have been three fatal airplane crashes: Value Jet, Fine Air and Chalk's Ocean plus many other minor incidents. (Airports in Miami-Dade County are: Miami International, Opa-locka, Tamiami, Homestead General, Opa-locka West, Training & Transition and Homestead ARB.)

The Seaport (Port of Miami) includes the world's busiest cruise ship terminal plus a major cargo center and the Miami River is a continuously operating working river which is, by itself, the fifth busiest port in the state of Florida. This shipping plus the small boat traffic also rely upon unobstructed channels including the Intercoastal Waterway, Government Cut and Baker's Haulover inlet.

Mitigation measures include design and construction of highway systems, toll roads, expressways, bridges, traffic signs and signals that are disaster resistant and easily repairable. The same is also true of the entire countywide transportation systems.

Cooperating agencies should be Miami-Dade Aviation, Miami-Dade Seaport, MDTA, MDPD, MDFR, OEM, Public Works, Miami-Dade Expressway Authority, Tri-rail, FDOT, SFRPC, USCG, COE, the municipalities and privately owned transportation companies.

Initiative 8: Mechanical Maintenance of Critical Facilities

Breakdown of sewer lift stations, water pumping stations, drawbridges and other important mechanical devices affects everyone in the county. A wide program of mitigation is planned to ensure that these critical facilities do not fail during a disaster event or, in the event of catastrophic disaster that critical facilities are in place that may be brought up and running in a minimum of time with a reliable power source readily available. This program must be coordinated between the municipalities, the unincorporated services area and county maintained facilities everywhere.

Cooperating agencies should be: DERM, OEM, Public Works, WASD, GSA, Seaport, FDOT, SFWMD, SFRPC, USCG and the municipalities

Initiative 9: Public Information & Education

Develop a "How To" manual for public use in dealing with hazards/disasters. [English, Spanish, Creole.] Determine the best format: one single book or a series of pamphlets and brochures? Or all of the above, as in loose leaf cover which can contain a series of how to publications? Develop television and radio presentations. Implement a method for coordination between the various municipalities; between municipalities and the county; and between governments and the private sector. Publish all relevant National Flood Insurance Program and Community Rating System information. Further develop specialized training programs such as CERT and shelter management, etc.

Cooperating agencies should be the OEM, DERM, Public Works, Animal Services, Team Metro, Miami-Dade Communications Department, SWM, MDTA, MDFR and County Hazardous Materials teams, MDCPS, the American Red Cross, the Humane Society, The Marine Council, the municipalities, Cooperative Extension Service, FDEM, SFWMD, SFRPC, FEMA, U.S. Small Business Administration (SBA), USDA, COE, National Weather Service (Miami Forecast Office and Tropical Prediction Center), local universities, the media, and the private sector.

Initiative 10: Hazardous Materials Response
(Also see sheltering)

Miami-Dade County has at least 190 sites that must report under Section 302. Miami-Dade County also has eight "superfund" sites. Miami-Dade County and the cities of Hialeah and Miami have official hazardous materials response teams. A program must be developed to refine inspections, material handling, education and all other aspects of hazardous materials response. The Miami-Dade Department of Solid Waste Management (DSWM) operates a permanent home chemical collection center open for resident to safely dispose of hazardous materials generated from the household. Amnesty days are conducted twice yearly. The Working Group would like to see more pickup locations added perhaps one each at the far northeastern part of the county and another in south Miami-Dade.

Cooperating agencies should be MDFR, MDPD, DERM, MDTA, OEM, Parks, SWM, MDCPS, WASD, USCG, American Red Cross, fire department hazardous materials teams (City of Hialeah, City of Miami and Miami-Dade County), Cooperative Extension Service and the municipalities.

Initiative 11: Controlled or Prescribed Burns

Wild fires/brush fires are becoming an increasing risk to metropolitan areas. The entire western and southern portion of the county is susceptible to this problem. DERM's EEL Program (Environmentally Endangered Lands) controls hundreds of acres of undeveloped land scattered throughout the community including lots within municipal boundaries. The Park and Recreation Department's Natural Areas Management controls thousands of acres as well as does Everglades National Park. Controlled burns reduce fuel load and promote proper growth with the added advantage of the controlled growth of exotic plants.

Other measures for consideration in this initiative is to study and recommend fireproofing measures such as new codes and standards for building materials, increased development and maintenance of fire breaks and better water transport and storage. Miami-Dade County will also strive to become a "Firewise" community.

Cooperating agencies should be MDFR, DERM, OEM, Parks Natural Areas Management, GSA Risk Management, Florida Division of Forestry, Florida Fish and Wildlife Conservation Commission, Florida Department of Environmental Protection (DEP), Cooperative Extension Service, FDOT, National Park Service and the Nature Conservancy.

Initiative 12: Beach & Dune Restoration and Maintenance

The county plans renourishment or restoration of beaches to promote tourism and protect coastal structures and the development of a beach and dune maintenance program, which will develop and enhance the coastal dune system.

Cooperating agencies should be: DERM, OEM, Public Works, Parks, COE, FLDEP, National Park Service, NOAA, Florida Inland Navigation District and the municipalities.

Miami-Dade County Departments

The various departments of the Miami-Dade County government make up a part of the LMS Working Group that represents the Unincorporated Municipal Service Area (UMSA), which is the unincorporated portion of the county, and those county provided services and facilities that operate within the municipal boundaries of the cities and towns such as the libraries, public transportation, roads, water and sewer and fire stations (in all but five of the cities) and many others. These projects supplement or are in addition to the countywide initiatives discussed in the previous section. The LMS Working Group has a committee that consists of the appointed representatives of the participating Miami-Dade County departments and is advised by the LMS Steering Committee. This departmental committee has formulated the county projects by department and each department is responsible to formally prioritize its own projects.

Miami-Dade Aviation Department

Project: Miami International Airport Flood Control

When Miami International Airport is affected by a severe storm, flood and high waters can cause a great deal of damage and possible aircraft delays. Therefore, we are proposing the following projects that we request to be included under the Hazard Mitigation Program:

1) Remote employee parking lot flood attenuation: Purchase and install three 12-inch pumps and related appurtenances. Estimated Cost: $300,000.

2) Mid-field Runway Tunnel Flood Control: Purchase two 6-inch diesel pumps to be used as a back up to the existing storm water lift stations. Estimated cost: $130,000.

Miami-Dade Community Action Agency

Project: Residential Shuttering Program

The residential shuttering program provides hurricane panels for the homes of low-income elderly. The program is to be expanded to include as eligible recipients, low-income disabled and low-income families with children as well as low-income elderly.
Estimated cost is an average of $1,600 per house protected.

Miami-Dade Cooperative Extension Service

Project 1: Assessment and Hardening of Agricultural Center

The Miami-Dade County Cooperative Extension Service's Agricultural Center built in 1969 was formerly a Civil Defense fallout shelter. As it was designed and constructed to provide agricultural educational information to the $1billion agricultural industry of the county some three hundred training and educational workshops, seminars, and public meetings are held in the

auditorium annually. The Cooperative Extension Service is responsible for natural disaster post-event assessments of losses that are communicated to Miami-Dade Office of Emergency Management, State of Florida and federal agriculture agencies for agriculture disaster declarations. As one of the larger public meeting facilities in the south Miami-Dade County area and the agency's role in disasters it should serve the county as a limited shelter to house fire, police, and Extension personnel and their families that live in the immediate area if engineering assessments, and equipment upgrades or additional hardening, such as a 100kw generator, etc., are accomplished. The Agricultural Center has housed the Everglades Amateur Radio (HAM) Club since its construction in 1969. The generator would allow for additional communications to the county's communication capabilities. Estimated cost: TBA

Project 2: Mitigation of Street Tree Related Damage

Some $300 Million in underground infrastructure damage was attributed to street trees during hurricane Andrew. As a result of poor pruning practices, removal of structure integrity of the street root system due to inadequate or restrictive space for trees in rights-of-way, inappropriate tree species selection, or a combination of factors, many trees were uprooted and damaged underground utilities, sidewalks and curbing, sidewalks, and driveways, as well as private property damage to vehicles and structures.

In order to mitigate the hazards improper trees pose, the Cooperative Extension Division, will formalize a public right-of-way and public spaces tree training program for public agencies, arborists, landscape installation and maintenance industries, and landscape architects, including proper pruning, in accordance with ANSI A-300 standard practices for maintenance pruning, to encourage strength and sound structure, hurricane pruning, attributes and vulnerabilities of tree species for street plantings, grades and standards in purchasing and selection of new street trees, and current tree regulations. Standardized bi-lingual educational materials would be developed and multiple training sessions would be conducted for public employees, private tree maintenance industry, as well as other interested groups. This information would be shared with municipal governments responsible for street trees within their jurisdiction via Local Mitigation Strategy group and other means.

Project 3: Develop Structural Improvements

In August 1992 hurricane Andrew caused $1Billion losses to the agricultural industry of Miami-Dade County. Over half of the losses in this Category 5 storm were attributed to structural failure or damage such as packinghouses, irrigation equipment, farm equipment, and structures such as shade houses and greenhouses for the economically important which the ornamental plant industry produces the largest segment of agricultural sales from.

Designing and constructing "hurricane proof" greenhouse structures would be beyond the financial capability of the industry as the industry does use metal frame work with a "plastic" film or fine mesh shade cloth material, depending on the type of structure. Hardening these structures may prove impossible to prevent zero loss. However, development of some newer technology to allow for the collapsing of the structure prior to an approaching hurricane has been

development internationally but has not been transferred to this country as of yet. The University of Florida/Miami-Dade Cooperative Extension Service proposes to construct a fully functional demonstration model greenhouse for the commercial ornamental industry of the county and south Florida and provide training for the 1148 plant nurseries within the county.
Estimated cost: $42,000

Miami-Dade Elections Department

Project: Harden Elections Building

The area of the elections building measures approximately 115,000 sq. ft. housing several million dollars of electronic voting machines as well as critical election data; and thousands of dollars in computer and telephone equipment for Miami-Dade County 311 Answer Center. In order for the building to withstand minimal damages the strengthening of the roof infrastructure and a new shuttering system to include electrical roll down shutters on the second floor office space and accordion shutters for the first floor. Considering the number of buildings GSA is responsible for maintaining (34) and the minimal staff available, this improved shuttering system will allow maintenance crews to prepare and secure the building properly. This project will also include integrating the grounding system with a fully powered generator to supply the entire building with uninterrupted power. The purpose of this submittal is to meet regulatory requirements by preparing the building/roof and electrical components with the ability to withstand category four or five hurricanes. Estimated cost: $2,910,000

Miami-Dade Emergency Management & Homeland Security

Project 1: Prepare and Print a Hurricane Preparedness Guide

Residents of Southern Florida are inundated with information about hurricanes and hurricane preparedness each year, with sources ranging from government agencies to research centers and the private sector. The Miami-Dade Office of Emergency Management (OEM) must take the lead and prepare the single source of official, complete information for residents, thereby reducing confusion and clarifying recommendations. This document will be compiled by the different agencies that are the authorities on each relevant topic. For example, OEM is the authority on evacuations and evacuation zones in the county and so it is the best source for this information. The National Hurricane Center and the National Weather Service are the authorities on meteorological information regarding hurricanes and hazardous weather, so OEM will seek their endorsement for this topic. Contents will include how to understand relevant terminology, how to interpret forecasts, how to plan a disaster plan including a disaster supply kit, how to implement personal mitigation strategies, how to safely evacuate and shelter-in-place, how to protect oneself during storm recovery and clean-up, how to care for pets throughout all stages of a storm, and information about county programs such as the Emergency Evacuation Assistance Program for people with special needs and the Community Emergency Response Teams. These guides will be prepared in English, Spanish, and Creole, available in hard copy for distribution to the public and in electronic format for both distribution via e-mail and posting to appropriate websites. OEM is constantly sought out by a vast number of community groups to deliver presenta-

tions and share emergency preparedness information, especially prior to and during hurricane season, so this hurricane preparedness guide is a critical tool in the pool of resources available to residents. Estimated cost: $50,000.

Project 2: Hazardous Materials Emergency Planning & Response

Miami-Dade County has approximately 20,000 facilities that store or use hazardous materials, of which approximately 250 facilities store or use "extremely hazardous substances." These facilities pose a real threat to our community, both from the accidental release of chemicals into the environment and, the potential use of these facilities as targets of terrorism. Multiple county and municipal agencies share the responsibilities of emergency planning and/or response to these facilities. Each of these agencies maintains unique databases; however, due to technological limitations, these databases are unable to be accessed by the other agencies thereby increasing the risk to the responders and our communities.

Therefore, there is a need for a "state-of-the-market" information technology system that can consolidate this data into a format that removes the technological barriers that currently prohibits the sharing of this information. This system must be accessible to all public safety agencies and jurisdictions (county and municipal) that provide the emergency planning and/or response to their communities and these hazardous material facilities. This system would also need to provide the private sector with a streamlined process for the submission of hazardous materials inventory data, in order to reduce errors and omissions. Estimated cost: $210,000

Project 3: Guide to Personal Mitigation Projects

Miami-Dade County has experienced continued success with large-scale mitigation projects to increase the development and resilience of infrastructure when confronting local disaster. The Office of Emergency Management is expanding this scope to apply to residents' personal property as well. Working through local experts involved in the LMS Steering Committee, OEM is compiling a guide of low-cost, non-labor intensive mitigation projects that residents can implement with little or no assistance. These projects will focus on individuals' houses, condominiums, apartments, businesses, lots, boats, etc, and may be applicable to any type of disaster(s) that threaten Miami-Dade County. Projects are submitted by government agencies, non-governmental organizations, and the private sector, all of which have a proven track record of successful mitigation planning and are members of the LMS. OEM will edit, format, and distribute this document, which will be available in both print and electronic format and ideally in Spanish and Creole. Funds will be needed for professional layout, translation, and printing.
Estimated cost: $50,000.

Project 4: Develop and Construct CERT City

Develop and construct and training site for Community Emergency Response Teams (CERT) to include a classroom, a warehouse, and an urban search and rescue environment. The site will be on donated land and will utilize in-kind engineering and construction to offset total costs. Estimated cost: $3,000,000

Project 5: Storm Surge Protection Barrier

Design and construct a storm surge protective barrier to prevent salt-water intrusion from hurricane generated storm surge. This barrier should be built as an elevation to the existing salt-water barrier (L-31E) that runs from Cutler Ridge to Card Sound Road south of Turkey Point. An alternative is to install Jersey style barricades in the median of the Florida Turnpike from Cutler Ridge to Florida City. Estimated cost: $8,000,000

Project 6: Terrorism Prevention and Preparedness Outreach Program

Countywide terrorism awareness/education program to prepare citizens to confront incidents of terrorism, natural disasters and mass migrations through the CERT Program, Citizens Corps, Neighborhood Crime Watch and Volunteers in Police Service Programs, Medical Reserve Corps, public service announcements, multi-lingual brochures, materials/equipment and website enhancements. Estimated cost: $500,000

Project 7: Emergency Operations Center (EOC) Vulnerability Hardening

Hardening of the county's multidisciplinary, multi agency incident command and coordination center to reduce its vulnerability to terrorist attacks (includes bomb protection, security monitoring, access equipment, HEPA upgrades to the HVAC system, landscaping and paving to increase stand-off distances from traffic lanes, and heliport for state and federal officials), and provision and outfitting of a backup/alternate EOC. Estimated cost: $700,000

Project 8: Preparedness and Mitigation Website

As many as 75% of households (with a phone line) in the U.S. have access to the Internet, according to a Nielsen//NetRatings survey in February 2004. The Miami-Dade Office of Emergency Management (OEM) must utilize this tool for the dissemination of emergency preparedness information, mitigation recommendations, and other public education materials. OEM will contract with a web publisher or designer to rebuild its website to allow for maximum organization, clarity, and timeliness of information. As emergency management is constantly changing and progressing, a contracted publisher or designer will allow the website to be dynamic and therefore keep up with innovations in the field. The new website will provide information about emergency preparedness, mitigation, and recovery, offer downloadable forms for registration in key programs such as the Emergency Evacuation Assistance Program and Residential Shuttering Program, allow for on-line registration for preparedness and training programs such as Citizen Corps and one of its component programs, the Community Emergency Response Team (CERT), give the public easier access to web-based applications such as the SNAPSHOT Damage Assessment Tool that increases efficiency of response efforts, and other initiatives as they arise. Much of this information will be available in Spanish and Creole to increase the number of county residents who will benefit from the website. Specific materials will also be prepared for children. Estimated cost: $90,000.

Miami-Dade Employee Relations Department

Project 1: Protect Employee Records

The Employee Relations Department is the official custodian of all current and former county employees' personnel and medical records. Loss of these records due to a disaster would severely impact the County's operations. For example, many personnel actions require the review of an employee's file in order to effect the change; lawsuits may require files to be pulled. As long as these documents remain in hard-copy, the County is vulnerable to natural and man-made disasters, vandalism and theft. The official hard copy documents manually maintained by ERD are the sole copies of over 50 years of employee records. If a hurricane were to destroy these records, the County would have no means of restoring them. Electronically scanning, importing and saving these documents would eliminate this vulnerability.

Project 2: Reduce Loss Risk

There are many documents commonly used by County departments e.g. Personnel Change Document (PCD), performance evaluations, re-classification actions, tuition reimbursements, employment applications, which would be ideal for electronic workflow. Benefits of workflow include:

1. Ability to track and locate the document any point in the workflow
2. Improved accountability-escalation feature allows one to establish time parameters to accomplish each step of the workflow process
3. At the culmination of the workflow process, the document is electronically placed in an electronic folder.
4. Built in intelligence within form and work flow provide edits and information thereby reducing work and improving quality.
5. It is paperless, thus there are savings in labor costs (clerical) and physical storage.
6. Built in intelligence will route the form to the correct workgroup for processing.
7. Security features allow only authorized users to process the form
8. Reduces redundant data entry
9. Statistics on processing time and can assist in improving the business process.
10. Provides tighter controls over forms processing reducing potentials for errors;
11. Provides more efficient management and processing of transactions

The Employee Relations Department's (ERD) business activities impact all county departments, and the majority of our forms are prime candidates for on-line forms with workflow. The countywide impact of the implementation of any of these standardized forms would be multiplied, since all departments are required to use them. Thus, there would be a significant return on investment for projects such as these. Additionally, since the workflow process is paperless, it reduces the County's risks for loss of records due to disasters, vandalism, and theft.

Project 3: Emergency Payroll Processing

The Employee Relations Department's (ERD) Administrative Services Division (ASD) processes all payroll, personnel, and leave and attendance transactions for over 30,000 County employees. In the event of a disaster, ASD must have the necessary resources to be able to process payroll- a critical operational function for the County. This project would consist of:

1. Developing the necessary programming to process an "emergency" payroll, that is, in the event of a disaster, all County employees would still receive a paycheck.
2. Securing back-up resources (computer equipment, emergency facility) that would allow staff to continue processing payroll in the event of an emergency.

Project 4: Install Time Collection System

The Employee Relations Department (ERD) is responsible for processing a $60 million bi-weekly payroll for over 30,000 County employees. In the event of a catastrophic disaster when a state of emergency is declared, FEMA's Damage Survey Reports are required in order for the County to be reimbursed for damage and recovery related expenses, including labor costs. A time collection system, with cost center accounting would facilitate the extensive reporting that is required by the federal government agencies. It would allow employees to record their time worked via time clock, computer, biometrics, PDA, telephone, etc. It captures the time in/out information, what type of time (sick, annual - all the things our current Payroll and attendance Record (PAR) sheet collects plus more) and creates a file that can then be sent to ETSD for payroll processing. A time collection system also offers far better security and protection from unauthorized time entries (there is an escalation feature plus authorized sign off, currently not available with the existing paper system), quick, easy to use management reports which can pinpoint problem areas concerning overtime, absences, etc. It also offers cost accounting payroll that many larger departments need. And finally, because the information is transferred electronically and not by truck (departments are currently having their employees submit the PAR sheets from the field as early as Wednesday for a pay period which ends on Sunday. The time from Thursday through Sunday is guessed at), the information will be more current and therefore more accurate. This should reduce the number of correcting time sheets we need to process (currently thousands are processed each pay period).

Miami-Dade Department of Environmental Resources Management

Project 1: Forest Management

Management of natural forest communities would include prescription burning, elimination of exotics to decrease fuel loading, preemptive trimming of trees at municipally owned facilities, and workshops for the public and municipalities to detail proper tree trimming. (See countywide initiatives). Estimated cost: TBD

Project 2: Hazardous Waste

Create a task force in coordination with DERM, Solid Waste Management and Public Works to conduct pre-hurricane sweeps of chronic dumping areas, and facilitate collection of hazardous waste at Small Quantity Generators (SQG) and Conditionally Exempt Small Quantity Generators (CESQG) facilities. It is understood that SQGs and CESQGs are guaranteed the county price when using the county's contracted collector. (Also part of the debris clearance plan) Estimated cost: TBD

Project 3: Drainage Improvements in Belen Jesuit School Area

The Belen Drainage Improvements Project is a regional project covering an area of 1.5 square miles. The perimeter of the project is defined by the following boundaries: from SW 118th Avenue to SW 132nd Avenue and from SW 6th Street to NW 6th Street. Engineering evaluations of the area indicate that low land elevations and lack of drainage infrastructure, compounded by a high ground water table, are the primary cause of the flooding that frequently occurs in this area. Due to these factors, a local drainage system comprised of solid pipe and French drains will overflow to a conveyance system that leads to two stormwater pump stations. The first pump station will be located approximately on SW 127 Avenue and SW 6 Street in an 11,400 square foot parcel. The second pump station will be located approximately on SW 6 Street and SW 120 Avenue in a 4,450 square foot parcel. The cost of each pump station will be approximately $1,500,000.00. The capacity of each pump station is 100 cfs divided into three-line shaft MWI or equivalent pumps per station. This was determined through a stormwater model of the area and is in accordance with the pump rate allowance given to this area by the South Florida Water Management District. The District's allowance for the Belen area was determined through extensive modeling performed by PBS&J, Inc. of the C-4 basin and its contributing areas. Construction is expected to be completed by April 2006.
Estimated cost: $3,000,000

Project 4: Drainage Improvements to the Seaboard Acres Ditch

The Seaboard Acres Ditch is a drainage ditch located within the city of North Miami and unincorporated Miami-Dade County. The area it serves chronically floods, severely impacting residents in the area. The proposed project would enlarge the piping system currently in place, upgrade the pump stations that serve the system, and possibly dredge the remaining open ditch.
Estimated cost: $2,000,000

Project 5: Dredge of Portions of Florida City and North Canals

The subject canals help drain several communities and agricultural areas of south Miami-Dade County. Storm runoff from the cities of Homestead, Florida City, and unincorporated and agricultural areas drain into these canals. The canals have through the years been the subjects of frequent complaints related to drainage problems experienced by the surrounding communities during major rain events. During the two recent major rain events (Hurricane Irene, 1999 and the No-Name storm of October 2000), complaints were received from the entities mentioned

above that the canals were clogged, which impeded their capacity to accept stormwater runoff, negatively impacting the area. Maintenance dredging of the Florida City and North Canals was also a specific recommendation of the Miami-Dade County Flood Management Task Force, a body of experts in the field of water management. A maintenance dredge would provide relief for the above-mentioned communities, and Miami-Dade County, with its' flow rights established in both canals, would be the lead applicant to perform the dredge. The benefits would include reduced damage to the residential and agricultural communities from exacerbated flooding, and would also protect these areas from future events, and greatly mitigate potential damages.
Estimated cost: $500,000

Project 6: Pre-Disaster Removal of Hazardous Materials

DERM responds to hazardous materials incidents on a countywide basis, as this function is too specialized for any of the individual local cities to accomplish on their own. DERM also supports the local fire department Hazardous Materials Units in larger incidents, but DERM also averages approximately 300 incidents of its own per year where drums, buckets and discarded waste containers of unknown materials, often including waste oil, are abandoned on county rights-of-way, and properties accessible to the public. DERM personnel perform chemical field screening procedures to assess the hazards of these incidents, and either recover the material or call in hazardous materials emergency clean-up contractors as needed. Incidents reported or otherwise discovered quickly often can be managed with little or no discharge to the environment, whereas incidents exacerbated by hurricanes and other disasters require exponentially more expensive site cleanups. This application is for funding to support an intensive two-month preemptive sweep of known or suspected potential chronic dumping areas by two full-time DERM emergency response personnel. This sweep would be conducted across the county at the start of hurricane season, so that abandoned hazardous materials might be recovered in the most economical and cost-effective manner possible, and before a disaster can impact the location and materials in question, and in turn result in a more lengthy and expensive cleanup. This preemptive sweep would also help to avoid exposure of these wastes to the public during or after storm events, and thus reduce health costs to residents and insurance companies. The sweep would also reduce introduction of wastes into the environment in an uncontrolled fashion, and the subsequent damage to natural resources. Overall, this proposal would help to reduce and mitigate post-disaster cleanup costs, environmental remediation costs, and public health protection costs. Estimated cost: $100,000

Project 7: Caribbean Boulevard Bridge Enhancement

The Caribbean Boulevard and SW 103rd Avenue Bridge at the Black Creek Canal (C-1) causes great flow restriction to the water flow of the C-1 canal. Based on the XPSWM model, the canal cross-section at the bridge experiences almost one (1) foot of head losses. This causes the canal stages to rise upstream, causing the properties within the basin to be subjected to flood hazards. The enhancement of the bridge, along with the canal cross section, can reduce the water levels throughout the Black Creek (C-1) basin. This improvement includes the following work:

- Increase the existing Caribbean Boulevard bridge span over the C-1N canal from thirty (30') feet to sixty (60') feet.
- Widen the canal cross section approximately 250' downstream from the bridge and approximately 450' upstream of the bridge.

Estimated cost: $2,800,000

Project 8: Midway Drainage Improvement Project SOW

The Midway Drainage Improvement Project is located within unincorporated Miami-Dade County. The area frequently floods, severely impacting the neighborhood residents. The purpose of this project is to mitigate flooding in the area, to ensure that the roads that serve as access to the area (NW 7 Street, NW 8 Street and NW 82nd Avenue) remain passable during major storm events, and that stormwater runoff into homes is mitigated. Preliminary studies indicate that due to existing conditions in the area, the project area will require a stormwater pump station with an emergency generator. The projected pump station will serve an area limited by NW 78 Avenue to the east, NW 84 Avenue to the west, NW 7 Street to the south and NW 10 Street to the north. Estimated cost: $1,500,000

Project 10: SW 157th Avenue: SW 64th Street to SW 42nd Street Project SOW

This project consists of the construction of approximately 8,000 linear feet of slab-covered trench along SW 157th Avenue between SW 64th Street to SW 42nd Street to connect Bird Road Canal and SW 64th Street Canal. The slab-covered trench will operate as an equalizer to facilitate the control of the surface water levels of the mentioned canals.
Estimated cost: $4,500,000

Project 11: SW 122nd Ave Secondary Canal Enhancement Project SOW

This project addresses the flood problems in the area limited on the North by SW 184th St (Eureka Dr); on the East by Quail Roost Dr and SW 117th Ave; on the South by the C-1 Canal; and on the West by SW 127th Ave (Burr Rd). The project consists of the construction of the following structural improvements:

- Connection of the existing French drain system located NW from the Quail Roost Dr. The connection will consist of a 50-foot long, 6' 9" x 4' 11" corrugated arch-pipe culvert.
- One control structure at the above-mentioned French drain system discharge point, similar to a pollution control structure (three chambers with weir and baffle), with the weir at elevation 6.0 ft-NGVD. This control structure will provide water quality treatment of stormwater discharges and will control peak discharges to meet the South Florida Water Management District (SFWMD) maximum allowable discharge to the C-1 Canal.
- Replace two existing four-pipe culverts with a 6' 9" x 4' 11" corrugated arch-pipe at the canal intersection with SW 122nd Avenue, and SW 200th Street.
- Replace the existing slab cover trench from the downstream end of the SW 122nd Ave Canal to the C-1 Canal to provide for emergency overflow during severe storm events. The proposed conveyance system consists of approximately 1,200 linear feet of corrugated arch-pipe 6' 9" by 4' 11", and 370 linear feet of corrugated arch-pipe 7' by 5' 9"

that will discharge the water into the C-1 Canal upstream of the SFWMD's S-149 structure.

- In the SW 122nd Ave Canal, the construction of culvert-canal transitions at four canal crossing locations: SW 122nd Avenue, SW 200th Street, SW 202nd Street, and SW 206th Street. Transitions will include concrete wall approaches. Estimated cost: $4,500,000

Project 12: Miami River "Beyond the Channel" Dredging Project

The U.S. Army Corps of Engineers has recommended maintenance dredging of the federal channel of the Miami River, for navigational purposes. Miami-Dade County agrees with this assessment, and recommends this project for water quality and flood mitigation purposes as well. The river will be dredged from the S-26 water control structure near NW 36 Street to the mouth of the river, where it discharges to Biscayne Bay. The removal of approximately 120,000 cubic yards of accumulated sediments along the margins of the Miami River will provide an aid to navigation, thereby reducing damages to vessels and property accidents, enhance the capacity of the river to accept stormwater runoff discharges, help mitigate flooding in the greater Miami area and will enhance the water quality of the Miami River, thereby mitigating health consequences for residents in the area by potentially reducing incidents of sanitary sewer overflows. Estimated cost: $2,000,000

Project 13: Miami River Federal Channel Dredging Project

The U.S. Army Corps of Engineers has recommended maintenance dredging of the federal channel of the Miami River, for navigational purposes. Miami-Dade County agrees with this assessment, and recommends this project for water quality and flood mitigation purposes as well. The river will be dredged from the S-26 water control structure near NW 36 Street to the mouth of the river, where it discharges to Biscayne Bay. The removal of approximately 600,000 cubic yards of accumulated sediments within the Federal Navigation Channel in the Miami River will provide an aid to navigation, thereby reducing damages to vessels and property from accidents, enhance the capacity of the river to accept stormwater runoff discharges, help mitigate flooding in the greater Miami area, and will enhance the water quality of the Miami River**,** thereby mitigating health consequences for residents in the area by potentially reducing incidents of sanitary sewer overflows. Estimated cost: $1,000,000

Project 14: Mitigation of Tree Related Damage to Infrastructure

The Miami-Dade Departments of Environmental Resources Management, Public Works RAAM Division in cooperation with the Cooperative Extension Service, will conduct an assessment of conditions of street trees throughout Miami-Dade County to determine the type, size, and structural integrity of right-of-way trees. This assessment will use a GIS database which can -then be used as a tool to determine hazard trees which are more susceptible to storm related uprooting or failure. This assessment can be overlaid with other GIS layers such as soils, flood zones and other special areas to prioritize areas where the roads need to be cleared of woody debris for emergency vehicle access during a event and for planning tree removal and replacement to mitigate the possibility of tree failure and the ensuing road blockage and debris disposal dur-

ing a natural disaster. This can also be used to estimate woody debris amounts to assist in the debris removal planning post disaster. Additionally, this information's could also be used to track areas prone to flooding so that flood resistant trees are planted in these areas to increase transpiration. This map would also be used as a planning tool to replace those trees removed because of their hazardous condition and to target areas of low tree canopy. This database would be shared with other agencies, organizations and governments responsible for street trees and post disaster debris removal within their jurisdiction via the Local Mitigation Strategy group and other means. The Cooperative Extension Service will formalize a training program for public agency, arborists, landscape installation and maintenance industries, and landscape architects, including proper pruning, in accordance with ANSI A-300 standard practices for pruning, to encourage strength and sound structure, hurricane pruning, attributes of street trees, grades and standards in selection of new street trees, and current tree regulations. Standardized tri-lingual educational materials would be developed and multiple training sessions would be conducted. This training would be required for all persons who trim trees in Miami-Dade County. This training would emphasis the correct way to prune and how to correct hazardous tree problems so that these trees do not fail and become projectiles and woody debris. Due to the large number of workers in this field, the training would have to be conducted on a routine basis for as well as the constant updating of the GIS maps. Estimated cost: TBD

Project 15: Improvements throughout the County's Secondary Canals

The subject canals help drain the communities in Miami-Dade County. The canals have, through the years, been the subject of frequent complaints related to various drainage problems experienced by the surrounding communities during major rain events. Two thirds of the County's secondary canals were dredged under the FEMA Program – Secondary Canal Dredging to repair damage caused by the 2000 No-Name Storm. More recently, however, Hurricanes Katrina and Wilma have caused large number of trees to fall down, and have compromised embankment sections and culverts, which may now need improvements. The benefits would include reduced damage to local communities from exacerbated flooding, and mitigation of other potential damage as a result of future major rain events. Estimated cost: $4,000,000

Project 16: Removal of Obstructions to Evacuation Route

This project proposes to remove obstructions to an evacuation route right-of-way and attendant lands. The area of concern is along Card Sound Road in far south Miami-Dade, from the Dade-Monroe County Line to the mainland. Illegal structures have been built in these areas. If a hurricane or other disaster were to occur in this area, the evacuation route could be damaged or obstructed, leading to stranding of residents during an event, or residents could not escape the event, and would remain in harm's way, leading to damage of property and compromising our resident's health and safety. The project has an added advantage in that it is supported by four political entities, Miami-Dade and Monroe Counties, the Florida Dept. of Environmental Protection, and the state Bureau of State Lands. The subject project also would mitigate health costs for residents, in that sewage from the illegal structures discharges to wetland areas. The removal of the structures would reduce incidences of exposures of residents to pathogens in the public rights-of-way and other areas, thereby mitigating costs to state and county-supported hospitals.
Estimated cost: TBD

Project 17: Flood Control Measure for Sub-Basin C1N-E1, 3

This project will add to flood control efforts in low-lying areas of the C1N Canal sub-basin. The project consists of construction of approximately 5,500 linear feet of French Drains and a conveyance system of 15,350 linear feet of piping, with emergency overflows and control structures with weirs. This will enhance flood protection by controlling peak discharges, will meet the SFWMD maximum allowable discharges for this area, and will provide water quality treatment as well. Estimated cost: $1,699,432

Project 18: Replacement of Culverts in C-1-N Basin

This project would increase the capacity of the C1N by enlarging the culverts in the sub-basin. Culverts to be enlarged are on the following canal crossings: SW 122 Avenue, SW 200 Street, SW 202 Street, and SW 206 Street. Estimated cost: $2,000,000

Project 19: Flood Control Improvements for the C1N9 Sub-Basin

This project would provide additional flood control protection in the sub-basin by construction of approximately 10,000 linear feet of French drains, and including emergency overflows and control structure with weirs. This would assist in controlling peak discharges of stormwater, and will also provide water quality treatment for stormwater in the area.
Estimated cost: $ 1,340,682.83

Project 20: Flood Control Improvements for the C1N10 Sub-Basin

This project would provide additional flood control protection in the sub-basin by construction of approximately 5,000 linear feet of French drains, and including emergency overflows and control structure with weirs. This would assist in controlling peak discharges of stormwater, and will also provide water quality treatment for stormwater in the area.
Estimated cost: $689,777.55

Project 21: Provide Additional Capacity to French Drain System in Sub-Basin C1NW3

This project would provide additional capacity and overflow retention of existing French Drain (FD) system in the sub-basin. The proposal is to connect the existing FD system in the sub-basin to the upstream end of the canal located between Sub-Basins C1N9 and C1N10.
Estimated cost: $150,000

Project 22: Retention Area for Stormwater Runoff

The proposed project would divert the flow of stormwater runoff to a dry retention pond, adding capacity to the flood management system, and increasing flood protection in the C1 sub-basin. Said pond would be constructed with a bottom elevation of 6.2’, and include a pump sta-

tion with a capacity of 118 CFS. Construction would also include 1,500 linear feet of two, 72" pipes from the pump station to the C1 Canal. Estimated cost: $3,335,000

Project 23: Addition of Conveyance Pipe to French Drains in C1S5 Sub-Basin

This project proposes to add a conveyance pipe to the proposed12, 800 linear feet of French Drains in the sub-basin. Said conveyance pipe would provide additional capacity for the French Drains, thereby increasing flood protection for the local area. Estimated cost: $626,000

Project 24: Add Conveyance Pipe to System Proposed C-1-S-5

This project would add 5,550 linear feet of pipe to connect to the proposed French Drain system. This pipe would convey stormwater to the dry retention area described above, resulting in increased capacity of the stormwater management system in the area. This would assist in adding flood protection for residents in the area. Estimated cost: TBD

Project 25: Flap Gates on Existing Overflow Structures in C-1 Canal

This project proposes to construct flap gates on the existing overflow structures to the C1 Canal. These flap gates would protect the existing drainage systems from being surcharged by high tides and resulting backflow into the structures from high canal stages. This would allow the system to continue to function as designed, thereby keeping the level of flood protection at the increased standard. Estimated cost: $20,000

Project 26: Added French Drains in Sub-Basin C1S7

This proposes to add FD construction of 3,700 linear Feet (LF) and 5,500 linear of conveyance pipe, in low-lying areas within this sub-basin. This addition would reduce volume and duration of stormwater during major events, and improve flood protection for area residents. Estimated cost: $859,000

Project 27: Added French Drains in C1S7A Sub-Basin

This proposes to add French drains construction of 1,200 linear feet and 2,100 linear feet of solid conveyance pipe throughout low-lying areas of this sub-basin. This addition would reduce volume and duration of stormwater during major rain events, thereby improving flood protection for area residents. Estimated cost: $324,000

Project 28: More French Drains and Pipe in C1S7A Sub-Basin

This proposed to add still more FD and pipe to low-lying areas of sub-basin C1S7A. The amounts of FD and pipe would be 5,750 and 2,850, respectively. This addition would increase flood protection for area residents. Estimated cost: $ 963,000

Project 29: Conveyance Pipe to Connect Two French Drain Systems

This project proposes, using conveyance pipe, to link two French drain systems in different sub-basins. This allows for equalization of the systems, and can help if rainfall occurs more heavily in a localized area, the system not receiving the rainfall can help absorb some of the volume of runoff. This again improves flood protection in the general areas of both sub-basins. This conveyance pipe will require jacking and boring under the existing railroad tracks.
Estimated cost: $146,000

Project 30: Beach and Dune Restoration and Maintenance

The majority of Miami-Dade County's beach areas have been restored to provide storm protection to coastal development and recreational areas for residents and tourists. Several localized segments of the beach located at approximately 29th, 44th, and 55th Streets in Miami Beach have been susceptible to erosion, leading to an almost complete loss of the beach in these areas. Due to the narrow beach width and lowered elevation in these areas, even minimal storm events can result in impacts to the dune system and beachfront infrastructure. Renourishment of these areas would provide a protective buffer during storms, and reduce impacts to adjacent beach areas. Estimated cost: $3,200,000

Project 31: 32nd Street Breakwater Rehabilitation and Stabilization

In 2002, Miami-Dade County constructed a series of three breakwater structures in the vicinity of 32nd Street in Miami Beach to stabilize a highly erosion susceptible area and maintain a protective beach. While the project has performed well, recent hurricanes have resulted in the movement and settlement of the boulders used to construct the breakwaters. This movement has altered the original design, and may compromise the protective functions of the breakwaters during future storm events. Rehabilitation and stabilization of the structures will enhance their ability to protect the adjacent shorelines. Estimated cost: $800,000

Project 32: 55th Street Erosion Control Breakwater

The 55th Street segment of Miami Beach has been one of the more erosion susceptible areas in the County, limiting the protective function of the beach in that area. A recently completed engineering assessment of that area recommended the construction of several small breakwater structures as the most effective way of stabilizing the shoreline and maintaining the protective beach. Estimated cost: $1,700,000

Project 33: Remleys Drainage Improvement Project

This project addresses the flooding problems in the area limited on the north by NE 111th St; on the east by NE 6th Ave; on the south by NE 109 St; and on the west by NE 4th Ave. The project consists of the construction of a full-onsite retention system consisting of approximately 3,000 linear feet of exfiltration pipe. Estimated cost: $356,914

Miami-Dade Finance Department

Project 1: Remote Systems Backup Technology

The ability of the Finance Department to function effectively following a crisis is essential to the smooth functioning of all Miami-Dade County. At this time, our off-site daily backup capability for all our financial systems for the above named five divisions is inadequate. Funding is desperately urgently required to ensure that in the event of catastrophic systems failures due to hurricane or other natural disaster we have sufficient off-site computer system back up and recovery technology in place so that systems can be restored promptly in existing or alternative temporary office facilities. Estimated cost: $100,000

Project 2: implementing 26th floor Emergency Power Circuits

Many of the financial systems that serve crucial daily Controller, Cash Management and Credit and Collection functions and upon which all Miami-Dade County's departments are dependent (e.g. paying vendors and county employees) are located on the 26th floor of the 111 NW 1st Street. This floor does not have an emergency power supply to support these and many other vital daily functions should the normal power supply to the building be interrupted.
Estimated cost: $40,000

Project 3: laptop computers with docking stations

In order for Senior and Middle Finance Department Management to function and access critical financial systems in the event of a crisis that results in closure of the 111 NW 1st Street building and/or the 140 W. Flagler Street building, portable laptop (wireless) computers with docking stations are essential. At this time the Department has sixteen laptops between 345 employees (less than 5%). Three of the existing laptops will need to be replaced within eighteen months. Estimated cost: $115,000

Miami-Dade Fire Rescue Department

Project 1: Replace Overhead Doors

Currently Miami Dade Fire Rescue has 64 fire stations that provide service to the residents of Miami Dade County. After conducting thorough inspections of each station we have determined that 38 out of the 64 fire stations have overhead doors that need to be replaced because the doors do not meet current hurricane codes. Due to the modification of codes in reference to storm protection it is recommended that we replace the 38 overhead that are were previously mentioned. Each overhead door protects the engines and rescue trucks that are vital to respond to fires and rescue calls. The average estimated value of the vehicles protected by these doors is $2,000,000. Estimated cost: $420,000

Project 2: Drainage Improvements

During emergency situations Miami Dade Fire Rescue headquarters serves as the base of operations for not only fire rescue operations, but also for the Office of Emergency Management. The headquarters building located at 9300 N.W. 41 street is where essential staff (i.e. mayor of Miami Dade, directors of various fire departments and many other essential personnel) oversee and implement plans of defense, decide strategies for deployment of emergency personnel and equipment, monitor events and distribute information to the public. Improvements and repairs that are essential in the orderly running of operations are much needed. During any type of heavy rain the south end of the property floods. As a result the waters that accumulate pose the risk of damaging millions of dollars of emergency equipment, personnel property and structural damage to the building itself. Estimated cost: $500,000

Project 3: Roof Rehabilitation

During emergency situations Miami Dade Fire Rescue (MDFR) headquarters located at 9300 N.W. 41 Street serves as the base of operations for not only fire department personnel but it is also headquarters for the Office of Emergency Management (OEM). This is where essential governmental staff gathers and develops strategies, implement emergency plans and convey critical information to the public. In extreme, wet weather conditions the roof at the headquarters building develops severe leaks and flashers that are supposed to keep water entering the second floor and don't serve there intended purpose and water flows through the walls into offices on the first floor. The encroaching waters threaten computers, electrical equipment, important documents, and office furniture and carpeting. This water damage also can be the cause of safety and potential health concerns for personnel that inflict great financial loss due to MDFR. We have had the roof inspected by county engineers and it has been strongly advised that re-roofing and other related repairs be done.
Estimated cost: $250,000

Miami-Dade General Services Administration

Project 1: Address Flooding Problems of Caleb Center Parking Lot

This parking lot serves the Joseph Caleb Center, JESCA daycare center, a community auditorium and a Miami-Dade public library. The Caleb Center houses various departments and agencies including the 11th Judicial Court, County Commissioner's district office, State of Florida social service offices (e.g. food stamps and other support services), Clerk of Court, Water & Sewer and many other public offices serving over 5,000 visitors daily. It is also an important gathering place for local community events.

The parking lot was heavily damaged during Hurricane Andrew, from flooding and uprooted trees, both of which destroyed the asphalt and impacted proper drainage. Repairs were superficial and did not adequately remediate damage. In addition, existing subsurface soil conditions are extremely poor due to a prior use of the land as a local landfill. As a result, heavy rainfall creates flood conditions, which eliminate utilization of the majority of the facility's parking

spaces. Standing water accumulates for days, thereby disfranchising the constituents conducting business in any of the complex's agencies. There is no other available parking in the vicinity as an alternative. The flooding conditions also create a mosquito problem that can transmit West Nile Virus, Encephalitis and other diseases. Estimated cost: $1,637,000

Project 2: Flood Prevention for the Central Support Facility Building

This facility produces and/or distributes chilled water (air conditioning) and electricity to county buildings in the Downtown Government Center complex totaling in excess of 3,000,000 square feet, including County Hall, a state civil courthouse, a state family courthouse, two museums, the main library, and other high-rise office towers and garages. Planned additional high-rises, one a state juvenile courthouse and the others office towers will add an additional 650,000 to 1 million square feet over the next five years.

The ground floor of the facility houses all electrical connections and inter-ties with the local utility, the main electrical panels being fed from underground at 13,800 V AC, 60 Hz. and 480 V AC 60 Hz. In case of flooding, water can enter the main transformer vault, elevator pits, ground floor of the co-generation plant, and electrical switchgear rooms, where critical equipment lies to provide water to the cooling tower (52 feet height), and to the make-up water lines for chilled and condensing water loops, and for main power distribution to the Downtown Government Center complex. Storm drainage in the surrounding streets is extremely poor. Needed improvements include the installation of ground-level flood barriers, improved water extraction and/or the elevation of critical equipment within the facility. Estimated cost: $200,000

Project 3: Install shutters at the DPCC facility

This three-story facility serves as the county's primary computer operations center, and houses police and fire emergency dispatch (911). The facility has 100% on-site back-up power generation and UPS support, with hardened support structures for HVAC chillers and cooling towers; however, the facility windows are neither shuttered nor impact resistant. This project would install electric roll down shutters on all windows. Estimated cost: $450,000

Project 4: Shutters at the Medical Examiner Complex

The medical examiner complex is a three building complex that consists of a three-story administration building, a large two-story morgue building and a one-story decomposition building. This is the only such facility in Miami-Dade County, and as such, it supports all local police agencies in the county. The loss of this facility for any length of time can have extremely serious consequences.

The administration building would require accordion shutters on the exterior door in both breezeways on the first floor, the main entrance and the breezeway door on the second floor, and the breezeway door on the third floor. The morgue building would require shutters on the first and second breezeway doors, and the decomposition building would require shutters on the main entrance. All the windows in the complex could be protected with either the installation of blast resistant film or roll-up shutters. Estimated cost: $254,000

Project 5: Install Flood Barriers for the Basement of the Justice Building

The Richard E. Gerstein Justice Building, the sole location of the state criminal court in Miami-Dade County, and the primary site for the traffic court, has two driveway entries into the basement, both of which have previously permitted flooding of the basement from the elevated storm water from the surrounding streets. This flooding has previously damaged, or has the potential to damage, electrical panels and equipment that are located flush or close to the basement floor, as well as equipment and systems located in the basement. Flood barriers should be installed at both entries, and critical equipment should be considered for elevation off the floor. Estimated cost: $150,000

Project 6: Hardening of the Windows at Metro Flagler Building

This is a typical downtown office building, housing approximately 125,000 square feet of office space occupied by heavily trafficked county agencies. The first seven floors of the building are comprised of garage parking. The upper eight floors are the office floors with expansive windows. The height of the building would probably preclude shutters, but the windows should be replaced with impact resistant windows. Estimated cost: $2.3 million

Project 7: Hardening of the Windows at the Justice building

The Richard E. Gerstein Justice Building, the sole location of the state criminal court in Miami-Dade County, and the primary site for the traffic court, has two rows of large windows, with the bottom windows 4 feet in height, and the top windows 5 top in height. There are approximately 500 windows on the upper eight floors. The first floor would require automatic roll down shutters ($300,000.00) and, since the upper floors need to have the windows replaced (due to water intrusive and structural failure), they should be replaced with impact resistant windows. Estimated cost: $4,700,000

Project 8: Hardening of the Windows at Court House Center

The Lawson E. Thomas family court building, the sole location housing the state family court in Miami-Dade County, is a thirty-story high-rise building. The upper floors all have impact resistant glass; however, the first floor and mezzanine windows are extremely large, and manual shuttering from the outside is next to impossible. These windows should either have automatic shutters or impact resistant windows installed. This building also has a large patio on the eleventh floor. The windows around the patio and the doors leading out on the patio should be shuttered. Estimated cost: $450,000

Project 9: Hardening of the Windows at North Dade Justice Building

This is a two-story building that consists of mostly glass exterior walls. The building is a heavily utilized branch court facility, serving the entire northern end of the county. The facility, although in the extreme northern end of the county, lies within 2 miles of the ocean, with no in-

tervening barrier islands. It would be extremely valuable to protect this facility, either through the installation of impact resistant windows or film, or with automatic shutters.
Estimated cost: $300,000

Project 10: Flood Barriers for the Miami-Dade Cultural Center Basement

The Cultural Center houses the county's main library and two museums (Historical Museum of South Florida and the Miami Art Museum). These institutions house both public and private collections. The basement and basement-level floors of the institutions provide delivery access to the facilities, storage for museum exhibit and library book collections, as well as key electrical, mechanical and elevator equipment rooms for the facility.

The basement has one main service driveway that ramps down into the basement that should have a flood barrier installed to prevent substantial water intrusion from heavy rainfall and rising waters. The poor drainage in the surrounding streets makes flooding a very real potentiality. There is also a pedestrian entrance (with a door) on the north side of the building that leads into the basement, which should also be protected, since flooding occurs at that point as well. Estimated cost: $60,000

Project 11: Flood Prevention in the Miami-Dade Cultural Center Historical Museum

The Historical Museum of South Florida is located in the Miami-Dade Cultural Center. Wind-driven rain, together with rainwater running down the roof, in heavy rainstorms can leak into the elevator shaft, and from there into the building through louvers, and into the ceiling plenum. A number of interior areas can be affected, which threatens public and private art collections housed in the building. This project would address these conditions.
Estimated cost: $80,000

Project 12: Hardening of the Perimeter at the DPCC building

This facility serves as the county's primary computer operations center, and houses police and fire emergency dispatch (9-1-1). The facility is set well back from the surrounding streets, making the site ideal for providing optimum blast protection by means of a hardened property perimeter. The existing fenced perimeter should be reinforced by installing a hardened fence (with a raised concrete base) or a bollards/planter combination. Reinforce the two entry gates by installing popup bollards or hydraulic lift systems similar to the ones being used at the downtown Federal building. Estimated cost: $250,000

Project 13: Purchase of Portable Emergency Power Generators

Purchase of three trailer-mounted, portable diesel emergency power generators, and made cable ready to provide emergency power to disabled facilities after a major disaster. Units are to be 300 KW, 60 Hz, 480/277/120 V, with fuel reserve of 470 gallons minimum of No. 2 diesel fuel. This set-up will provide an approximate continuous runtime of 24 hours (per generator, at full load). Estimated cost: $300,000

Project 14: Purchase of a Trailer Mounted Chiller and Cooling Tower

Purchase a trailer-mounted portable chiller of 1200-ton capacity, to provide emergency chilled water for air conditioning to disabled building(s) after a disaster, or major disruption in the building A/C system. Many of the current buildings in the inventory have been constructed for energy efficient operation, which has translated in recent years to a lack of direct access to the outside (i.e. reduced number and distribution of windows). The impact of this is that the buildings are rendered virtually unusable in the event that climate control is not available.
Estimated cost: $2,400,000

Project 15: Extend Runtime of Emergency Power Generators

The purpose of this conversion is to facilitate - at a lesser cost - the extended operation of emergency generators in those facilities that already have natural gas lines. If installed, the conversion will allow diesel engines to burn both fuels at a ratio of 20 % diesel fuel, 80% natural gas. Diesel fuel will be depleted 5 times slower, allowing for an extended run time on the same fuel storage. If natural gas is not available, engines can still run on Diesel fuel at 100% ratio. This conversion is recommended for generators of 400 kW or larger capacity only, of which the agency currently has 23 units. Estimated cost: $1,200,000

Project 16: Purchase of Portable Light Towers of Various Wattages

After an emergency, it may be necessary to work with the assistance of portable high intensity discharge lights. Depending on location, needs and use, requirements may vary from 1.5 to 7KW, which may be satisfied by the use of several units of the same size.
Estimated cost: $15,000

Project 17: Adding Redundancy to Security Operations Center

Create redundancy for the GSA's Security Operations Center (SOC), which, on a continuous 24-hour basis, remotely monitors intrusion and fire alarms, and provides the related police/fire/security company dispatch, for over 500 installations. Alarm monitoring and first responder dispatch operations are critical to an effective emergency response strategy. The ability to maintain operational continuity through and after an event would enable the security of critical facilities to continue to be monitored from a remote location out of harms way.

To establish the redundancy necessary to reduce system downtime during emergency or disaster situations, the optimum solution would be to procure two laptop computers, three printers, four alarm receivers, appropriate software licenses, eight telephone lines, uninterrupted power supplies, and one fax machine, in order to restart operations from a remote backup location, currently designated as the Regional Data Processing & Communications Center and the Elections Processing and 311 Answer Center. Estimated cost: $25,000

Project 18: Provide Satellite Cellular Phones to Staff

During an emergency, local telephone and radio services are very likely to be fully or partially disrupted, leaving key departmental staff unable to communicate with each other or a central command station. This will significantly hinder staff's ability to respond in a timely, effective manner to emergency service calls, to call for parts needed for emergency repairs, or to secure needed assistance at sites impacted by the emergency. All fieldwork will be so impacted, thus delaying the process of post-event damage assessment, site security in the short-term event aftermath, temporary and permanent site mobilizations, and service delivery coordination. Beyond the obvious functions of assessing and remediating facility damage, the department also employs emergency generator field technicians that support emergency generator equipment located in all areas of the county, including numerous emergency response facilities, e.g. fire and police stations, fueling sites, and antennas/repeater stations required for county radio systems, many of which are located in extremely remote difficult-to-access areas.

The cost estimate includes the procurement of 32 "Iridium" based Motorola satellite phones, 5-year emergency service contracts for each phone, and miscellaneous necessary accessories of the phones. Equipment are initially anticipated to be utilized only in emergency situations, and through distribution to key GSA facility managers, key management personnel, and various field teams of emergency generator, security, elevator inspector, and building maintenance personnel. Estimated cost: $85,000

Project 19: Re-starting the Downtown Government Center Power and Cooling Plant

The Downtown Government Center central plant is designed, and has operated in the past, as a combined-cycle cogeneration plant providing electrical power and chilled water for several of the county's most critical facilities in downtown Miami. Due to operational and contractual problems, the power generation component of the plant was shut down and mothballed in 1994. Power is presently procured from the local utility, and distributed to the downtown buildings, along with chilled water that is produced by electric chillers in the plant. As a result, the plant and therefore, all the downtown buildings, are vulnerable to power shortages or stoppages due to storm damage, terrorist attack or other emergency curtailments that might impact power substations, the power distribution system (the grid), or the nuclear power plant at Turkey Point.

Initial planning studies affirm that the earlier problems are no longer relevant, and that a reconfiguration and restart of the combined-cycle plant operation is highly viable. There are ten buildings that would be served with electricity and chilled water through this "restart" proposal, totaling some 3.1 million square feet, and utilized on a daily basis by some 20,000 occupants and visitors. These buildings include some of the county's most critical facilities, including county hall, three primary county/state courthouses (family, civil, and juvenile courts), two museums, the county's main library, and several office low- and high-rise office buildings.

This project would permit the Downtown Government Center complex to run independently of the local utility, thereby reducing the likelihood of downtime due to power outages at the

utility. The local utility will still be connected to the plant, and serve as the backup power supply during downtime. The cost cited for the project is the capital cost associated with the design, procurement and installation of the power generation equipment necessary to establish an 8.6-megawatt gas engine-based combined heat and power (CHP) plant. Primary equipment will consist of three 2.88 Megawatt engine generators and associated ancillary equipment.
Estimated cost: $11,000,000

Project 20: Adding Redundancy to GSA Building Management System

Create redundancy for the GSA's BMS central control, which monitors remotely on a continuous 24-hour basis all electronic building management systems (BMS) located in the department's main facilities. BMS systems are critical to all types of emergency response and post-event situations within these buildings, since they monitor and control fire alarms, smoke evacuation, air conditioning, and other critical systems throughout the buildings. The ability to maintain operational continuity through an event would enable critical systems to continue to be monitored and/or operated from a remote location out of harms way.

To establish the redundancy necessary to mitigate potential loss from a disaster scenario, the optimum solution would be to procure 12 laptop computers, an Apogee server and related communications software, which would enable restarting operations from one of two geographically disparate back-up locations, currently designated as the Regional Data Processing & Communications Center and the Elections Processing and 311 Answer Center.
Estimated cost: $50,000

Project 21: Retrofit Vehicles to Drive in Flooded Areas

The department's emergency generator team services and maintains equipment at some 250 locations, including a large number of emergency response sites, such as fire and police stations, vehicle fueling sites, and antennas/repeater stations required for county radio systems. Many of these are located in either extremely remote or otherwise flood-prone areas. If any of these areas see water levels high enough to reach the engine air intake, the vehicles will not operate, stranding technicians and hindering emergency response activities. Engine modifications to provide a higher air intake will provide significantly increased "range" in a flooded area.
Estimated cost: $25,000

Project 22: Enhanced Security for the Medical Examiner's Facility

The medical examiner complex is a three building complex that consists of a three-story administration building, a large two-story morgue building and a one-story decomposition building. This is the only such facility in Miami-Dade County, and as such, it supports all local police agencies in the county, as well as the State Attorney's Office in criminal investigations. The loss of the facility or the exposure of evidence and bodies to theft or vandalism can have extremely serious or even catastrophic results.

Security could be substantially enhanced through the replacement of the existing obsolete tape CCTV system with state-of-the-art digital recorder and an expanded number (total, 41) of high-resolution cameras. This will provide the ability to review and control the system from remote locations via the Internet, including pan, tilt and zoom (PTZ) capability on selected cameras. Estimated cost: $70,000

Project 23: Enhanced Security for the Courthouse Center

The Lawson E. Thomas Family Court Building is a thirty-story high-rise office building that serves as the sole location in Miami-Dade County housing state family court. As such, the existing CCTV system should be expanded to cover additional areas around the building and interior security electronic screening stations. Procure and install a screening machine for the screening of deliveries to the delivery area. Estimated cost: $105,000

Project 24: Hardening of the Perimeter at the Medical Examiner's Facility

The medical examiner complex is a three building complex that consists of a three-story Administration Building, a large two-story morgue building and a one-story decomposition building. This is the only such facility in Miami-Dade County, and as such, it supports all local police agencies in the county, as well as the State Attorney's Office in criminal investigations. The loss of the facility or the exposure of evidence and bodies to theft or vandalism can have extremely serious or even catastrophic results.

Currently, the facility does not have complete access control. There are four wood gate arms controlling vehicle traffic in and out of facility. These should be replaced with a metal frame sliding gate that, when closed, would prevent not only vehicular, but pedestrian access to the property. The existing perimeter chain link fence should be replaced with an 8-foot high picket fence. Estimated cost: $110,000

Project 25: Provide Safety Equipment for Inspection of Confined Spaces

Provide "A" Frames, harnesses, life lines, lanyards, gas analyzers, SCBA apparatus, protective clothing, gas masks, ladders, human access/retrieval equipment, and hard hats for accessing flooded manholes, above-ground areas where diesel fuel tanks are installed, and other confined spaces in and around managed facilities. During and following natural or other disasters, it is common for natural gas or fuel lines to rupture, which will expose technicians having to access these areas to a harmful and potentially deadly environment. Estimated cost: $150,000

Project 26: Enhance Security for the Richard E. Gerstein building

The Richard E. Gerstein Justice Building, the sole location of the state criminal court in Miami-Dade County, and the primary site for the traffic court, is not as secure as it should be, given the criticality of its uses. Procure and install an electronic screening machine and walk-through magnetometer for the loading dock, to initiate the screening of personnel and oversized delivery packages that are not currently screened. Estimated cost: $89,000

Project 27: Removal of the Abandoned Cooling Towers at the Court House Center

The Lawson E. Thomas Family Court Building is a thirty-story high-rise office building in the center of the downtown government center complex. The building has large rooftop cooling towers that are no longer in use. These need to be removed from the roof, along with the windbreaker panels surrounding them. Failing to do so exposes the building and adjacent street to significant damage in the event of high wind conditions. Estimated cost: $75,000

Project 28: Hardening of the Perimeter at the SPCC building

This facility is home to the county's commissioners, mayor, county manager and most directors from the various departments. Reinforce the perimeter by installing a hardened fence or bollards/planter combination. Reinforce gates by installing popup bollards or hydraulic lift system similar to the ones being used at the federal building downtown.
Estimated cost: $1,500,000

Miami-Dade Housing Agency

Project 1: Harden Building and Improve Drainage

The following projects are to install window protection, replacement of roofs and/or drainage improvements throughout the various MDHA properties.

USHUD#	DEVELOPMENT	No. Flrs	No. Bldgs	Install Shutters	Roof Replacement	Drainage Improvements
Fl 5-027B	Gwen Cherry 20	1	17	80,500	0	110,000
Fl 5-051	Lemon City	4	1	350,000	0	0
Fl 5-027B	New Haven Gardens/ 05	2	41	497,700	0	0
Fl 5-027B	Gwen Cherry 07	2	17	201,600	0	0
Fl 5-027B	Gwen Cherry 22	1	10	70,000	0	200,000
Fl 5-027B	Gwen Cherry 06	2	6	50,400	0	0
Fl 5-039	Peters Plaza	6	1	357,000	0	0
Fl 5-007	Victory Homes	1	81	894,600	0	0
Fl 5-056	Edison Plaza(Park)	6	1	0	0	500,000
Fl 5-067	Little River Pl.	5	1	301,000	0	300,000
Fl 5-006	Little River Terr.	1	55	667,800	0	0
Fl 5-037	Emmer Turnkey	3	1	147,000	0	0
Fl 5-043	Palm Towers	11	1	0	32,773	500,000
Fl 5-036	Twin Lakes	2	3	0	0	0
Fl 5-074B	Opa-locka Fam.	1	22	163,800	145,600	0
Fl 5-088	Palmetto Gardens	4	1	140,000	0	0
Fl 5-095A	Opa-locka Eld.	1	25	175,000	0	0
Fl 5-001	Edison Courts	1	105	2,173,500	0	0
Fl 5-017C	Model Cities	1	8	239,400	0	0
Fl 5-017B	Scattered Sites	2	5	50,400	0	0
Fl 5-014	A. Coleman Gardens	2	47	0	686,000	0

Fl 5-019A	Lincoln Gardens	1	47	296,100	0	0
Fl 5-015	A. Coleman Gardens	2	20	907,200	403,200	0
Fl 5-092B	Manor Park	1	32	201,600	179,200	0
Fl 5-093B	Orchard Villa	1	12	75,600	67,200	0
Fl 5-093A	Liberty Homes	1	44	277,200	246,400	400,000
Fl 5-002	Liberty Square	1	45	1,587,600	0	500,000
Fl 5-003	Liberty Square	1	48	1,764,000	0	400,000
Fl 5-005	Liberty Square	1	37	1,115,100	0	400,000
Fl 5-044	Ward Tower	17	1	700,000	0	600,000
Fl 5-017A	Scattered Sites	2	24	151,200	0	0
Fl 5-027D	Gwen Cherry 09	2	16	56,000	0	0
Fl 5-027D	Gwen Cherry 11	2	40	140,000	0	0
Fl 5-063	In Cities-Wynwood	2	45	283,500	0	0
Fl 5-076A	Buena Vista Homes	1	24	151,200	0	0
Fl 5-094	Wynwood Elderly	4	1	252,000	63,000	0
Fl 5-100C	Wynwood Homes	1	39	245,700	0	0
Fl 5-027C	Gwen Cherry 23	2	36	226,800	0	0
Fl 5-032	Rainbow Village	2	50	630,000	0	0
Fl 5-099	Townpark	2	19	239,400	228,000	0
Fl 5-025	Claude Pepper	12	1	581,000	48,417	0
Fl 5-028	Green Turnkey	3	1	132,300	0	0
Fl 5-091	Phyllis Wheatley	5	1	140,000	28,000	0
Fl 5-024	Elizabeth Virrick I	2	4	98,000	0	0
Fl 5-027A	Gwenn Cherry 13	2	16	195,300	0	0
Fl 5-027A	Gwenn Cherry 12	2	3	37,800	0	0
Fl 5-027A	Gwenn Cherry 08	2	11	132,300	0	0
Fl 5-027E	Gwenn Cherry 15	2	14	176,400	0	0
Fl 5-027E	Gwenn Cherry 16	2	35	441,000	0	0
Fl 5-027E	Gwenn Cherry 14	2	38	491,400	0	0
Fl 5-076B	Allapattah Homes	1	25	315,000	280,000	0
Fl 5-100B	Santa Clara Homes	1	7	81,900	72,800	0
Fl 5-011	Abe Arronovitz	2	9	192,500	0	0
Fl 5-029	Elizabeth Virrick II	2	7	196,000	98,000	0
Fl 5-034	Dante Fascell	6	4	528,500	0	0
Fl 5-026	Haley Sofge Towers	13	2	1,662,500	0	0
Fl 5-041	Jack Orr Plaza	12	1	700,000	0	0
Fl 5-089	Harry Cain Tower	14	1	0	38,500	0
Fl 5-049	Culmer Place	2	22	951,300	0	0
Fl 5-054	Parkside	4	1	196,000	0	0
Fl 5-075	Culmer Gardens	2	15	0	210,000	0
Fl 5-018	Smathers Plaza	6	2	637,000	0	0
Fl 5-030	Falk Turnkey	2	12	168,000	0	0
Fl 5-090	Jose Marti Plaza	5	1	192,500	0	0
Fl 5-012	Joe Moretti	2	36	1,008,000	504,000	0
Fl 5-019B	Medvin Apt.	2	1	63,000	31,500	0
Fl 5-100A	Little Havana Homes	3	1	176,400	52,267	0
Fl 5-092A	Coconut Grove	1	23	151,200	134,400	0
Fl 5-080	Florida City Gardens	1	25	0	0	500,000
8-005	Miami Gardens Apts.	3	2	283,500	84,000	0
8-001	Wynwood	1	40	252,000	0	0
8-003	Gibson Plaza	3	1	227,500	0	0

8-007	Coconut Grove	2	13	151,200	67,200	0
8-011	Little Havana I	4	1	262,500	0	0
8-006	Riverside	7	1	262,500	0	0
8-004	Perrine (Rainbow)	2	32	403,200	0	0
8-009	Goulds	1	48	302,400	0	0
	TOTALS			**$27,650,000**	**$3,700,456**	**$4,410,000**

Project 2: Develop MDHA Local Service Hubs

These service hubs (minimum of four) will allow MDHA to have a quicker and more efficient response in dealing with the needs of our residents after an emergency or natural disaster. These hubs will be strategically located through out the MDHA public housing developments. The following items will be needed to set up these service hubs:

- Trailer Mounted Generators
- Commercial Ice Machines
- Exterior Cold Storage Units
- Exterior Dry Storage Units

Project 3: Acquire Emergency Equipment

In addition to these service hubs, MDHA needs the following items to better enhance the efficiency of our recovery from emergency or natural disaster situations:

- Equipment
  - Four portable generators – need to make sure our Public Housing Regional Offices are up and running after a storm.
  - Six portable lighting systems with generators – needed to supply lighting to sites after a storm or event to help prevent crime in the Public Housing area.
  - Spot coolers – to supply temporary A/C to offices that are running on generator power
- Heavy equipment
  - Two Bucket Trucks for tree trimming
  - Two Dump Trucks for hauling debris
  - Two Wood Chippers
  - Two Stump Grinders
  - Four Diesel Water Pumps 4”
- Shutters
  - Residential units
  - Offices
  - Community Centers
- Communication - Radios

Miami-Dade Library Department

Project 1: Coral Gables Branch Library

The Coral Gables branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $25,000,000. This building is also critical to emergency operations by serving, as the back up facility for the administration should the main library be rendered inaccessible or inoperable due to an emergency. This project will enable us to reinforce the windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility. Estimated cost: $500,000

Project 2: West Dade Regional Library

The West Dade Regional branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $40,000,000. This building is of critical importance to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility. Estimated cost: $750,000

Project 3: Kendall Branch Library

The Kendall branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $2,850,000. This building is of critical importance to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility.
Estimated cost: $175,000

Project 4: Key Biscayne Branch Library

The Kendall branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $2,750,000. This building is of critical importance to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility.
Estimated cost: $175,000

Project 5: Miami Lakes Branch Library

The Miami Lakes branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $2,850,000. This building is of critical importance to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the

content of this building and on-going services provided to the communities served by this facility. Estimated cost: $175,000

Project 6: Coral Reef Branch Library

The Coral Reef branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $2,750,000. This building is of critical importance to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility.
Estimated cost: $125,000

Project 7: Allapattah Branch Library

The Allapattah branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $2,750,000. This building is of critical importance to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility.
Estimated cost: $85,000

Project 8: Coconut Grove Branch Library

The Coconut Grove branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $2,750,000. This building is of critical importance to the multi-ethnic and minority communities that it serves. In addition, this building has historical significance as part of the structure recreates the first lending library in Miami-Dade County. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility. Estimated cost: $125,000

Project 9: Culmer/Overtown Branch Library

The Culmer/Overtown branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $1,750,000. This building is of critical importance as a valued resource to the multi-ethnic and minority communities that it serves. This building is also of historical significance since it houses an early mural from the world renowned and award-winning African-American artist, Purvis Young, who was born and raised within the area of Culmer/Overtown. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility. Estimated cost: $115,000

Project 10: Edison Center Branch Library

The Edison Center branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $2,000,000. This building is of critical importance as a valued to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility. Estimated cost: $125,000

Project 11: Lemon City Branch Library

The Lemon City branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $2,000,000. This building is of critical importance as a valued to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility. Estimated cost: $115,000

Project 12: North Central Branch Library

The Miami Lakes branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $1,850,000. This building is of critical importance to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility. Estimated cost: $115,000

Project 13: South Dade Regional Library

The South Dade Regional branch of the Miami-Dade Public Library contains furniture, equipment and materials worth over $40,000,000. This building is of critical importance to the multi-ethnic and minority communities that it serves. This project will enable us to install impact resistant windows to withstand hurricane-level winds, as required by the new code, to secure the content of this building and on-going services provided to the communities served by this facility. Estimated cost: $750,000

Miami-Dade Park & Recreation Department

Project 1: Sea Wall Replacements and Repairs

The following projects will mitigate flooding and erosion along the shoreline in several park locations. The Miami-Dade County Park and Recreation Department operates and maintains marinas and coastal parks from Homestead to Sunny Isles. Three of the marinas were constructed in the 1960s, and they are now showing major seawall deterioration. Haulover Park, on the Intracoastal Waterway with direct access to the ocean is in need of seawall repairs at the

critical Intracoastal/Ocean Cut. A significant storm surge could potentially result in total failure of a large portion of the sea walls in several locations and potentially endanger and significantly damage the more than 1,000 boats berthed in those marinas. R. Hardy Matheson Preserve has no shoreline protection system.

1. Crandon Marina (1)- restore or replaced 300 linear feet of seawall west and south of boat ramp $963,000
2. Crandon Marina (2)- restore or replace 1,863 linear feet of seawall in the marina wet slip basin and charter boat area $4.5 million
3. Matheson Marina – restore of replace 675 linear feet of seawall in marina wet slip basin $1.768 million
4. Pelican Harbor Marina – restore or replace 115 linear feet of seawall in the marina wet slip basin $372,500
5. Haulover Marina – restore or replace 575 feet of seawall in Baker's Haulover Cut connecting the Intra Coastal Waterway and the Atlantic Ocean $1.193 million
6. Stabilize an approximately 4,500 of eroding shoreline along the Snapper Creek Canal by adding natural lime rock boulders and native vegetation and upgrade the last culvert crossing (1,300 feet from the end of the linear portion of the Park) $700,000

Total estimated cost: $$8,305,500

Project 2: Shutters

The Park and Recreation Department needs funds to provide shutters on all its buildings to prevent storm damage the buildings and contents. The Miami-Dade County Auditorium marquee is also susceptible to storm damage and needs protection. Many of these buildings are recreation centers and need to be opened as soon as possible after hurricanes to provide facilities for ice, water and food distribution, and places for children to be safe until schools reopen.

# Buildings	Location	Cost
3	Crandon Pro Shop and Offices	$46,000
3	African Heritage Cultural Center	$12,500
1	Natural Areas Management Bldg.	$37,500
55	Recreation Centers	$660,000
16	Field Centers	$192,000
3	Visitor Centers	$36,000
4	Field Houses	$48,000
2	Gyms	$24,000
1	Miami-Dade County Auditorium Marquee	5,000
86	Totals:	$1,061,000

Total estimated Cost: $1,061,000

Project 3: Tree Trimming

The Miami-Dade County Park and Recreation Department must maintain trees at over 300 park sites. Proper pruning and thinning of the tree canopy is important to minimize damage during hurricanes. Improperly maintained trees damage utilities, building structures and automobiles and require extensive clean up after storms. The trees damaged by the 2005 hurricanes all had structural defects such as internal decay or root damage, which would have been prevented by proper tree maintenance. The costs are detailed as follows:

1. Tree trimming equipment for one crew: bucket truck, dump truck, bob cat with trailer, 4x4 heavy duty pick-up, chipper, stump grinder $343,000
2. Tree trimming equipment for another crew: bucket truck, dump truck, bob cat with trailer, 4x4 heavy duty pick-up, chipper, stump grinder $343,000
3. Crew to trim and maintain trees to prevent damage in hurricanes: six crew members and one supervisor. Estimated annual cost of salary and fringes or contract cost is $254,053
4. Additional staff needed to maintain trees: one supervisor and one tree trimmer. Estimated annual cost of salary and fringes is $76,798
5. Equipment and supplies for tree crews, including fuel, tools, safety shoes and uniforms, safety equipment and insurance $73,200

Total estimated cost: $1,090,051

Project 4: Matheson Hammock Parking

Matheson Hammock driveway and parking lot floods during heavy rains and storms. To facilitate ingress and egress a combination of raising the level of the road and parking lot along with addressing the edge conditions resulting from the increased elevation. Additions to the inadequate storm water drainage system will also be needed. Estimated cost: $700,000

Project 5: Harden Park Buildings

Park buildings over 40 years old must undergo re-certification. Renovations to harden the buildings to reduce hurricane damage and to bring the electrical service to code to prevent fire damage are needed. Estimated cost: $700,000.

Miami-Dade Police Department

Project 1: Station Roof Reinforcement

Reinforcement of roofs at Miami-Dade Police Department's stations: This work should be done in the following order: (1) Hammocks, (2) Kendall, (3) Northwest (4) Headquarters, (5) Midwest. Aforementioned facilities were constructed years before stringent code requirements and the existing materials are inferior and subject to fail in the event of a disaster. Facilities will

have their roofing materials reinforced and upgraded to withstand manmade and natural disasters.

- Each of the facilities serves as the only regional policing facility for residents within large geographical boundaries and used as command centers for disasters, alternative command posts for the entire Department, or as staging areas for citizen volunteers, other public safety agencies, and various community programs; and
- Each facility houses key critical infrastructure systems germane to the law enforcement mission. In addition, the selected sites provide valuable emergency response services to large areas of the county and by reinforcing existing structures will ensure calls for service are responded to in an expeditious manner without delay.

Estimated cost: $160,000 each; Total: $480,000

Project 2: Roof Reinforcement

Reinforcement of the roof at the Miami-Dade Police Department's Property and Evidence Warehouse facility. The aforementioned facility was constructed years before stringent code requirements and the existing materials are inferior and subject to fail in the event of a disaster. The facility will have its roofing materials reinforced and upgraded to withstand manmade and natural disasters. A recent insurance underwriter report recommended reinforcement and noted that a projected loss could be between 1-5 million dollars excluding contents.

Additional benefits of this project includes:

- The facility serves as the only county evidence and quartermaster facility for law enforcement and residents within large geographical boundaries. It is used to secure and store criminal evidence used in prosecuting defendant, e.g., weapons, narcotics, currency, and electronics; and
- Reinforcing the existing structure will ensure that criminal evidence remains in a secure facility and is not subject to contamination, loss or damage which may lead to dismissal of thousands of criminal cases; and
- Provide a secure venue to continually store and disseminate law enforcement issued equipment critical to the law enforcement mission for nearly 5,000 employees.

Estimated cost: $250,000

Project 3: Upgrade Electrical Panels

District stations 1, 2, 4, 5, 6 and 8 are in need of electrical panel upgrades. The existing electrical panels are no longer adequate because of the increased demand of new electrical equipment. The existing panels are at their maximum capacity with no spare electrical circuit breakers available. Overloaded panel and line conditions could cause equipment failure due to voltage drops and/or electrical fires. Estimated cost: TBD

Project 4: Install Perimeter Security

Based on mutual site security concerns for fire, police and Southern Command headquarters, and the Federal Aviation administration, we are pursuing the development of an off-site alternate guarded facility entrance that would be activated when national elevated threat levels rise to conditions orange or red. The entrance would serve as a deterrence/isolation measure against the detonation of an explosive device or other type of physical attack within the critical distance of the stated facilities. When activated, the main entrances of the participating facilities would be shut down and vehicular traffic would then be redirected to the proposed alternate entrance. The projects development will also provide increased security around the FAA's existing VHF Omni-directional Range Navigation System (VOR) flight navigation system that services air traffic to and from Miami International Airport.

A proposed checkpoint at the alternate entrance would be manned by and well equipped trained personnel that would conduct the screening of all vehicles and/or packages destined to one of the facilities. Interior connecting roads would then connect permitted traffic to the desired facility. The proposed entrance would concentrate the efforts of personnel at one particular location, instead of at each individual facility. Estimated cost: $3.8 million

Miami-Dade Public Works Department

Project 1: Replacing Span Wire Signals with Mast Arm Signals

During Hurricane Andrews it was observed that traffic signals mounted on steel mast arms resisted hurricane winds much more efficiently than the traffic signals mounted on span wires and that the resulting damages to mast arm signals was much less severe. As a result, damaged mast arm signals could be repaired faster and with much less cost per signal, while repairs to span wire installations were costly, cumbersome and time consuming. Because of this, the county has adopted a policy of utilizing mast arm installations for all new signals or whenever an existing signal has to be replaced; with the only exception being a few intersections where existing geometry does not permit the use of mast arms. However, there are still approximately 608 existing span wire mounted traffic signal installations throughout the county that need to be replaced with mast arms in order to reduce their potential for storm damage and expedite recovery times. The 28 existing span wire traffic signals listed below are the highest priority sites among the 608 locations requiring mitigation. The estimated average costs for mast arm conversion is approximately $110,000 per intersection. The total estimated cost or any amount in $110,000 increments will be used on a site per site basis until all span wire signals in Miami-Dade County have been replaced with mast arm.
Estimated cost $3,000,000 (28 potential intersections).

Signal #	Location	Signal #	Location
3524	Miller Dr. & SW 92 Av.	4564	Coral Way & SW 122 Av.
4304	Miller Dr. & SW 93 Av.	2334	Douglas Rd. & NW 7 St.
3525	Miller Dr. & SW 97 Av.	4175	Douglas Rd. & NW 11 St.

3526	Miller Dr. & SW 102 Av.	3949	Douglas Rd. & NW 17 St.
3528	Miller Dr. & SW 112 Av.	3797	Douglas Rd. & NW 21 St.
2903	Douglas Rd & NW 46 St.	4610	Miller Dr. & SW 132 Av.
2332	NW 22 Av. & NW 7 St.	3882	Miller Rd. & San Amaro Dr.
3616	NW 22 Av. & NW 11 St.	4358	Sunset Dr. & SW 132 Av.
4490	NW 22 Av. & NW 14 St.	4342	Sunset Dr. & SW 137 Av.
3275	NW 22 Av. & NW 20 St.	4611	Sunset Dr. & SW 142 Av.
3289	NW 22 Av. & NW 23 St.	3802	Coral Way & SW 92 Av.
2416	NW 22 Av. & NW 28 St.	4593	NW 22 Av. & NW 32 St.
4124	Coral Way & SW 102 Av.	3594	NW 22 Av. & NW 41 St.
4249	Coral Way & SW 112 Av.	2482	NW 22 Av. & NW 46 St.

Project 2: Larchmont Gardens Storm Water Pump Station

Modify the Larchmont Gardens storm-water pump station to protect it from the wind borne debris, inland flooding from storm serge and wind driven rain. Retrofit must be designed and constructed in accordance with the 2001 Florida Building Code – High Velocity Hurricane Zones criteria. Estimated cost: $700,000

Project 3: Seaboard Acres Storm Water Pump Station

Modify the Seaboard Acres storm-water pump station to protect it from wind borne debris, inland flooding from storm serge and wind driven rain. Retrofit must be designed and constructed in accordance with the 2001 Florida Building Code – High Velocity Hurricane Zones criteria. Estimated cost: $700,000

Project 4: Road, Bridge and Canal Maintenance Division NW 58 Street Facility

Protect the existing stand-by generator at 9301 NW 58th Street main office (emergency operation center for the Division). Currently this generator is exposed to the elements; including storm generated wind borne debris, and is therefore vulnerable to weather-related damage. With the loss of FP&L power should this generator be rendered inoperable Miami-Dade County debris clearing activities would be severely hampered. The work necessary consists of constructing a protective wall and roof in accordance with the 2001 Florida Building Code – High Velocity Hurricane Zone criteria. Estimated cost: $125,000

Project 5: Biscayne Shores Storm Water Pump Station Retrofit.

Protect the existing Biscayne Shores storm-water pump station stand-by generator, electrical and mechanical rooms to make them water-tight to an elevation above anticipated hurricane storm surge levels. At present, the standby generator exhaust pipe exits the pump station through the east exterior wall, exposed to Biscayne Bay at an elevation that is below the projected storm surge level. In addition, the existing station ventilation system is at risk to hurricane winds and wind driven surf; seawater could easily enter and severely damage the diesel engine of the generator, thereby rendering the pump station inoperable. The work necessary

consists of relocating the through-wall generator exhaust pipe and modifying the existing ventilation system to a height above anticipated storm surge levels and be able to withstand hurricane force winds. Estimated cost: $250,000

Project 6: Road, Bridge and Canal Maintenance Division Vital Public Records Storage

The Public Works Department - Road, Bridge and Canal Maintenance Division has considerable vital documents such as original bridge drawings, one of a kind bridge documents, "As-Builts", historic bridge records and other vital public records, etc. which if destroyed or damaged cannot be replaced. A document safe room or stand along building along with scanning, server and record keeping materials is needed for the storage of such hard copy documents and electronic data. Estimated cost: $250,000.

Project 7: Mosquito Control Division Insecticide Storage Facility Upgrade

Upgrade the existing chemical storage facility to withstand hurricane force winds and wind born debris. These insecticides are necessary to control mosquitoes throughout the county. Consequences of the loss of the inventory of insecticide would increase the potential for mosquito transmitted disease, and significant discomfort from residents who will be exposed to the bite of the mosquito. Following a hurricane, many people have no shelter, increasing their exposure to biting mosquitoes. Estimated cost: $300,000

Project 8: Hurricane Protection for the Mosquito Control Building and Hanger.

Controlling mosquitoes following a hurricane is an essential and critical public service for the citizens of Miami-Dade County. Many people may be without shelter, exposing them to the bite of the mosquito, and the potential for contracting mosquito transmitted disease. In order for mosquito control to provide this necessary service, it is essential to protect the facility to prevent wind born damage to the building, equipment, insecticides and hangar. The mosquito control facility must be operational immediately following a hurricane or other natural disaster to control mosquitoes. This project will install storm shutters on all windows, reinforce overhead doors, and seal the breezeway where vehicles-equipment are stored to prevent them from being blown out by high winds. Estimated cost: $61,000

Project 9: Install removable bracing for hangar doors

The Mosquito Control Division's helicopter hangar has four sliding doors that require bracing to prevent them from being dislodged as a result of hurricane force winds. Bracing each of the doors will prevent the hangar and its contents from wind damage. There exists an immediate need following a hurricane for mosquito control. The tools and equipment used for aerial spraying are housed in the hangar. Minimizing any loss or damage to the equipment plays a vital role in being able to immediately conduct mosquito spraying operations in the aftermath of a hurricane. Estimated cost: $12,000

Project 10: Increase security at the Mosquito Control North Facility

The Mosquito Control Division uses mosquito spray equipment, trucks, and aircraft to apply insecticides throughout Miami Dade County to control mosquitoes. The insecticides used are not classified as highly toxic, and are safe when used by trained professionals according to label directions. The possibility exists that terrorists could gain entrance to the facility and use the equipment to spray insecticide (or other agent), creating fear and panic throughout Miami Dade County. Increasing security at the Mosquito Control facility will reduce the possibility of any such occurrence.
Estimated cost: $95,000

Project 11: Impressed Current Cathodic Protection Design

The Venetian Causeway is listed on the National Register of Historic Places and is a National Historical and Scenic Roadway. It is also an important as an evacuation route for Miami Beach and the island communities found along its length. A critical first step in the effort to rehabilitate this causeway is the design of an impressed current cathodic protection system (ICCP) that will protect the rehabilitated bridges from the effects of corrosion. It will provide long-term protection of reinforcement steel within the bridges making up the Venetian Causeway by addressing the underlying cause of deterioration. Estimated cost: $280,000

Miami-Dade Seaport Department

Project 1: D&E Security

Provide security systems for new cruise terminals D&E consistent with security installed in other terminals and in compliance with existing regulations. Estimated cost: $2,600,000

Project 2: Radiation Monitors

Radiation monitors for security and MDPD to provide for prompt identification of radiation hazards so that evacuations can be carried out in a timely fashion.
Estimated cost: $260,000

Project 3: Security Training

Training to comply with 33 CFR105 items 210 and 215 requirements for security-related training programs as well as FDLE FS 311.12. Estimated cost: $100,000

Project 4: Security Study

Conduct a study to identify gaps in security and to propose cost-effective solutions to remedy those gaps. Estimated cost: $350,000

Project 5: Gate Barriers

As a security measure to mitigate against terrorist incidents, install hardened barriers at vehicle gates to prevent unauthorized access. Estimated cost: $130,000 each

Project 6: Elevate Critical IT Systems

Move critical security and operating systems to a higher elevation to protect them from storm surge and floods. Estimated cost: $2,000,000

Project 7: Security Systems Upgrades

Upgrade current security systems to comply with regulation and policies implemented subsequent to the installation of those systems. Estimated cost: $3,000,000

Project 8: Electrical Feeder System Upgrade for Storm Surge Mitigation

Upgrade electrical feeders and manholes to resist storm surge.
Estimated cost: $5,000,000

Project 9: Well Redevelopment Drainage Mitigation Project

Test, clean and upgrade drainage wells to allow for full drainage capacity to prevent improper stormwater drainage from damaging pavement, causing safety hazards in the cargo yards.
Estimated cost: $500,000

Project 10: Installation of New Fenders for Mitigation of Wharf Damages

To reduce damages to the wharves, replace old tire-fenders with new fenders. Tire-fenders have edges that damage the wharf surface, especially during rough weather, making the wharf more susceptible to subsequent damage from wave and storm surge action.
Estimated cost: $500,000

Project 11: Generators for Critical Systems:

In the event of a power outage provide for emergency generators for the communications systems in the C3 Annex, Administration Building and other key locations. This shall include any necessary infrastructure upgrades. Estimated cost: $250,000 each

Project 12: RIP RAP Erosion Prevention Program – Pilot House Area

The Port of Miami will add rocks to reinforce 557 ft. at the eastern tip of Lummus Island to reduce this critical facility's vulnerability to natural wave action. The pilot station and docks at the entrance to Government Cut are the base from which pilots are dispatched to bring cruise and cargo ships into the Port. This area is particularly vulnerable to ocean waves as well

as wave action from the convergence of three different channels. By reinforcing the point, the pilot station, port and island itself are less vulnerable to the destructive forces of hurricanes and heavy storms. Estimated cost: $700,000

Project 13: Critical Systems Malfunction Mitigation

Purchase and install automated notification system to alert Port Management when temperature or other conditions approach a critical level in 7 RCC and other rooms containing sensitive computer and communications equipment. This will allow management the opportunity to take necessary corrective action to prevent the loss of security system functionality in cruise terminals, and prevent/mitigate damage to expensive equipment.
Estimated cost: $5,000 per RCC Room

14. Radios for Security Staff

The Port of Miami has an ongoing need for hand-held radios and supporting infrastructure for security and operations staff to ensure that key personnel are able to communicate with each other and with other agencies (interoperable) during any emergency situation.
Estimated cost: $55,000

Project 15: Defibrillator*s*

Purchase 30 defibrillators @ $1,000 each, train staff and make defibrillators readily available in each cruise terminal to provide prompt treatment for heart attack victims.
Estimated cost: $30,000

16. Drainage Mitigation

Install and/or upgrade drainage systems throughout the Port of Miami in excess of current requirements in order to eliminate flooding and to treat stormwater runoff to reduce the release of contaminants into Biscayne Bay. Estimated cost: $3,000,000

Project 17: Fire truck

To mitigate damages in a natural or man made incident, provide a fire truck dedicated to the Port along with specialized equipment for accessing all areas of a ship.
Estimated cost: $607,000

Project 18: Hurricane Shutters Retrofit

The Port of Miami requests manually operated roll-down hurricane shutters for Cruise Terminals B, C and J and permanently installed hurricane screens (similar to those installed at the Miami-Dade Fire Rescue Headquarters) for Terminal H. Currently, there is no hurricane protection on the windows of these terminals. Estimated cost: $750,000

Project 19: Wireless Network

Provide a wireless network throughout the Port of Miami to allow for background checks, NIMS updates and other security related activities 24/7 anywhere on the port.
Estimated cost: $4 million

Project 20: Fire Alarm for Cruise Terminals

Upgraded fire alarm systems for 5 existing cruise terminals @ $150,000 per terminal, integrated to new access control security systems. Estimated cost: $750,000

Project 21: SeaWall Reinforcement for Storm Surge Mitigation

Before or concurrently with the Phase III dredge deepening to –49 or –50 feet, the south channel cargo wharf's bulkhead must be reinforced with a sub-surface, steel bulkhead or other system to withstand the additional physical pressures created by the deepening.
Estimated cost: $18,000,000

Project 22: Fire Alarm for Administrative Complex

Fire alarm system design and implementation to meet fire life safety code compliance for Port's administrative complex and integrate to the access control system.
Estimated cost: $550,000

Project 23: Absorbents

Floating disposable loops to contain spills in the water; absorbent pads to prevent dangerous spills from entering the sewer system, and powders to absorb and contain spills.
Estimated cost: $5,000

Project 24: Fire Pump Upgrade

Upgrade 4 ft suction line for the fire pump at the 1015 Building in order to provide adequate water pressure to control a fire at the port's administrative complex.
Estimated cost: 250,000

Project 25: Gas Masks/ Escape Hoods

Provide gas masks to protect Port of Miami Security and MDPD assigned to establish perimeters or evacuate area surrounding spills and other hazards prior to arrival of Fire Rescue.
Estimated cost: $5, 000

Project 26: Systems Backup

The Port seeks to establish an off site location (outside of South Florida) from which to run systems to support Port operations in the event the Port's technology systems are unavailable due to a natural or man-made disaster. This would be similar to the agreement that ETSD has signed with New York to support mainframe systems in an emergency. This may well be a reciprocal agreement with another seaport. The Port seeks funding to cover costs associated with establishing a backup process and infrastructure. Estimated cost: $100,000

Project 27: Rip Rap

Mitigation for the south and north shoreline rip rap areas. Estimated cost: $1,000,000

Project 28: Safety enhancements

Purchase and install stairway and escalator guardrails and fire safety features for new and existing buildings. Estimated cost: $100,000

Project 29: Reverse Call Capability

To allow for immediate notification when other systems are down, upgrade communication system to provide ability to send a recorded message to user landlines & cell phones, in order to provide prompt information and mitigate loss of life. Estimated cost: To be determined

Project 30: Hazardous Materials Detectors

Miami-Dade County's economy and job-market depend on the nearly 5 million tons of imports entering through the Port each year. To facilitate commerce, potential hazards from unknown substances (powders, liquids, fumes, etc.) escaping from containers must be quickly and definitively resolved. The Port would like to upgrade its hazardous materials remote testing capability with the purchase of technologically advanced hazardous materials 'air monitoring equipment', which allow Haz Mat personnel to sample and identify suspicious substances more expeditiously, without endangering staff. Estimated cost: $10,000

Project 31: First Responder Software

Install software, compatible with software installed at the MDC Emergency Operations Center, to facilitate communication during an emergency or after a disaster.
Estimated cost: To be determined

Project 32: Environmental Training for Port Users and Tenants

The Port of Miami is implementing a proactive environmental training program to educate Port users and tenants in best management practices aimed at preventing and reducing pollution. It is anticipated that the program will be gradually expanded in subsequent years to

eventually include issues that concern cruise passengers as well. The project is being developed by port environmental manager, incorporating ideas learned through review of award winning environmental training programs around the country. Estimated cost: $25,000 per year

Project 33: Public Address System

To allow for centralized control of communications during an emergency on the Port to ensure that all affected areas receive prompt and accurate instructions regarding protective measures available during an emergency. Estimated cost: $400,000

Project 34: Waterside fence intrusion system

Install an electronic system on all fences surrounding the restricted access area to notify security when that fence is breached. Estimated cost: To be determined

35. Facilities Hardening

Enhance facilities design to increase the Port's ability to endure severe wind, rain and storm surge events. This includes window protection (upgrade to impact resistant windows rather than standard windows with shutters), elevate and/or reinforce storage areas for sensitive equipment, install drainage systems to prevent water accumulations from damaging equipment installed at or below ground level, and other similar design enhancements in excess of code requirements that are intended to safeguard infrastructure. Individual projects will cost between $10,000 and $250,000. Estimated cost: $1,000,000

Project 36: Night-vision equipment

Purchase night vision and infrared equipment to allow for effective surveillance both above and below the water to better secure the Port of Miami perimeter.
Estimated cost: To be determined

Project 37: Perimeter Cameras

Complete the installation of perimeter security cameras on the Port.
Estimated cost: $2,760,000

Project 38: Harden Port Bridge

Coordinate with FDOT to reinforce stanchions supporting Port Bridge and secure all accessible hatches to ensure that nothing can be inserted to compromise this structure and conduct an assessment to identify additional effective ways to secure the sole land access route to the Port of Miami. Estimated cost: To be determined

Project 39: Waterside Operations Area Barriers

To provide a physical barrier to prevent unauthorized vehicles access to waterside restricted access areas. Estimated cost: $1,000,000

Project 40: Boat-Mounted Sonar

Purchase and install sonar on port patrol boats. Sonar will be used to establish a baseline underwater image and then to pre-screen wharves prior to cruise ship arrivals or high security events. Sonar will allow the Port of Miami to quickly identify changes, damages and debris resulting from a hurricane or other waterside event and thus facilitate the recovery effort.
Estimated cost: To be determined

Project 41: Provision Screening Equipment

Purchase and install screening equipment to check for weapons of mass destruction that could be concealed in the provisions being loaded aboard a cruise ship.
Estimated cost: $6,000,000

Project 42: Security for CPIF

Install security systems for 2 cruise provision inspection facilities.
Estimated cost: $300,000

Miami-Dade Team Metro

Project 1: Purchase Battery Operated Generators for Kendall Office

Team Metro is instrumental in the aftermath of emergencies. Our offices are often used as Disaster Recovery Centers (DRCs) or Disaster Information Recovery Centers (DIRCs). Our locations house critical recovery agencies such as Federal Emergency Management Agency (FEMA), Miami-Dade County Housing, Small Business Administration, Army Corp of Engineers (Operation Blue Roof), etc. As such, it is imperative that our regional offices are operational immediately after an emergency. The purchase of a battery-generator will ensure that we have the electrical power needed to run the office, while eliminating the potential liability and hazards created as carbon monoxide is produced by gas-operated generators. In addition, the battery operation will also eliminate the task of having to maintain gasoline in the generator – especially if the recovery is prolonged and a gas shortage occurs. Estimated cost: $500

Project 2: Purchase Battery Operated Generator for the Melrose Office

Team Metro is instrumental in the aftermath of emergencies. Our offices are often used as Disaster Recovery Centers (DRCs) or Disaster Information Recovery Centers (DIRCs). Our locations house critical recovery agencies such as Federal Emergency Management Agency (FEMA), Miami-Dade County Housing, Small Business Administration, Army Corp of Engi-

neers (Operation Blue Roof), etc. As such, it is imperative that our regional offices are operational immediately after an emergency. The purchase of a battery-generator will ensure that we have the electrical power needed to run the office, while eliminating the potential liability and hazards created as carbon monoxide is produced by gas-operated generators. In addition, the battery operation will also eliminate the task of having to maintain gasoline in the generator – especially if the recovery is prolonged and a gas shortage occurs. Estimated cost: $500

Project 3: Purchase Battery Operated Generator for the Northeast Office

Team Metro is instrumental in the aftermath of emergencies. Our offices are often used as Disaster Recovery Centers (DRCs) or Disaster Information Recovery Centers (DIRCs). Our locations house critical recovery agencies such as Federal Emergency Management Agency (FEMA), Miami-Dade County Housing, Small Business Administration, Army Corp of Engineers (Operation Blue Roof), etc. As such, it is imperative that our regional offices are operational immediately after an emergency. The purchase of a battery-generator will ensure that we have the electrical power needed to run the office, while eliminating the potential liability and hazards created as carbon monoxide is produced by gas-operated generators. In addition, the battery operation will also eliminate the task of having to maintain gasoline in the generator – especially if the recovery is prolonged and a gas shortage occurs. Estimated cost: $500

Project 4: Purchase Battery Operated Generator for the Northside Office

Team Metro is instrumental in the aftermath of emergencies. Our offices are often used as Disaster Recovery Centers (DRCs) or Disaster Information Recovery Centers (DIRCs). Our locations house critical recovery agencies such as Federal Emergency Management Agency (FEMA), Miami-Dade County Housing, Small Business Administration, Army Corp of Engineers (Operation Blue Roof), etc. As such, it is imperative that our regional offices are operational immediately after an emergency. The purchase of a battery-generator will ensure that we have the electrical power needed to run the office, while eliminating the potential liability and hazards created as carbon monoxide is produced by gas-operated generators. In addition, the battery operation will also eliminate the task of having to maintain gasoline in the generator – especially if the recovery is prolonged and a gas shortage occurs. Estimated cost: $500

Project 5: Purchase Battery Operated Generator for the Northwest Office

Team Metro is instrumental in the aftermath of emergencies. Our offices are often used as Disaster Recovery Centers (DRCs) or Disaster Information Recovery Centers (DIRCs). Our locations house critical recovery agencies such as Federal Emergency Management Agency (FEMA), Miami-Dade County Housing, Small Business Administration, Army Corp of Engineers (Operation Blue Roof), etc. As such, it is imperative that our regional offices are operational immediately after an emergency. The purchase of a battery-generator will ensure that we have the electrical power needed to run the office, while eliminating the potential liability and hazards created as carbon monoxide is produced by gas-operated generators. In addition, the battery operation will also eliminate the task of having to maintain gasoline in the generator – especially if the recovery is prolonged and a gas shortage occurs. Estimated cost: $500

Project 6: Purchase Battery Operated Generator for the South Office

Team Metro is instrumental in the aftermath of emergencies. Our offices are often used as Disaster Recovery Centers (DRCs) or Disaster Information Recovery Centers (DIRCs). Our locations house critical recovery agencies such as Federal Emergency Management Agency (FEMA), Miami-Dade County Housing, Small Business Administration, Army Corp of Engineers (Operation Blue Roof), etc. As such, it is imperative that our regional offices are operational immediately after an emergency. The purchase of a battery-generator will ensure that we have the electrical power needed to run the office, while eliminating the potential liability and hazards created as carbon monoxide is produced by gas-operated generators. In addition, the battery operation will also eliminate the task of having to maintain gasoline in the generator – especially if the recovery is prolonged and a gas shortage occurs. Estimated cost: $500

Project 7: Purchase Battery Operated Generator for the Tamiami Office

Team Metro is instrumental in the aftermath of emergencies. Our offices are often used as Disaster Recovery Centers (DRCs) or Disaster Information Recovery Centers (DIRCs). Our locations house critical recovery agencies such as Federal Emergency Management Agency (FEMA), Miami-Dade County Housing, Small Business Administration, Army Corp of Engineers (Operation Blue Roof), etc. As such, it is imperative that our regional offices are operational immediately after an emergency. The purchase of a battery-generator will ensure that we have the electrical power needed to run the office, while eliminating the potential liability and hazards created as carbon monoxide is produced by gas-operated generators. In addition, the battery operation will also eliminate the task of having to maintain gasoline in the generator – especially if the recovery is prolonged and a gas shortage occurs. Estimated cost: $500

Project 8: Purchase Battery Operated Generator for the West Office

Team Metro is instrumental in the aftermath of emergencies. Our offices are often used as Disaster Recovery Centers (DRCs) or Disaster Information Recovery Centers (DIRCs). Our locations house critical recovery agencies such as Federal Emergency Management Agency (FEMA), Miami-Dade County Housing, Small Business Administration, Army Corp of Engineers (Operation Blue Roof), etc. As such, it is imperative that our regional offices are operational immediately after an emergency. The purchase of a battery-generator will ensure that we have the electrical power needed to run the office, while eliminating the potential liability and hazards created as carbon monoxide is produced by gas-operated generators. In addition, the battery operation will also eliminate the task of having to maintain gasoline in the generator – especially if the recovery is prolonged and a gas shortage occurs. Estimated cost: $500

Project 9: Purchase Shutters for Doors and Windows of Kendall Office

The acquisition of shutters for our regional offices' doors and windows are much needed. With the intensification of hurricane season every year, it has become extremely important, more than ever, that we properly secure our facilities prior to a hurricane. Team Metro plays a vital,

county-wide role in the recovery efforts; those efforts will not be possible if our offices are damaged; therefore, the shutters will play a significant part in our efforts to protect our facilities.
Estimated cost: $3,000

Project 10: Purchase Shutters for Doors and Windows of Northwest Office

The acquisition of shutters for our regional offices' doors and windows are much needed. With the intensification of hurricane season every year, it has become extremely important, more than ever, that we properly secure our facilities prior to a hurricane. Team Metro plays a vital, county-wide role in the recovery efforts; those efforts will not be possible if our offices are damaged; therefore, the shutters will play a significant part in our efforts to protect our facilities.
Estimated cost: $ 3,000

Project 11: Purchase Shutters for Doors and Windows of Tamiami Office

The acquisition of shutters for our regional offices' doors and windows are much needed. With the intensification of hurricane season every year, it has become extremely important, more than ever, that we properly secure our facilities prior to a hurricane. Team Metro plays a vital, county-wide role in the recovery efforts; those efforts will not be possible if our offices are damaged; therefore, the shutters will play a significant part in our efforts to protect our facilities.
Estimated cost: $3,000

Project 12: Purchase Radios for Staff

Team Metro's role in the recovery effort in the aftermath of an emergency is intensive; immediately following the disaster, we must contact staff and mobilize to establish recovery sites. The public, as well as other emergency agencies, depend on us to take the lead in the establishment of recovery efforts. However, in the past, communication has become a serious problem. With non-functioning home and cell phones, the department has found it quite difficult to communicate with staff. Without the staffing, we cannot adequately staff the sites and serve the community. The acquisition of 91 radios for staff will enable us to be better prepared and able to communicate in the aftermath of a disaster; they are a more reliable source of technology.
Estimated cost: $145,000

Miami-Dade Transit Agency

Project 1: Bulk Fuel Storage and Transfer Station

Since the terrorist attacks on the United States in September 2001, the safety and security of public facilities, including public transportation, have taken on an increased urgency. Additionally, the 2005 and 2004 hurricane season provided ample evidence of the necessity for local governmental agencies such as public transit to have backup infrastructure options in place when natural disasters strike in order to mitigate service interruptions to the greatest degree possible. One of the projects identified by Miami-Dade Transit (MDT) that could play a critical role in either terrorist attacks or natural disasters involves the design and construction of a bulk fuel

storage and transfer station at MDT's William Lehman Center, located at 6601 NW 72nd Avenue. When completed, this facility would ensure that availability of diesel fuel for transit-related services for the large MDT bus fleet in the aftermath of a severe storm that might affect deliveries from MDT's normal fuel supply at Port Everglades. This actually did occur after hurricane Wilma during the 2005 hurricane season. Fuel at Port Everglades was not accessible. The backup fuel supply source would also be significant in the time of any potential terrorist activity that might otherwise threaten key fuel locations such as Port Everglades. The station will store diesel fuel in four 30,000 gallon, double-wall, steel, horizontal, aboveground storage tanks. No vehicular fueling dispensers will be installed. Estimated cost: $2,750,000

Project 2: Storm Shield Hurricane Barriers

Purchase and install storm shield hurricane barriers on all windows and install accordion storm shutters on two entrance doors of the Miami-Dade Transit Coral Way division transportation building. This installation will provide protection to the employees and equipment during hurricanes. MDT has emergency personnel working all natural disasters and they are stationed in this building. Estimated cost: $60,000

Project 3: Storm Shield Hurricane Barriers

Replace existing windows and doors with impact resistant windows and doors and install storm shield hurricane barriers to the Miami-Dade Transit Central Administration Building. This installation will provide protection to the employees and equipment during hurricanes. MDT has emergency personnel working all natural disasters and they are stationed in this building.
Estimated cost: $200,000

Project 4: Reconfiguration – Critical Equipment

Install additional reconfiguration of present loads to bring the Miami-Dade Transit Northeast bus facility within 70% of critical equipment during hurricane emergencies and disasters. The loads will be added to the 400KW standby generator. Estimated cost: $158,000

Project 5: Emergency Portable Air Conditioner Units

Purchase emergency portable air conditioner units for computer rooms and office areas for all essential operating areas. The Government Center maintains computer systems, services, and the Sonnet system. The portable air conditioner units would prevent these systems and services from damage and malfunction. The bus areas would provide minimal cooling to permit essential operations to continue. Twelve units are necessary. Estimated cost: $48,000

Project 6: Emergency Power for entire MDT Facilities

Provide emergency power to the entire MDT Facilities during the loss of power from Florida Power & Light, especially during storms, hurricanes, and natural disasters. MDT provides emergency evacuation services for the entire Miami-Dade County area. This is necessary

to operate during any loss of power. Emergency generators will provide power to all equipment and buildings. All equipment and the buildings must remain open and be manned by employees at all times. Estimated cost: $5,000,000

Miami-Dade Water and Sewer Department

Project 1: Storm Shutters

The department proposed the installation of accordion shutters at the Westwood Lakes Maintenance Facility. Estimated cost: $30,000

Project 2: HEPA Filters at Water Storage Tanks

This project covers the retrofitting of 8 storage tanks to incorporate HEPA filters at water storage tanks air vents to protect against chemical or bacteriological contamination.
Estimated cost: $250,000

Project 3: Physical Security Risk Reduction Measures at Water Treatment Plants

These projects include physical security improvements to detect, delay and respond to adversarial actions at the treatment plants, such as hardening of perimeters, high security fencing, intrusion sensors, high security doors and vehicle restraints. Estimated cost: $12,200,000.

Project 4: Risk Reduction Measures at Treatment Plants and Facilities

These projects include capital improvements to alleviate the mitigate damage and modify treatment processes to reduce possible widespread damage and evacuation due to chlorine accidents. These consist of the following types of projects:

a. Change treatment process to sodium hypo chlorinate method.
Estimated cost: $58,000,000.

b. Construct underground bypasses to process flow in the event of loss of above-ground facilities. Estimated cost: $20,500,000.

c. Purchase spare high service pumps, motors and components:
Estimated cost: $1,300,000.

d. Increase emergency water storage capacity with ground storage tanks.
Estimated cost: $1,500,000.

e. Replace canal and bridge crossing pipes with sub-aqueous crossings.
Estimated cost: $2,500,000.

f. Construct booster station bypass in distribution network.
Estimated cost: $500,000.

Project 5: Satellite Phones

After Hurricane Andrew, communications were virtually non-existent. With satellite phones distributed to our field crews and at regional command centers, better and faster recovery after a disaster can occur. Phones would be made available to our plant maintenance, pump station and pipeline divisions. Estimated cost: $15,000.

Project 6: Hand-Held GPS Units

These will assist our field crews in the location of pump stations after a disaster, especially in the event of major devastation. In addition, these units would be helpful to personnel from other units that may provide assistance to the department. Estimated cost: $50,000

Project 7: Increased Wastewater Transmission and Treatment Capacity

During periods of heavy rainfall, the department's wastewater system is subjected to peak flows from overloaded storm drainage systems throughout the county and its municipalities. Additional capacity is needed in the county's transmission and treatment system to handle the increased wet weather flows. This construction would significantly reduce sewage overflows throughout the county and alleviate public health concerns after storm events.
Estimated cost: $200,000,000.

Project 8: Relocation of all Facilities in Back-Yard Easements:

Currently, the department maintains water and sewer mains, along with some sewage pumping stations, in back-yard easements that were constructed years ago. During storm events, the resulting up-rooting of trees causes service interruptions to our customers by the breakage of underground mains. In addition, power to pump stations is lost due to the loss of electric service when broken tree limbs sever power lines. This proposal would relocate these facilities to the right-of-way and away from private landscaping. These types of projects can be broken into smaller projects depending upon the availability of funding. Estimated cost: $20,000,000.

Project 9: Harden Water and Sewer Department Buildings

A safe room is needed for department employees who operate the wastewater treatment plants at the Central and South Districts wastewater treatment plants during storm or disaster events. Estimated cost: $20,000,000.

Project 10: Shelters for Critical Equipment

Much of the department's emergency equipment is currently stored outdoors: This item proposed the construction of shelters to store portable pumps and generators at sites already owner by the department. Estimated cost: $5,000,000.

Project 11: Replacement of Canal and Bridge Crossing Pipes

Replace canal and bridge crossing pipes with sub-aqueous crossings.
Estimated cost: $2,500,000

Project 12: Shelters for Critical Equipment

Much of the Department's emergency equipment is currently stored outdoors. This item is proposed to construct shelters to store portable pumps and generators at sites already owned by the department. Estimated cost: $5,000,000

Vizcaya Museum and Gardens

Project 1: Hurricane Protection System

During the 2005 hurricane season, wind-driven water entered Vizcaya's main house through leaks and windows that blew open during the storm, resulting in the damage of several pieces of antique furniture and art objects. To protect the museum's structure and collections from future damage, Vizcaya requires the purchase of a new "Armor Guard" hurricane protection system that will provide superior wind, rain, and projectile protection. The museum's current system provides only projectile protection; in addition, the current system is difficult to install due to its weight and bulk, requiring significant staff time and occasionally resulting in personnel injuries. Due to its lightweight design and ease of installation, a new "Armor Guard" hurricane protection system will take less time to install and reduce the risk of employee injuries.
Estimated Cost: $200,000

Project 2: Historic Garden Features Mitigation

The increasingly active hurricane seasons have resulted in the damage and deterioration of Vizcaya's historic garden statuary and architectural ornaments. Several mitigation measures are required in order to prevent further loss and damage to significant artifacts. These include: improvement of the corroded steel bracing system on the back of seven statues; removal of biogrowth that reacts with salt spray and deteriorates the crystalline composition of marble and limestone statues; insertion of non-corrosive reinforcing frames in deformed antique lead urns on the Casino Mound; replacement of two limestone statue bases that are structurally flawed; and repairs to weakened brachiated marble columns in public areas. In addition, the ancient Roman altar, Byzantine columns, and three other significant artifacts in the gardens must be removed and re-housed in a protected area in order to prevent additional damage or possible loss.
Estimated Cost: $350,000

Project 3: Replacement of Glass Canopy over Courtyard

The present courtyard enclosure at Vizcaya was designed in 1982, prior to the implementation of stricter Miami-Dade building codes for wind-load capacity following Hurricane Andrew in 1992. Inherent design flaws – such as a plexiglass clerestory held in place solely by sili-

cone caulking material – as well as nearly twenty-five years of exposure and deterioration have led to ever increasing areas of water intrusion, with consequent damage to surrounding wooden eaves and rafters. The failure of any single panel in the existing single-glazed structure in a direct-hit category 3 or above storm would result in depressurization of the interior of this National Historic Landmark structure, which would likely result in catastrophic damage to collections, historic fabric, and structure. An existing project proposal, developed in association with LORD Cultural resources and Richard Heisenbottle Architects as part of the Vizcaya Museum and Gardens master plan in 2005, would evaluate the existing structure for viability of foundations, reuse the substructural supports, and replace the glass and steel canopy with a new enclosure in accordance with current building codes. Estimated Cost: $2,000,000

The Municipalities

There are thirty-five municipalities within Miami-Dade County. Each municipality has determined which hazard mitigation projects are appropriate to that individual community and what priority should be attached to each. No projects submitted for inclusion in the Local Mitigation Strategy have been edited in any way other than to conform to the format, font and type-style used in the document. Each is included as submitted. Future studies may determine, however, that some of these individual projects may be better suited to or easier to complete if combined into a countywide initiative as outlined above. This type of decision will be made as required by the circumstances of the time.

Several of the municipalities, while active in the Local Mitigation Strategy Program, did not identify individual hazard mitigation projects at this time. This is not to be construed to mean that these communities will not submit proposals in the future and each reserves the right to do so.

Several of the municipalities have chosen to no longer participate in the Local Mitigation Strategy. The projects of these municipalities have been retained in this document as a matter of historical record. However, these municipalities and their projects will no longer be eligible for any benefit that may be available to members of the LMS Working Group.

City of Aventura

Project 1: Stormwater Drainage Projects

The city of Aventura is 3.2 square mile community located along the Intercoastal Waterway in northern Miami-Dade County. Since its inception, the city has emphasized the importance of drainage and stormwater management in minimizing the inconvenience to its residents during the annual hurricane season. The city has determined that the following areas are in need of storm drainage and roadway improvements:

Request is for funds for drainage improvements to the Hospital District North Collector connection and NE 213th Street outfall update at NE 34th Avenue. The project is in accordance with the city's capital improvement program approved by the city commission. Design plans will address connecting the drainage pipe currently extended just west of Biscayne Boulevard at NE 213th Street to the existing drainage pipe extended to NE 28th Avenue completing connection to the Hospital District. In addition, plans will address drainage improvements to the existing outfall at the intersection of NE 213th Street and NE 34th Avenue as required by Miami-Dade County Department of Environmental Resources Management (DERM). DERM will not allow connection to the Hospital District until the outfall update is complete. This is the reason the projects must be done together. The cost includes services pertaining to civil design, permitting, bidding, surveying and construction services. Estimated cost: $815,000.

Project 2: Development of Floodplain Management Plan

The city is interested in obtaining grant funds to hire a consultant to develop a floodplain management plan. Ordinance No. 97-19 created a Flood Damage Prevention Ordinance to enforce mitigation efforts throughout the City with regards to flooding. An ordinance is not a plan however and the creation of a floodplain management plan may benefit the community in a more positive "rating" within the Community Rating System, thereby allowing residents to obtain lower flood insurance premiums.

Project 3: Purchase Communications Information Equipment

During an emergency, it is critical that emergency personnel are able to communicate with one another. This project entails purchasing equipment, such as radios and additional cellular phones, to assist emergency personnel in responding to an emergency.

Project 4: Develop Disaster Education Programs

Many residents choose to remain in Aventura during an evacuation, some of who are elderly and dependent on electricity and medication. By obtaining grant funds to develop community disaster education programs, the city could promote awareness of emergencies and educate residents on the appropriate response and necessary preparation when an emergency threatens the area. Possible activities include:

- Developing materials such as videos, brochures, and newsletters;
- Providing training seminars;
- Providing Community Emergency Response Teams (CERT) training; and
- Organizing CERT teams within condominiums.

Project 5: Development of Emergency Command Post within the City

During a Category II Hurricane or greater, the city's entire population of 27,000 residents must evacuate the area. It is estimated that approximately 8,893 of the city's residents are over the age of 65 years, many of whom will choose not to evacuate. Emergency personnel must remain in the city during the storm to provide the quickest response possible after the storm has passed.

To respond quickly, the city must have an Emergency Operations Center (EOC) in a secure location within the city boundaries. Both the Aventura Hospital and Aventura Mall are located on elevated land and would be adequate sites for an EOC. The establishment of an EOC would include retrofitting one of these locations by:

- Further elevating the area;
- Floodproofing the area;
- Setting up the communications equipment;

- Securing an area for emergency vehicles to be kept; and
- Setting up a post for emergency personnel to operate during and after an emergency.

Bal Harbour

Note: Bal Harbour Village no longer participates in the Local Mitigation Strategy Working Group and is no longer eligible for the benefits thereof. The projects are retained in this document as a matter of historical record.

Project 1: Improved Sewer Pumping Station

One sewer pumping station, containing three different pumps, has been identified as a critical facility. It is essential that the station remain operational during an emergency. Currently, two of the station's three pumps are dependent on electricity. In the event of a power outage, one pump is configured to run on natural gas. Additionally, the facility has one mobile generator that can be used to power one pump in the event that both electrical and natural gas services are interrupted. An emergency situation would exist if the station's three pumps fail and no back-up power is available. As part of improving the station, this project includes the purchase of an additional, permanent, back-up generator to ensure the pump station will be able to continue to operate without interruption in the event of a disaster.

The existing sewer pumping station is not a "watertight" facility. If the station flooded, all of the generators would be damaged, possibly beyond use or repair. Improvements to the station include elevating and flood proofing generator and other essential electrical equipment and the replacing current pumps with wet pumps that can operate in submersed conditions.

Project 2: Beach Renourishment

Bal Harbour's ocean front beach is not only vital to the village's tourist industry, but it also acts as a buffer between the ocean and the eastside development. Current renourishment costs are enormous and depending on weather conditions, the beach must be renourished every few years. This project includes continuing to perform current re-nourishment activities as well as studying additional mechanisms that could be used to reduce the rate of beach erosion.

Project 3: Reduce Nuisance Flooding

The Village's current storm drainage system cannot adequately handle the quantity of water deposited by heavy storms and hurricanes, which leads to nuisance flooding throughout the village. This project includes studying Bal Harbour's current drainage system and drainage needs to determine the types of systems that could be implemented to remove standing water more quickly and make roadways passable (i.e., injection wells). After drainage projects have been identified, the Village plans to move ahead with implementation.

Project 4: Floodproof Village Hall/Public Works

The Bal Harbour Village Hall and Public Works Facility houses all of the village's records, offices, and the Police Department. As a result, the building has been identified as a critical facility that must remain operational during and immediately following a disaster. This project includes a study of what activities should be taken to adequately floodproof the facility as well as implementation of appropriate actions.

Town of Bay Harbor Islands

Project 1: Reverse 911- Interactive Community Notification System

In order to expedite evacuation notifications during emergency conditions such as hurricanes and hazmat incidents, the town of Bay Harbor Islands is installing the Reverse 911 – Interactive Community Notification Systems. The system will provide backup to current procedures available to city emergency operators. This system will enhance and ensure quick delivery of important messages during crisis situations where the town's 5000 citizens need immediate information. Estimated cost: $62,000

Project 2: Installation of Automated Water Meter System

In an attempt to reduce water loss, the town of Bay Harbor Islands will be replacing all of the water meters (approximately 750 meters) in town with an automated water meter system. Through the use of this system the town will be able to identify, respond and repair water leaks quicker than with the current water meters. Estimated cost: $400,000

Village of Biscayne Park

Project 1: New Municipal/Public Safety Building

Begin preliminary design work, on a new building to house administration, the police department and Miami-Dade Fire/Rescue (now under negotiations). The administration and police department are now temporarily housed in a historically designed real log cabin built in 1933. Estimated cost: $856,000.

Project 2: Storm Water Project

Continuation of an on-going project to provide an effective storm mater drainage system that will collect storm water runoff and disburse it through a series of French drains, reducing flooding and standing water in low lying residential areas. Estimated cost: $400,000.

Project 3: Landscape State Road 915 in Biscayne Park

Enhance and beautify State Road 915 (aka NE 6th Avenue) in Biscayne Park by landscaping, irrigation, and curbing, along the half mile section of highway that runs through a residential area of the Village. Estimated cost: $225,000.

Project 4: Facility Hardening

Enhance log cabin (village offices) survivability by installing storm proof doors, windows and shutters. Estimated cost: $125,000

Project 5: Municipal AM Radio Broadcast station.

Allow issuing of timely information 24/7. Has capacity broadcast, operate without grid power for 2 days, store repeat messages and ability to allow instant timely broadcast messages. Estimated cost: $50,000

Project 6: Bucket Truck.

Purchase bucket truck to facilitate trimming of canopy before and after hurricanes, reducing damage and debris volume. Also provides inexpensive portable location for overhead police surveillance of suspected criminal activities. Estimated cost: $95,000

Project 7: 18' Tall Wall along FEC right-of-way.

Reduces risk of damage to community by train wreck caused by sabotage or accident. Reduces crime risk from hobos moving through our community. Estimated cost: $700,000

City of Coral Gables

Project 1: Installation of Storm Shutters

This project involves the installation of hurricane shutters on six city facilities. Three of these buildings are used to not only house critical city equipment, but also act as an operations center for hurricane recovery. The remaining three are key historical structures, including City Hall which is the main facility that the daily operations of the city are operated from. The following table lists the facilities and the estimated costs for installing shutters at each.

Building	Mitigation Measure	Estimated Cost
Fire Station #2	Hurricane Shutters	$15,000.00
Fire Station #3	Hurricane Shutters	$35,000.00
Youth Center	Hurricane Shutters	$60,000.00
City Hall	Hurricane Shutters	$50,000.00
Merrick House	Hurricane Shutters	$50,000.00
285 Aragon Avenue	Hurricane Shutters	$50,000.00

Project 2: Structural Improvements to Fire Facilities

One of the most important assets any city has is its Fire Department. In order to insure that the city's fire fighting capacity is sustained, and that its important fire fighting equipment is protected, both Fire Station #1 and Fire Station #2 must have the apparatus doors on each station replaced so that they meet current hurricane code, including replacement of door frames.
Estimated Cost: $300,000

Project 3: Coral Gables Waterway Conveyance Improvements

This project proposes to remove sediments that have built up over the last seventy years that are causing bank flooding due to the major reduction in channel depth and cross section, as well as causing impassable locations to boat traffic. Preliminary tests show sediment as clean.
Estimated Cost: $7,000,000

Project 4: Waterway Bank Stabilization Down Stream of Structure G-93

This project involves the stabilization of the waterway bank downstream of the G-93 flood control structure. The high velocities of water passing through the structure have and will continue to erode the bank causing sedimentation. The sedimentation is causing the loss of x-section depth just down stream of a major flood control structure thereby reducing its effectiveness in controlling flooding up stream of the structure. Estimated Cost: $400,000

Project 5: Sanitary Sewer System Upgrade

The risk of a pipeline failure in the sanitary sewer system that could expose residents to a human health hazard is of primary importance to the city of Coral Gables. This project proposes to have the sewer manhole covers through out the city waterproofed. In addition, it also proposes adding more isolation valves on the 10, 12, and 16 inch force mains system wide. The major benefit of this project is that should a pipeline failure occur, affected areas in the collection system would be minimized, thus reducing the risk. Estimated Cost: $400,000

Project 6: Storm Water Flow Enhancement to Pumping Station

The prevention of flooding on city streets as well as on private property is of primary concern to the city of Coral Gables. If streets are continually flooded after a hurricane, it makes the work of rescue/recon extremely difficult and dangerous. In addition, it creates a very high risk to human health and safety by making the identification of downed power lines difficult at best. In an effort to help control the flow of storm water, this project and the four that follow attempt to address these key issues. Project #7 proposes the installation of an automated mechanical bar screen to prevent clogging in the storm water pumping station located at Granada Boulevard and Bird Road. Estimated Cost: $500,000

Project 7: Construction of Storm Water Pumping Station

This project proposes to complete the construction of a critical storm water pumping station located at Granada Boulevard and Venetia Avenue by installing two additional 60Hp pumps and a generator that will greatly increase the pumping capacity of the station, as well as ensure its continued operation in the event of an extended power outage. Estimated Cost: $250,000

Project 8: Storm Water Outfall Capacity Improvement

Maintaining an unblocked and clear positive outfall system is key in preventing widespread flooding. This project proposes to clean and line critical outfalls to prevent blockages caused by severe build up of bi-valve organisms. This build up ultimately causes flooding due to the loss of cross-sectional area in the pipe. Estimated Cost: $500,000

Project 9: Citywide Storm Water System Inspection

In order to prevent the contamination of storm water as a result of cross-connections that may exist between the sanitary sewer and storm water system, the goal of this project is a complete and thorough test and inspection of the storm water system to identify any of these connections. Estimated Cost: 250,000

Project 10: Emergency Flood Control Equipment

The ability of the city to quickly respond to areas that have been affected by flooding can be enhanced by having equipment that is capable of resolving flooding problems effectively. This project proposes the purchase of 3 portable 6 inch trash pumps that will help in preventing unnecessary flooding of private homes and other city owned critical facilities.
Estimated Cost: $125,000

Project 11: Emergency Debris Removal Equipment

The city of Coral Gables is known nationally as a city that boasts one of the most beautiful tree canopies in the country. Due to the abundance of a number of trees that are especially susceptible to succumbing to hurricane force winds, it has become critical that the city acquire equipment that will not only aid in the implementation and continuance of a comprehensive tree trimming program, but will also serve to aid in the immediate removal of fallen trees from the public right of way, as well as from critical city infrastructure. To meet this need, the city would propose to purchase a bucket truck with a minimum 40 foot boom, as well as a front end loader.
Estimated Cost: $500,000

Project 12: Debris Removal Plan

After sustaining widespread damage from Hurricanes Katrina and Wilma, it has become apparent that the city needs to develop and implement a citywide debris removal plan using G.P.S. for data acquisition and G.I.S. data for mapping. If Miami-Dade County implements the

Coordinated Debris Clearance (CDC) Program, then the city will investigate integration of a city plan with CDC. Estimated cost: $200,000

Project 13: No Cost Hurricane Inspections for City Residents

This project proposes a no cost hurricane inspection program for residents of Coral Gables. The city of Coral Gables already enjoys a capable and well established public information department that is complemented by its own cable television channel. This project would involve the education of city residents with regards to important hurricane preparedness information, as well as instructions on locations to receive essential goods and services in the aftermath of an event. Estimated cost: TBD

Project 14: Protection of HVAC Equipment

Much of the city's HVAC Equipment is exposed to the effects of damage from water. In order to mitigate this potential hazard, the City would elevate and flood proof HVAC equipment throughout the city. Estimated cost: $50,000

Project 15: Apparatus Bay Door Modification

This project will provide safety and security to the city's police officers, firefighters and equipment within our fire station located at 2815 Salzedo Street. The apparatus bay doors require structural enhancement to comply with current code. The modification will include revising 11 bay openings and the doors to ensure that the doors are structurally safe during a hurricane or other widespread disaster. The modifications will also include, timed automatic door closures that will ensure the doors are secured close after a crew departs or returns from an emergency incident. The doors structural limitations, age and mechanical parts limits the consistency of providing a safe location to one of the City's critical infrastructure.

Item Description/Purpose	Quantity	Unit Cost	Total Cost
Structural Modification	11	$5,000	$55,00
Over Head Rolling Doors	11	$8,000	$88,000
Electrical sensors and installment	11	$3,000	$33,000

Estimated cost: $176,000

Village of Cutler Bay

The village of Cutler bay was incorporated in late 2005 and has not yet developed projects for the Local Mitigation Strategy.

City of Doral

Project 1: Retrofit of Traffic Signals to Include Transfer Switches

This project will provide for the installation of transfer switches for the traffic signals at each of the major intersections in the City of Doral. This will allow the use of generators to keep the signals operating during power outages and reduce the traffic fatalities due to absence of signalization. Estimated cost: $25,000

Project 2: Pump Station to Address Repetitive Flooding Losses

The installation of improved storm water conveyance system and pump station required to relieve flooded streets, storm sewers, and properties that have shown repetitive loss during flooding events. This pump station is necessary to provide water transmission capabilities in case of severe flooding; thereby decreasing damage to low lying areas.
Estimated cost: $2,500,000

Project 3: Storm Water Master Plan and System Upgrade.

Conduct a study to identify the storm drainage system needs to prevent flooding and to upgrade the existing system as recommended by the study. This mitigation project is essential in terms of protection against rainstorms and weather events of recurring frequency intervals of 25, 50 and 100 years. Estimated cost: $1,500,000

Project 4: Acquisition of Emergency Generators

This project would involve the acquisition of power generators to support critical facilities throughout the City. This is a mitigation project that ensures the continued operation of critical City facilities and the appropriate levels-of service for City residents during and after a disaster event. These generators would supply the following facilities:

Department	Quantity	Purpose
City Hall (Operations Center)	2	Includes a power back-up generator for computer system to prevent loss of records.
Parks & Recreation	3	Supplies power to 3 parks that will serve as distribution centers.

Police	1	Supplies power to the Police Department building.
Public Works	14	Supplies power for the operation of traffic control signals during power outage.
Total	20	

Estimated cost: $922,500

Project 5: Installation of storm shutters at City of Doral Police & Parks Facilities.

This project involves the installation of storm shutters at the Police Department and at the Parks and Recreation Buildings. The protection of these facilities is critical to ensure continuance of city services. Estimated cost: $100,000

Project 6: Point of Distribution Center

This project will include the construction and equipment for a building at Doral North Park that will serve as the City of Doral, Point of Distribution Center. This facility will serve as a center for information, services and supplies following a disaster.
Estimated cost: $700,000

Project 7: Construction of a Structure to store Emergency Vehicles and Equipment

This mitigation project would provide shelter for emergency vehicles for the City of Doral. This structure is necessary to ensure readily available emergency vehicles before, during, and after a disaster event. Estimated cost: $3,000,000

Project 8: Drop-Off Site.

Designation and or acquisition of a debris and trash drop-off site to prevent unlawful dumping of debris material at uncontrolled sites after a disaster. This site is needed as an additional mitigation tool to dispose unwanted materials and debris before and after a disaster event that would otherwise become a threat to the life and property of City and area residents.
Estimated cost: $600,000

Project 9: Expansion of the City's GIS System to all Appropriate Facilities.

A GIS system would help the City retrieve helpful information for recovery activities in the event of a disaster. This project involves the expansion of the City's GIS system to also link different departments. The departments involved in this project are the Police Department, Parks and Public Works. Estimated cost: $350,000

Project 10: Acquisition of additional communication equipment

This project would involve the acquisition of communication equipment for additional personnel designated essential during a disaster event. The communication equipment will improve the response time during an emergency and provide communication tools to additional personnel if needed in the following areas:

Equipment	Department
- Radios	Public Works and Services
Radios	Public Works
- Radios	Building Department & Code Enforcement
Radios	Police
VHF Radio/ Antennas/Repeaters	Administrative Services
- Radios	Parks and Recreation
- Satellite Radio System	Essential Personnel
Estimated cost:	$120,000

Project 11: Acquisition of Water Pumps for Building Flood Control

This project would involve the acquisition of three (3) water pumps to control flooding in critical facilities during a flooding event. This action would prevent damage to important public records and property located at City Hall. Estimated cost: $40,000

Project 12: Acquisition of emergency vehicles and equipment

This project would involve the acquisition of vehicles and support equipment to access and mitigate affected areas throughout the City. These vehicles will be assigned to the following departments:

Item	Department	Qty	Purpose
Vehicle	Public Works and Services	2	Emergency Operations
Vehicle	City Hall (Operations Center)	5	Emergency Operations
Vehicle	Police Department	10	Emergency Operations
Vehicle	Parks and Recreation	2	Emergency Operations
Flat-tire equipment	Public Works and Services	1	Assist road problems
Front loaders with Grapplers	Public Works and Services	1	Debris pick-up
Wastewater Vac-Truck	Public Works and Services	1	Clean sewer debris
4WD Back Hoe w/ Clamp Bucket	Public Works and Services	1	Clear debris
Front Loader w/ Clamp Bucket	Public Works and Services	2	Clear debris
Stormwater Vac- Truck	Public Works and Services	1	Clear storm drains
50 Yard Roll-Off Containers	Public Works and Services	2	Debris clean-up/pick-up
Water Filtration Truck	City Hall (Operations Center)	1	Source of potable water

Ice Machines	City Hall (Operations Center)	2	Emergency Operations

Estimated cost: $2,100,000

Project 13: Economic Incentives – Information Package.

This mitigation project involves the creation of a package of economic incentives to encourage City property owners to undertake flood protection measures such as elevating structures above the BFE, flood proofing improvements and the like. This project would involve the research of funding sources and low interests loans to help owners pay to elevate or rebuild structures, and finding means of offsetting the costs of the flood mitigation work.
Estimated cost: $100,000

Project 14: Flood Insurance Research Project.

This project will be part of the work required for the Community Rating System (CRS) and will involve the research of City properties, which do not have flood insurance and the reasons therefore. This effort would result in an action program designed to increase the number of properties covered by the flood insurance. The project will also review the validity of the BFE as reflected on the FIRM and explore the possibilities of variable flood insurance rates that distinguish within the same flood zone between properties that are flood prone and vulnerable to flooding hazards and those which are not and/or have taken steps to correct the potential problem. Estimated cost: $100,000

Project 15: Emergency Supplies and Equipment

This project involves the acquisition of tools, supplies, and small equipment to handle different emergencies during a storm event. These tools and equipment will help mitigate areas of the City that need cleaning, debris pick-up and removal before, during, and after a disaster event. Public Works and Parks and Recreation are the departments involved in this action.
Estimated cost: $120,000

Project 16: Sewer Pump Stations Emergency Disconnects.

To provide emergency connections of mobile generators to pump stations control panels during and after disaster. This is needed for critical pump stations to prevent any sewage overflows that would create a health hazard. Estimated cost: $45,000

Project 17: Comprehensive review and modification of local laws & regulations

Including the review of the City's Comprehensive Plan (currently under review), Zoning Ordinance (also under current review), Building Code, Flood Ordinance, Subdivision Regulations and other applicable local codes, ordinances and regulations.

This project would involve:

Extracting, abstracting and otherwise organizing the web of relevant provisions of existing laws and regulations to facilitate their understanding, compliance and administration;

Drafting proposals for improvements, including the enactment of legislation as necessary; and

Securing the resources required to implement the laws and regulations as improved.

Estimated cost: $75,000

Project 18: Educational Program to Reduce Damage of Property and/or Life

This project involves public education through advertising and awareness programs about the mitigation measures necessary that must be taken before a disaster event to minimize the threat to life and property. Estimated cost: $75,000

Project 19: Acquisition of airboats and flat boats

Both, airboats and flat boats are required to access areas of extensive flooding to assist residents during the damage assessment and rescue recovery phases.

Item	Department	Quantity
- Flat boats	Police	7
- Airboats	Police	6
Total		14

Estimated cost: $143,000

Village of El Portal

Project 1: Shutter City Hall

The village wished to install windstorm protection features including windows and doors to protect the building, and its contents. This building, the Village Hall houses the police department as well as vital village documents. Estimated cost: $125,000

Project 2: Local Tree Trimming

El Portal will implement Tree Trimming to reduce debris and protect the infrastructure from damaged sidewalks, curbs, water and sewer lines, underground and overhead utility lines and prevent clogged storm drains. Estimated cost: $12,000

City of Florida City

Project 1: Friedland Manor Stormwater Drainage Project

The project area is a one-quarter mile square subdivision of land bordered on the north by S.W. 3rd Terrace, on the south by S.W. 7th Street, on the east by S.W. 6th Avenue, and on the west by S.W. 8th Avenue; all of these rights-of-way fall within City of Florida City. In total, there are 144 single-family residential lots within Friedland Manor. When Friedland Manor was originally developed in the late 1950's, no "flood criteria" regulations existed that were determined with the same degree of sophistication as those regulations existing today. Friedland Manor was developed with "crown of road" elevations ranging between 5.5 and 6.0 feet NGVD, and the finished floor slab of some residences are within this same range. Accordingly, with a rainfall event even more frequent that the 5 year frequency/1hour duration event utilized for design purposes in Miami-Dade County, Friedland Manor can be inundated with as much as one foot of standing water. Friedland Manor has experienced flooding five times within the last fifteen years; or once every three years on average. The problem is that the groundwater table actually rises above the base elevation of the subdivision. This flooding condition can persist over several days, and in some instances has exceeded a week's time.

The focus of the proposed project will be to "pump" standing water from the project area utilizing collection structures, and six pumps, each with a capacity of 15,000 gallons per minute (gpm). The current design concept is to direct the freshwater being pumped from Friedland Manor to the south, via a pipeline, to the southern limit of Florida City. At this point, "sheet flow" would be induced to provide pretreatment before the excess water flows to a SFWMD freshwater wetland area. Estimated cost: $3,120,000

Project 2: Comprehensive Review of Local Laws and Regulations

Review, among others, the city's comprehensive plan, zoning code, subdivision ordinance, and other sources of city rules and regulations relating to floodplain management. These may include measures aimed at keeping flood damage-prone development out of sensitive areas within the floodplain, as well as those directed at imposing standards on what is allowed to be built within such areas. The project would involve a review of all relevant local laws and regulations, draft proposals for improvements, including the enactment of legislation, as necessary and secure resources required implementing the revised laws and regulations.

Project 3: Economic Incentives

This project involves the creation of a package of economic incentive to induce property owners to undertake such flood protection measures as elevating structures above the BFE, flood proofing improvements and similar activities. Some examples of the types of inducements that would be considered are:

- Low interests loans to help owners pay to elevate or rebuild structure;

- Zoning and other land utilization concessions off-setting the cost of the flood mitigation work with an opportunity for maximizing the value of the underlying land;

- Exemption of the property, insofar as the cost the mitigation work is concerned, from the 50 % rule as it applies to the "substantial improvement" of the property.

Project 4: Flood Insurance Research Project

This project will seek to determine the number and characteristics of properties, which do not have flood insurance and the reasons therefore. It would culminate with an action program designed to increase the number of properties covered by the flood insurance and with a local information program including brochures, pamphlets and the like designed to de-mystify the subject. The project will also review the validity of the BFE as reflected on the FIRM and explore the possibilities of variable flood insurance rates that distinguish within the same flood zone between properties that are flood prone and vulnerable to flooding hazards and those which are not and/or have taken steps to correct the potential problem.

Project 5: Feasibility Study for Additional Open Space Preservation

This project will entail a comprehensive search for new opportunities for the city to increase its inventory of areas to be preserved as open space, as well as proposals and programs to assure the preservation of open space areas already identified. The study would include benefit-cost and related economic analysis for each potential transaction; identification of implementation tools and resources; analysis of incentives and potential business arrangements and agreements amount parties at interest.

Project 6: Demonstration Project

This project would involve the selection of one or more flood prone properties to be used as a demonstration for the application of elevation, flood proofing and other measures available for the mitigation of flood hazards and problems. The demonstration will serve a number of purposes:

Test state-of-the-art technology, various methods for elevating buildings and various other flood proofing measures;

Provide a firm basis for measuring all of the costs involved;

- Create a physical model to which the public can relate when subjects such as retrofitting and flood proofing are discussed;
- Represent a laboratory where other flood damage prevention measures can be illustrated; and,
- Generate a benefit-cost analysis that will provide a well-documented assessment of the measure's cost effectiveness.

Project 7: Water Works Systems Improvement Project

The city and its engineer have identified a number of scattered improvements required to eliminate problems of infiltration and exfiltration - which is clearly important for protection of water quality, to improve circulation of water within the system, to improve fire flow, and to insure compliance with current county code. The work involves replacing/repairing damaged sections of pipe, increasing sections of 2" pipe with 8" pipe, installing four fire hydrants, and related tasks. Estimated cost: $630,020

Town of Golden Beach

Project 1: Storm Water Drainage System Improvements

The proposed project is the completion of the storm water facilities as per our storm water Master Plan. The project will mitigate the flooding and saltwater intrusion problems exhibited in the areas west of State Road A1A. This area includes the following five drainage basins: South Parkway Basin, North Parkway Basin, Massini Basin, Center Island Basin, and North Island Basin. The project will include the construction of catch basin inlets, manholes, storm sewer pipes, drainage wells, and three stormwater pump stations. In addition to the flooding mitigation, the proposed drainage systems will enhance the water quality of storm water discharges from the mainland to the Intracoastal Waterway by diverting the first stage of runoff to drainage wells. Estimated cost: $6,100,000.

Project 2: Underground Placement of Utilities

The electrical, telephone, and cable lines that serve both the town of Golden Beach and adjacent communities are currently affixed to aboveground poles. As a coastal community, the town is vulnerable to service disruptions caused by storms and hurricanes. Within the first phase of the storm water construction areas, the utility lines were underground; however there are insufficient funds available to continue this as the storm water phase's progress.
Estimated cost: $6,800,000

Project 3: Emergency Generators

An emergency generator will guarantee continued operation of the storm water system and the Municipal Complex/Emergency Operation Center and Police Substation in the event of power outages. The town is located in a coastal environment, and is subject to storms and hurricanes. Estimated cost: $150,000.

Project 4: Bridge Replacement

The town of Golden Beach includes three islands that are accessible only by fixed bridges. The FDOT recently evaluated the three bridges and replaced the bridge #875700 - Verona Avenue and Golden Beach Canal:

• Bridge # 875701 – The Strand over Golden Beach Canal – Rating: 40.5
• Bridge # 875702 - Navona Ave. over Golden Beach Canal – Rating: 62.8

Additionally these bridges act as the only evacuation route for the island's residences in the event of disaster. Estimate cost per bridge: $2,250,000

Project 5: The Municipal Complex/Emergency Operation Center

The existing town hall, which houses all of the town's vital records and has been identified as a critical facility, is in severe need of maintenance replacement. The current town hall has limited space, which hinders the ability for employees to adequately respond to the communities needs. The replacement facility will include the expansion of the town hall, providing a much-needed record storage, administration offices for a growing staff, and will allow the town to comply with all ADA requirements. The complex will provide an approved emergency operation center which will enhance the health and life safety issues for residents. It will become a one-stop center for all emergency needs following a declared emergency event.
Estimated cost: $6,000,000

Project 6: Roadway/Streetscape Improvement

This project will provide safety for all pedestrian traffic including ADA compliance, pedacyclist and strollers use throughout the town of Golden Beach by reducing vehicular speeds, lane narrowing, radii reduction at corners, delineation and deviation, pavers, and the landscape effect and enhanced lighting. In addition to these aspects of the project, the town plans to shift the current centerline of the roadway pavement 5 feet to achieve a balanced impact on the private properties on either side of the roadway to accommodate new sidewalks, valley gutter curbing, landscaping, and much more. Currently, there are no sidewalks along this main thoroughfare, pedestrians, bicyclists, joggers, etc. all share the roadway with motorized traffic, a situation that is unsafe, unfriendly, and poses serious concerns to the town's administrators, elected officials, and residents. This plan proposes constructing a new 8-foot sidewalk along the entire west side of the street. In addition to the aforementioned aspects of the roadway improvement project, this plan includes implementing traffic calming measures and minor street improvements.
Estimated cost: 8,000,000

City of Hialeah

Project 1: Drainage Improvements

The construction of drainage improvements in a low-lying area that is frequently subject to both right-of-way and partial private property flooding. This project may also include the construction of a lift station to provide overflow relief by discharging stormwater into an FDOT or city-owned positive drainage system located on Le Jeune Road. The following roadways are part of this project:

- East 18th Street between E. 8th Avenue (Le Jeune Road) and E. 10th Avenue

- East 19th Street between E. 8th Avenue (Le Jeune Road) and E. 10th Avenue
- East 20th Street between E. 8th Avenue (Le Jeune Road) and E. 10th Avenue
- East 9th Avenue between E. 17th Street and E. 21st Street
- West 27 Street – Palm Avenue to Red Road
- West 28 Street – Palm Avenue to Red Road
- West 29 Street – Palm Avenue to Red Road
- West 30 Street – Palm Avenue to Red Road
- West 31 Street – Palm Avenue to Red Road
- West 1, 2, and 3 Avenues – West 27 Street to West 32 Street
- West 3 Court – West 27 Street to West 29 Street

Project 2: Pump Stations

Get portable pump facilities (Sloan Pumps). Provide for emergency power to all eighty-four pump stations. Provide for by-pass ports at valve vaults for all pump stations. Complete the installation of a telemetry system. Establish a spare pump inventory.

Project 3: Police/Public Safety Equipment

Provide a police command post furnished with computers and furniture. Provide GPS receivers for police vehicles. Provide full electric power generation for all police buildings. Install GPS receivers and automatic vehicle locator equipment in all public safety vehicles.

Project 4: Community Outreach

Provide education programs to educate the public in all aspects of particular disasters using flyers, meetings, television, etc. Purchase and deploy a citywide reverse 911 system.

Project 5: Tree Trimming

Develop and implement a municipal tree-trimming program. Develop a method to provide money for private residents to have trees trimmed on private property.

Project 6: Storm Shutters

Upgrade to or purchase and install accordion style hurricane shutters the main city library, the branch library, the Fire Administration building/Emergency Operations Center and on all city owned subsidized housing properties. Install an upgraded hurricane resistant roof on the city's main library.

Project 7: Miscellaneous Programs

Develop and implement the following programs:

- Install fire hydrants at all trailer parks
- Acquire six high-water vehicles for use by emergency public safety employees.
- Purchase and install an in-focus projector for the Emergency Operations Center.
- Purchase and install protective anti-bacteriological filters for city owned ice machines.
- Purchase and implement a citywide computerized cost tracking system.
- Evaluate the ability of city owned buildings to serve as shelters
- Dredge canals as a part of Miami-Dade County countywide initiative
- Establish an emergency child care center for City employees

City of Hialeah Gardens

Project 1: Protect Records

Seek to remove all municipal records from their current place of storage and have them placed on CD. Have all records stored in a safe haven where risk of loss is diminished.

Project 2: Municipal Building

Seek to mitigate the temporary structure in which the emergency management code enforcement and planning and zoning departments are working out of including the municipalities main computer system, and seek to replace the temporary structure with a CBS structure.

Project 3: Stormwater Study

Seek funding for a stormwater/drainage study in order to determine the origins of the drainage crisis that currently predominates in the municipalities' southern district bounded by NW106 St, SR 826, US27, and 87 Avenue

Project 4: Drainage

Seek to mitigate the deteriorated drainage conditions that currently exist in the southern district of the municipality.

Project 5: Evacuation Routes

Seek funding for a feasibility study to evaluate alternative exit routes for the residents of Hialeah Gardens and western Hialeah in the instance of an emergency followed by an order of evacuation.

City of Homestead

Project 1: Storm Water System Upgrade

This mitigation project is essential in terms of protection against rainstorms and weather events of recurring frequency intervals of 25, 50 and 100 years. The project involves among other things, a study to identify the storm drainage system needs to prevent flooding and to upgrade the existing system as recommended by the study.

Proj No.	Project Name	Description	Est. Cost ($)
1.	Construct new and upgrade drainage elements	To increase drainage capability in the city such as the construction and upgrade of culverts, ditches, French drains, catch basins, etc.	21,252,000
2.	Landscaping and right-of -way enhancement to prevent flooding.	To create swales and landscape to reduce runoff and increase percolation by grading the ROW.	500,000
3.	Portable pumps	Portable pumps are needed to relieve flooding in various areas around the city of Homestead before, during, and after a storm event.	500,000
4.	Three pump stations/force mains, Villages of Homestead	Construction of 3 storm pumps and related facilities to relieve the severe flooding problems in the Villages of Homestead area by pumping flow into the canals and lakes.	750,000
5.	Stormwater telemetry system	To monitor storm pump stations and main drainage structures before, during, and after a storm event.	900,000
6.	Culvert removal at Keys Gate	To remove an existing culvert in the middle of a drainage canal to enhance the flow and relieve flooding, during, and after a storm event.	200,000
7.	Vegetation work and maintenance equipment	To clear aquatic vegetation around canals and ditches before,	100,000

		during, and after a storm event.	
8.	Krome Avenue Historic District	This area is prone to flooding during high rain events and it became evident during Hurricane Katrina. This project will minimize destruction of valuable storefronts and businesses along Krome Avenue and its vicinity.	5,740,000
9.	Construct new drainage elements with curb and gutters in Southwest Neighborhood and North-West Neighborhood.	Increase drainage capacity in the Southwest and Northwest Neighborhoods, creating underground drainage where sheet flow is the more common drainage method currently.	80,000,000
10.	GIS containing information on location of and capacity of all public utilities	Create GIS that locates all city utilities (Water, sewer, drainage, electric) so problems can readily be located in an emergency.	
		Total Estimated Cost:	114,942,000

Project 2: Security System Enhancements Against Terrorist Attacks

This mitigation project addresses security measures in and around the critical facilities. This project is designed to prepare the city against possible terrorist attacks that affect public safety and other service provisions to the citizens of the city of Homestead.

City Department	Project/Description	Est. Cost
1. City Hall	* Cameras will be placed to view the entire area of City Hall. * Reconstruct all exit doors with bullet-resistant doors. * Installation of intruder detection devices and additional needs. * Public message boards	$60,000
2. Public Works & Services	* Vulnerability Assessment/Emergency Response Plan for the Wastewater Treatment Plant as required by EPA. This is necessary to assess the vulnerability of international threats and natural disasters.	$400,000
3. Police	* Cameras will be placed to view the entire area of the Police Department. * Reconstruct the rear door of the PD with a bullet-resistant door.	$50,000

	* Installation of three concrete poles in the front of the Police Station protecting the front door entrance.	
4. Police/Speedway	* Off-site Mobile Command Post required by NASCAR for annual Nextel races – the "Superbowl" event of racing. * Additional surveillance and radio equipment for race events. * Additional bomb detection dogs. * Mobile public message boards, off-site parking and acquisition of shuttles/trolleys to reduce parking around immediate track area and for dignitary transportation.	$875,000
5. Utilities & Plant	* Installation of a telephone and camera at each gate. * Cameras will also be placed to view the entire perimeter of the Electric Utilities Dept. and Power Plant.	$100,000
6. Customer Service & Finance	* Installation of cameras to view the entire area. * Installation of intruder detection devices and additional needs.	$65,000
7. Parks & Recreation	* Each gate to be operated remotely and there will be a telephone and camera at each gate to include: Admin Office, Harris Field, William F. Dickinson Center, Phicol Williams Center, JD Redd, James Archer Smith, Wittkop and Roby George Park. * Cameras will also be placed to view the entire perimeter of the building.	$220,000

Estimated Cost: $1,770,000

Project 3: Water & Wastewater System Improvements

This mitigation project is essential in terms of maintaining continuity of service and system reliability during and after a disaster. The project consists of acquiring a new elevated water storage tank and equipment to ensure adequate chlorine residuals throughout the water distribution system. In addition, we would need to make improvements to pump stations and water mains.

Proj No.	Project Name	Description	Cost ($)
1.	Update Risk Mgmt Plan	As required by the EPA, the report will inform personnel of procedures and recommend actions to ensure there is no release of dangerous	60,000

		chemicals into the environment.	
2.	Motorsports Water Storage Tank Equipment	This equipment will help maintain chlorine residual in the SE quadrant of the city, through Its loop distribution system.	500,000
3.	Water Main Improvements	To upgrade water mains/lines to eliminate any unacceptable materials and maintain the integrity of the system.	2,000,000
4.	Sewer Pump Stations Upgrades	The pump stations will require funding to purchase mechanical, electrical, plumbing, and equipment for pump stations.	1,500,000
		Total Estimated Cost:	4,060,000

Project 4: Acquisition of Additional Equipment for Emergency Operations Center

The City of Homestead Emergency Operation Center (EOC) is host to representatives from the City of Homestead, City of Florida City, Florida Power and Light's Turkey Point Nuclear Facility, Homestead Air Reserve Base, Metropolitan Dade County Police and Fire Rescue, BellSouth, the Miccosukee Tribe, and citizens from the area of unincorporated South Miami-Dade. It has been in operation since Hurricane Andrew in 1992 and provides emergency information to southern Miami-Dade County.

Since it was first activated in 1992, the EOC has operated with equipment from other City facilities and temporary telecommunications and computer connections. When the EOC activation is issued, employees must move equipment from other departments and reconfigure the equipment to meet the needs of the EOC. Hundreds of feet of temporary cable must also be run from the network hub to the center. These activities are very time consuming and expose the equipment to possible damage and/or loss of data.

The proposed project will facilitate the purchase of equipment that will be designated specifically to the EOC. The equipment will also provide the much-needed infrastructure that will greatly reduce the setup and breakdown time required when the center is activated. The equipment purchased will consist of:

- Servers
- Laptop computers with docking stations
- Laser printers
- Software tailored to EOC operations
- Geographic Information System (GIS)
- Handheld VHF radios

- Base station VHF radios
- VHF repeater units
- Telephones
- Satellite communications
- Multi-media equipment / projectors
- FAX equipment and software
- Enhanced Internet connectivity
- Rewiring / hardening of facilities for redundant electrical power
- Infrastructure to support these systems

Estimated Cost: $450,000

Project 5: Acquisition of emergency generators

This project would involve the acquisition of power generators to support critical facilities throughout the city. This is a mitigation project that ensures the continued operation of critical city facilities and the appropriate levels-of service for city residents during and after a disaster event. These generators would supply the following facilities:

Department	Quantity	Purpose
Public Works and Services	16	Includes generators to supply power to the solid waste building; generators for treatment plants water wells (TN Rd & Harris Field); and sewer pump station mobile generators; (3) and a generator for the entire facility at the WWTP.
City Hall (Operations Center)	1	Includes a power back-up generator for computer system to prevent loss of records.
Electric Utilities	3	Supplies power to 3 substations.
General Services	1	Supplies power to the computer room; emergency generator to support the Fleet Mgmt. Facility.
Purchasing	1	Supplies power to the Purchasing Department.
Total	22	Estimated cost: $2,275,500

Project 6 Mesh Networks Wireless Communication System for Police Department

Communication is of the utmost importance during any emergency. The safety of not only the community in general but that of all emergency crews rendering services depends on reliable communication. In order to mitigate congestion and possible downtime during critical moments, the city would like to purchase and install a MESH Networks System. The MESH Networks System is an integrated wireless communications solution that provides a high performance, survivable broadband network. The system uses technology originally developed for battlefield communications. It supports high-speed data, video, voice messaging and geo-

location services for fixed and mobile users. Every device in the network acts as a router/repeater for all other devices to communicate with each other – and to reach network access points that can connect them to other data and voice networks. Experience with Hurricane Andrew has shown that destruction of utility service infrastructure can cause service disruption of essential telecommunication services, which results in a dangerous public safety environment. The "self-forming/self-healing" nature of MESH Network communications precludes this from happening. Estimated Cost: $480,000

Project 7: Review, Modification, and Enforcement of Local Laws and Regulations

Including the review of the City's Comprehensive Plan, Zoning Ordinance (currently under review), Building Code, Subdivision Regulations and other applicable local codes, ordinances and regulations.

This project would involve:

1. Extracting, abstracting and otherwise organizing the web of relevant provisions of existing laws and regulations to facilitate their understanding, compliance and administration; and
2. Securing funding to update the City's Geographic Information System (GIS) and infrastructure to facilitate the analyses and identification of sensitive areas; and
3. Drafting proposals for improvements, including the enactment of legislation as necessary; and
4. Securing the resources required to implement the laws and regulations as improved.

Estimated cost: $650,000

Project 8: Secure Three Existing Water Tanks –From Structural Damage

This mitigation project would involve a structural analysis to determine the best method to reinforce the structural members of the three existing water tanks, preventing structural collapse during a hurricane event, therefore ensuring proper function of the city's water distribution system. Estimated cost: $600,000

Project 9: Build Concrete Enclosures Around City Critical Facility Systems

This project is a mitigating measure that involves the design and construction of concrete enclosures around certain vital systems (as described below) to prevent any damage that may affect the system(s) proper performance during and after a hurricane or any other destructive event.

1. Three concrete enclosures with proper ventilation for existing chlorine feed systems (water treatment plant).
2. Enclosures for two fluoride tanks (water treatment plant).
3. One concrete enclosure for water well #4 (water treatment plant).
4. One polymer concrete enclosure to provide continues service of sludge system (wastewater treatment plant).

5. Storage sheds concrete enclosures (field operations).
6. One concrete enclosure for fuel tank (fleet).

Estimated Cost: $1,000,000

Project 10: Economic Incentives & Education Information Package

This mitigation project involves the creation of a package of economic incentives to encourage city property owners to undertake flood protection measures such as elevating structures above the Base Flood Elevation (BFE), flood proofing improvements and the like. This project would involve the research of funding sources and low interests loans to help owners pay to elevate or rebuild structures, and finding means of offsetting the costs of the flood mitigation work. This project also involves public education through advertising and awareness programs about the mitigation measures necessary that must be taken before a disaster event to minimize the threat to life and property. Estimated cost: $175,000

Project 11: Flood Insurance Research Project

This project will be part of the work required for the Community Rating System (CRS) and will involve the research of city properties, which do not have flood insurance and the reasons therefore. This effort would result in an action program designed to increase the number of properties covered by the flood insurance. The project will also review the validity of the Base Flood Elevation (BFE) as reflected on the Flood Insurance Rate Map (FIRM) and explore the possibilities of variable flood insurance rates that distinguish within the same flood zone between properties that are flood prone and vulnerable to flooding hazards and those which are not and/or have taken steps to correct the potential problem. Estimated cost: $25,000

Project 12: Acquisition of Airboats and Flat Boats

Both, airboats and flat boats are required to access areas of extensive flooding to assist residents during the disaster event and in the recovery phase.

Item	Department	Quantity
Flat boats	Police	7
Airboats	Police	6
Airboats	Development Services	1
Total		14

Estimated cost: $154,000

Project 13: Construction of a Structure to Store Emergency Vehicles and Equipment

This mitigation project would be a joint effort between Florida City and Homestead to provide shelter for emergency vehicles for both cities. This structure is necessary to ensure readily available emergency vehicles before, during, and after a disaster event.

Estimated cost: $1,200,000

Project 14: Acquisition of Emergency Vehicles and Equipment

This project would involve the acquisition of vehicles and support equipment to access and mitigate affected areas throughout the city. These vehicles will be assigned to the following departments:

Item	Department	Qty	Purpose
Vehicle	General Services (fleet)	1	Emergency Operations
Vehicle	City Hall (Operations Center)	5	Emergency Operations
Vehicle	Police Department	12	Emergency Operations
Unifold Decon Shelter System	Police Department	1	Emergency Operations
Vehicle	Parks and Recreation	1	Emergency Operations
Flat-tire equipment	General Services (fleet)	1	Assist road problems
Front loaders with Grapplers	Public Works and Services (solid waste)	3	Debris/trash pick-up
Wastewater Vac-Truck	Public Works and Services (field operations)	1	Clean sewer debris
4WD Back Hoe with Clamp Bucket	Public Works and Services (field operations)	1	Clear debris
Front Loader with Clamp Bucket	Public Works and Services (field operations)	2	Clear debris
Stormwater Vac-Truck	Public Works and Services (field operations)	1	Clear storm drains
50 Yard Roll-Off Containers	Public Works and Services (solid waste)	3	Debris clean-up/pick-up

Estimated cost: $2,288,000

Project 15: Improvements to Existing Buildings

This project involves the improvement to critical department buildings that are below the flood level to prevent flooding during and after a storm event. Estimated cost: $500,000

Project 16: Installation of Storm Shutters at Different Locations

This project involves the installation of storm shutters on different city facilities such as the Police Department, Parks and Recreation Buildings and Sports Complex, and Public Works and Services. The protection of these facilities is critical to ensure continuance of city services such as electric, water, sewer, police, etc. Estimated cost: $730,700

Project 17: Emergency Supplies and Equipment

This project involves the acquisition of tools, supplies, and small equipment to handle different emergencies during a disaster event. These tools and equipment will help in the mitigation process for areas of the city that need cleaning, debris pick-up and removal before, during, and after a disaster event. The Police, Public Works and Services, Development Services and Parks and Recreation are the departments involved in this action. Among these tools and equipment are 48 hour emergency supply kits for 150 essential personnel and damage assessment teams such as cameras, first aid kits, weather gear, communications equipment and debris removal power equipment, along with mobile flood relief pumps will be needed.
Estimated cost: $200,000

Project 18: Improve/Increase Water Availability

The project would involve connection of the Tennessee Road water well station to the Harris Field water tower. This project would ensure adequate chlorine contact time and water pressure. At the present time this water well injects directly into the distribution system and works as an auxiliary water well. If implemented, this project will eliminate any chance of water contamination due to lack of chlorine contact time. It will also eliminate any direct surface water influence on the water well as a result of flooding and will change the status of this water well to a primary water well. We are also requesting the design and construction of two additional drinking water wells in order to mitigate measures against any type of disaster events. This is necessary due to the expected growth of the city and to ensure the availability of safe water supplies. Currently two-thirds of the city's drinking water wells are in the same well field at Wittkop Park. Should anything contaminate this well field, the remaining wells could not sustain the needs of the citizens of Homestead. These new wells will be placed within the existing cone of influence at Harris Field. Estimated cost: $2,500,000

Project 19: Drop-Off Site

Designation and or acquisition of a 1.5-acre debris and trash drop-off site and its related mulching equipment for the convenience of City residents during and after disaster. This site is needed as an additional mitigation tool to dispose unwanted materials and debris before and after a disaster event that would otherwise become a threat to the life and property of City and area residents. Intergovernmental coordination with Miami-Dade County and Florida City is crucial in the site selection process. Estimated cost: $900,000

Project 20: Water and Wastewater Telemetry

This project consists of the purchase and installation of telemetry equipment. Radio transmittal units (RTUs)/telemetry in all pump stations send flow/performance data and alarm situations to a central location which will increase reliability and control before, during, and after a storm disaster. These systems will also control elevation of water tanks, well pumps, and identify pressure points throughout the system. Pump station RTUs/telemetry will significantly in-

crease reliability and diminish sewage back up and overflow occurrences which could result in contamination from raw sewage leaking into the water table. Estimated cost: $1,000,000

Project 21: Showers (permanent and/or portable)

This project is required for designated essential personnel after a disaster event when overnight stay is required for an indefinite period of time. These showers are needed at City Hall and in the Purchasing Department. Estimated cost: $30,000

Project 22: Installation of Automatic Circuit Reclosers in the Electric Distribution System

This project will enhance the distribution feeders over current protection with the objective of; to prevent damage to the equipment and circuits, to prevent hazard to the public and utility personnel, and to maintain a high level of service by preventing power interruptions when possible and minimizing their effects when they do occur. The installation of circuit reclosers will mitigate the loss of services for the residential, commercial and industrial customers that are heavily dependent on the availability of electric power. These equipments will reduce significantly the frequency and duration of electric outages in the system.
Estimated Cost: $100,000

Project 23: Upgrade Oil Circuit Breakers with Vacuum Circuit Breakers

This mitigation project involves the replacement of medium and high voltage oil circuit breakers in three of the city electric substations. The oil breakers are potential hazard environmental equipment that in the event of a_failure, they will cause a great environmental damage due the oil spill caused by the circuit breaker tank rupture. The changing to vacuum circuit breakers with a clean interruption device other than oil will reduce the city exposure to the cost associate with the "Environmental Response Action" that must be taken after mineral oil discharge on the grounds from a failure of a transmission or distribution oil filled circuit breaker. Estimated Cost: $200,000

Project 24: Upgrade Protection Feeders – Substation Schemes

This project involves upgrading all electro-mechanical protective relays within the substations to state of the art intelligent electronic devices (IED). A protective relay is a device that will monitor the power system for abnormal conditions and take appropriate action to reduce system stress, equipment damage and personal injury. The process of upgrading the protective relays has already begun at the McMinn and Lucy substations. These new microprocessor relays have proven themselves in the field under trying conditions. Whenever there is a system disturbance, these relays have given an abundance of data, which is used to analyze the situation. These IEDs are multi protection devices in which one unit can replace at least five relays that are in service. They also perform monitoring functions for power quality. This project would involve: Installation of microprocessor relays, compatible to the ones already in services. Estimated Cost: $80,000

Project 25: Hazard Material Containers

This project is a mitigating measure against any type of disaster event, and involves the design and construction of a concrete enclosure w/ cover roof to confine hazard material used in the Electric Utility and Solid Waste. The container will prevent any liquid spill on the ground and reduce the chemical hazard material exposure to the workers. The concrete enclosure must meet or comply with the DERM building criteria or other state/county hazard requirement.
Estimated Cost: $900,000

Project 26: Additional Digester and Blowers

The additional digester system is needed in order to obtain Class "A" standard for the waste sludge. By meeting a Class "A" standard, the sludge can be utilized in agricultural applications; therefore reducing the amount of waste sludge sent to the South Dade landfill.
Estimated cost: $750,000

Project 27: Removal of Old Treatment Plants

This project is needed to ensure that there will be no adverse environmental impact due to the degradation of the old treatment plant. It will also enhance the aesthetic quality of the current treatment facility. The area that the old treatment plant occupies will be needed for future expansion of the current WWTP. Estimated cost: $200,000

Project 28: Wastewater Infiltration/Inflow

This project is needed to conduct a study and the purchase of materials and equipment in order to continue implementing corrective measures to prevent storm and ground water intrusion into the sewer system by performing maintenance and inspections and to protect the groundwater from possible contamination as a result of wastewater exfiltration. Estimated cost: $3,200,000

Project 29: NE Quadrant Water Storage Tank:

In light of newly developed areas and the rapid increase of population, it is essential to provide adequate water pressure, fire flow, water quality, and capacity to the area.
Estimated Cost: $4,000,000

Project 30: Increase Wastewater Treatment Plant Capacity

This project would involve the expansion of the current WWTP to increase capacity to accommodate the expected growth. It will also give the City the capability of treating wastewater from surrounding areas in the event of an emergency.

Project Name	Description	Est. Cost
1. WWTP Expansion	Design and construction of an additional wastewater treatment plant to increase and meet expected capacity of the City in the next 7 years.	$15,000,000
2. Additional Effluent Trenches	To enable the WWTP to efficiently dispose of its effluent in the foreseeable future.	$250,000
3. WWTP Inspection and Preventative Maintenance	Required structural inspections for defects of the SBR & digester tanks and repairs based on Recommendations.	$500,000
4. New Sewer Mains	To upgrade sewer main/lines to eliminate raw sewage from leaking into the water table.	$2,000,000

Total Estimated Cost: $18,000,000

Project 31: Improve Transportation Infrastructure

This project consists of a citywide roadway/sidewalk/bridge evaluation to identify and improve weak points in the infrastructure. These projects are crucial due to main roadways being used by many as evacuation routes before, during, and after emergency events.

Project Name	Description	Est. Cost
1. Sidewalks/Roadway Improvements	To implement a citywide evaluation to target areas in need.	$2,000,000
2. Bridge Repairs	This project would involve the repairs of existing, City-owned bridges that are in structurally unsafe and/or poor conditions.	$2,000,000

Total Estimated Cost: $4,000,000

Project 32: Harris Field Post-Disaster Relief Improvements

This project focuses on improvements, such as perimeter fencing in preparation of defining locations to accommodate post-disaster relief services. Specifically, chain-link fencing will be installed along the northern perimeter of the soccer fields, and picket-type fencing around the large pavilion to effectuate secured areas; as well as installation of roll down shutters on the pavilion for the safekeeping of supplies and/or housing. The shutters will also serve a dual purpose in deterring the roof from lifting during strong winds. Estimated cost: $375,000

Project 33: William F. 'Bill' Dickinson Post-Disaster Relief Improvements

This project includes improvements to effectuate this facility as a post-disaster relief services site such as perimeter barriers; picket-type fencing and gates; security glass with pass-thru windows at office counter; beeper for entry door; upgraded locks; window coverings and security cameras. Estimated cost: $200,000

Project 34. Restoration of Sports Complex Dormitory

This project includes complete restoration of dormitory facility for the purpose of post-disaster housing for emergency personnel and crews, i.e., reroofing of facility including new scuppers, expansion joints, new top cap on parapet, etc.; recaulking of all windows, air conditioning units, doors, etc.; gutting of interior drywall and replacement, painting of same; replacing all flooring (carpet, etc.); replace room air conditioning units; plus hurricane shutters.
Estimated Costs: $632,000

Project 35: Tree Trimming in City of Homestead

This project involves the acquisition of contractual services for tree trimming at city parks, facilities and roadways. The proper pruning and thinning of tree canopies would be extremely beneficial in minimizing potential damage to buildings, electrical components, vehicles, and other property; and result in a pay back in a reduction of post-event casualty pay-outs.
Estimated cost: $150,000.

Project 36: Lilly Lawrence Bow Library

This project involves modification to the Library and its grounds so that it might serve as a neighborhood shelter for Pioneer Village and the northwest neighborhood. This would involve the creation of parking on the site and replacement of the old tiles on the roof. The building must be made handicap accessible. Estimated Cost: $300,000

Project 37: Acquisition of Property for the Expansion of Losner Park

This project involves the acquisition and demolition of several structures to the west of Losner Park in the downtown area. By acquiring the properties and clearing the building and slabs, addition land is available for percolation of storm water to help prevent flooding in the historic downtown. After dedication as park land, it would be forever removed from development.
Estimated cost: $3,000,000

Project 38: Sewer lines in the Northwest Neighborhood and the West Industrial Area

This project would lessen the possibility of flood during times of heavy rain and prevent the saturation of the ground causing the overflow of septic tanks in these areas. By installing additional sewer lines where they do not now exist, the potential contamination from sewage overflow would be eliminated. Estimated cost: $3,300,000

Project 39. Repair of Damaged Housing.

This project would repair or replace housing that has been damaged in the storms over the past several years where the property owner has been unable to repair the structures because of economic reasons. Estimated cost: $20,000,000

Project 40. Under-grounding 13kv Distribution.

This project will enhance system reliability by installing/replacing/under grounding of the existing overhead distribution system across the entire service area. The under grounding of the distribution system will dramatically enhance and increase the Utility Department's ability to provide uninterrupted services to our customers before, during, and after a hurricane, terrorist, or any other destructive event. Estimated Cost: $12,500,000

Indian Creek Village

Note: Indian Creek Village no longer participates in the Local Mitigation Strategy Working Group and is no longer eligible for the benefits thereof. The projects are retained in this document as a matter of historical record.

Project 1: Stormwater Improvement

Replacement of Stormwater System installed in 1935 including the stormwater catch basins, pipes and outfalls discharging to Biscayne Bay with the installation of pollution control boxes and reinforced concrete pipe.

The Indian Creek Stormwater Utility System constructed of 3,750 lineal feet of pipe along Indian Creek Drive, eighteen outfalls having a total length of 9,500 L.F. and thirty-seven catch basins and French drains. The existing drainage system consists of a combination of positive drainage and seepage systems. Portions of the system were video taped showing the reinforced concrete pipe is deteriorating and failing at the joints, which are separating causing erosion over and around the pipe. Soil is entering the line and flowing to Biscayne Bay. The audit has fully depreciated the system.

Reduction in total suspended solids, nitrogen, phosphorus and other metals into Biscayne Bay, repair the deteriorating system and alleviate flooding conditions.
Estimated cost: $1,000,000

Project 2: Repair Surfside Bridge

Repair deck, superstructure and substructure including slab and beam repairs, bearing and expansion joint replacement, traffic railing and light plaster repairs, pier and abutment repairs.
Estimated cost: $850,000

City of Islandia

The City of Islandia no longer participates in the Miami-Dade Local Mitigation Strategy. However, it lies entirely within the boundaries Biscayne National Park and all essential infrastructure is provided and maintained by the National Park Service.

Village of Key Biscayne

Project 1: Comprehensive Review of Local Laws and Regulations

Relates to the "Public Information" initiative including among others, the village's master plan, zoning ordinance, building code, flood ordinance, subdivision regulations and other local codes, ordinances and regulations relating to floodplain management. These may include, without limitations, measures aimed at keeping flood damage-prone development out of hazardous and sensitive areas within the floodplain, as well as those aimed at imposing standards on what is allowed to be built within such areas. The project would involve: extracting, abstracting and otherwise organizing the web of relevant provisions of existing laws and regulations to facilitate their understanding, compliance and administration; drafting proposals for improvements, including the enactment of legislation as necessary; and securing the resources required to implement the laws and regulations as improved. This project stands in first priority in the village's Floodplain Management Plan, and includes, as a sub-project the preparation of a new "Storm Drainage Management Master Plan". Estimated cost: $50,000.

Project 2: Storm Drainage System Upgrade

This project which stands as priority #2 in the village's Floodplain Management Plan consists of two distinct parts: One is essentially an engineering and design analysis to determine: a) The "as-built" effectiveness of the system compared with the criteria governing its design; b) Its mitigation potentials in terms of protection against rainstorms and weather events of recurring frequency intervals of 25, 50 and 100 years; c) The technical feasibility of achieving these potentials, in terms of capital and operating projects; and, d) The justification for such projects in terms of benefit-cost analysis geared to the eligibility criteria of potential funding agencies.

The other component is the implementation and execution of the sub-projects and programs defined by the first component of this Project.

One sub-project includes the completion of storm sewers in the remaining portions of Key Biscayne still served by "French Drains" or other below standards means.
Estimated cost: $1,300,000

Project 3: Feasibility Study for Additional Open Space Preservation

Relates to the "Prescribed Burns" initiative**,** including comprehensive search of new opportunities for Key Biscayne to increase its inventory of areas to be preserved as open space, as well as proposals and programs to assure the preservation of open space areas already identified.

The study would include benefit-cost and related economic analysis for each potential transaction; identification of implementation tools and resources; analysis of incentives and potential business arrangements and agreement among the parties at interest of policy context for the implementation of this activity.

Project 4: Elimination of Converted Garages

In "old law" buildings, garages were built per the old code with only 9" above street grade. When such garage space was subsequently converted into living space the potential for flooding damage was materially increased. Raising the elevation of the converted space to or above the building elevation could help mitigate this problem at relatively little cost compared to major mitigation measures such as flood proofing or elevating the entire structure. The project would involve the identification of the properties involved; an analysis of the benefits and costs involved; a legal analysis to determine the best method for inducing the elimination of the problem; and development of a program for implementing this improvement.

Project 5: Earth Shaping Master Plan

This project involves: 1) The development of topographical survey information with respect to the districts within Key Biscayne that contain the most flood prone properties; 2) The design of changes in the existing topography, including, a system of swales among other earthworks, at selected locations within the drainage basins, to improve the behavior of stormwater, particularly in areas where surface drainage problems tend to exist; and, 3) The development of an implementation program including the identification of potential funding sources, and a timelines the incremental execution of this project.

Project 6: Demonstration Project

Relates to the "Public Information" county initiative involving the selection of one or more flood prone properties to be used as a demonstration for the application of "elevation", "flood proofing" and other measures available for the mitigation of flood hazards and problems.

The demonstration will serve a number of purposes:

It will test state-of-the-art technology, various methods for elevating buildings and various other flood proofing measures;

- It will provide a firm basis for measuring all of the costs involved;
- It will provide a physical model to which the public can relate when subjects such as retrofitting and flood proofing are discussed;
- It will represent a laboratory where other flood damage prevention measures can be illustrated; and,
- It will enable a benefit-cost analysis that will provide a well-documented assessment of the measure's cost effectiveness.

Project 7: Economic Incentives

This project involves the creation of a package of economic incentive to induce property owners to undertake such flood protection measures as elevating structures above the BFE, flood proofing improvements and the like. In this connection the following are examples of the kinds of means that might be considered for study, analysis, feasibility, etc.

- Low interests loans to help owners pay to elevate or rebuild structure;

Deferral for a number of years, or forbearance, of ad-valorem tax increases which may be triggered by the building elevation or flood proofing work;

Zoning and other land utilization concessions off-setting the cost of the flood mitigation work with an opportunity for maximizing the value of the underlying land;

Deduction of the cost of mitigation from the cost of "Substantial Improvements against the property in the application of the 50 % rule.

Project 8: Flood Insurance Research Project

This project will seek to determine the number and characteristics of properties that do not have flood insurance and the reasons therefore. It would culminate with an action program designed to increase the number of properties covered by the flood insurance and with a local information program including brochures, pamphlets and the like designed to de-mystify the subject. The project will also review the validity of the BFE as reflected on the FIRM and explore the possibilities of variable flood insurance rates that distinguish within the same flood zone between properties that are flood prone and vulnerable to flooding hazards and those which are not and/or have taken steps to correct the potential problem.

Project 9: Erosion Control Hot Line and Response System

This project involves creating and implementing a discreet program of inspection, focused on construction sites, as well as public areas within the village, to assure that policies and regulations with respect to erosion and sedimentation control are effectively followed. The program would be designed to operate in tandem with normal storm sewer maintenance activities and normal construction site inspection activity. The intent is to create a second, primarily volunteer-based, line of defense for the protection of storm water management facilities.

Project 10: Environmental Forum

This project involves the organization of an ongoing program of lectures and events, including field trips, as necessary, bringing the public together with speakers from the various agencies whose concerns straddle floodplain management and environmental issues. The lecture program would be supplemented with the production of publications, and, if affordable, a video promoting awareness of environmental issues such as beach erosion, non-point source pollution, hydrology/hydraulics, BMP benefits, and the like.

Town of Medley

Project 1: Drainage Improvements

These projects will be included in our FY 2002 Storm Water Capital Improvement Budget in the amount of $567,800. These monies would be used to construct the following suggested drainage system improvements on the town's major roadways. Work could be done using the town's personnel and equipment or by hiring an outside contractor: Estimates were prepared using the higher cost of construction by an outside contractor.

- South side of NW South River Drive at 9350 NW South River Drive (Pan American Tile.) Replace existing drainage system. Estimated cost of construction $15,500, including design and permitting costs.
- South side of NW South River Drive, to the east side of the school bus terminal driveway. Installation of new drainage system, work includes swale re-grading. Estimated cost of construction $18,500, including design and permitting costs.
- South side of NW South River Drive, in front of the Public Works/Utilities compound. Work includes replacing existing drainage system, adding new drainage and curbing in front parking area, landscaping and roadway swale improvements. Estimated cost of construction $32,000, including design and permitting costs.
- South side of NW South River Drive, in front of Gar-P. New drain installation. Estimated cost of construction $14,000, including design and permitting costs.
- South side of NW South River Drive, one-third of way between NW 109 Street and Millennium Battery. Installation of new drainage system. Estimated cost of construction $14,000, including design and permitting costs.
- South side of NW South River Drive, two-third of way between NW 109 Street and Millennium Battery. Installation of new drainage system. Estimated cost of construction $14,000, including design and permitting costs.
- South side of NW South River Drive at Millennium Battery – Replacement of existing drainage system. Estimated cost of construction $15,500, including design and permitting costs.
- South side of NW South River Drive half way between Millennium Battery and NW 97th Ave. Installation of new drainage system. Estimated cost of construction $14,000, including design and permitting costs.
- NW 93 Street both north and south sides of the Street, 1/3 way between 87th Ave and 89th Ave. Installation of new drainage systems. Estimated cost of construction $28,000, including design and permitting costs.
- NW 93 Street both north and south sides of the street, 2/3 way between 87th Ave and 89th Ave. Installation of new drainage systems. Estimated cost of construction $28,000, including design and permitting costs.
- NW 89th Avenue at the intersection of NW 95th Street. Installation of new drainage systems. Estimated cost of construction $23,650, including design and permitting costs.
- NW 89th Avenue at the intersection of NW 97th Terrace. Installation of new drainage systems. Estimated cost of construction $23,650, including design and permitting costs.

- NW South River Drive, from the intersection of NW 75 Street to the intersection of NW 69th Avenue. Installation of continuous roadside drainage with positive outfall to the Miami Canal, curb and gutter, and sidewalk improvements. Estimated cost of construction $327,000**,** including design and permitting costs.

Project 2: Storm Shutters

Adding, if feasible, metal shutters to the Range office and classroom modular buildings.

Project 3: Elevate Roadway

Elevate NW 106th street from 97th Avenue to 104th Avenue to minimum flood elevation to prevent flooding from the Russian Colony Canal.

Project 4: Protect Records

Create system to electronically record the towns' records for convenient and safe storage (CD-ROM).

Project 5: Address Repetitive Loss Facilities for Retrofitting and/or Rebuilding

Evaluate for most cost-effective method of mitigating the repetitive flooding of the Town's Code Enforcement and Police Squad Rooms. Retrofit, flood-proof, and/or elevate the facility. Evaluate site constraints, including drainage, install pumps if necessary.

Project 6: Wastewater System Mitigation

Incorporate all of the consulting engineer's recommendations contained in the "Repair Plan for Wastewater System Damage as a Result of Hurricane Irene", dated December 1999. Elevate the entrance hatches into the dry-pits and wet-wells to above the flood stage experienced [Pump Stations 001, 100, 105, 300, 600, FEC1, FEC2 and Lakeside]; relocate electrical control panels to above grade elevations [Pump Stations 100, 500, and 600]; install high capacity sump pumps at all dry-pit stations (total of 9) to evacuate flood waters.

Project 7: Traffic Improvements for NW South River Drive

Incorporate consulting engineer's recommendations contained in the "Trafficways Improvement Program of FY 97", dated June 1997 for widening, elevating and draining of NW South River Drive from NW 107th Avenue to NW 74th Street, as it has been determined to be a critical roadway providing access to the remainder of all of the Town's roadways and alleviating traffic of US 27 (Okeechobee Road). This roadway is critical to the safety of the Town's residents and workers, and is critical, not only to the Town's economic well being, but to Miami-Dade County's as well.

Project 8: Water Supply and Distribution

Recognizing the vulnerability of the potable water distribution system to natural and man-made hazards, the reliability of the delivery of water needs to be improved by adding both permanent and emergency interconnections with the Miami-Dade and City of Hialeah Gardens' water supply systems.

City of Miami

Project 1: Hazardous Materials Response Units

The city of Miami currently operates one of three hazardous materials (HazMat) response units in Miami-Dade County; others are operated by the county and by the city of Hialeah. When disaster strikes, the demand for these units will be quite high, especially if a single incident requires multiple HazMat units to respond. The city proposes to upgrade the level of service it can provide by increasing both the number of HazMat response teams and the number of HazMat vehicles available. The city would be responsible for training additional HazMat teams that could assess a broad variety of HazMat emergencies and take required actions to stabilize the situation. Estimated cost: $2.5 million.

Project 2: Debris Removal

The city presently maintains a list of contractors that have agreed to provide debris removal services following a disaster. The city would develop a Comprehensive Debris Clearance (CDC) plan that would list the names and phone numbers of debris removal contractors, identify potential debris storage sites, removal methods, and provide for special programs, such as hazardous materials pickup and "amnesty" days for residents. Contracts would be negotiated in advance and monetary damages would be due to the city if the contractor fails to perform. The study also would analyze how the city could best coordinate debris removal activities with related post-disaster services performed by Miami-Dade County. The city welcomes debris removal assistance along federal, state, and county roadways, but recognizes that it will need to provide its own service along most of the smaller, local roadways in Miami.
Estimated cost: TBD.

Project 3: Public Education and Information Distribution

The city recognizes the need to educate the public about the threat of natural and man-made disasters and proposes a multifaceted program to educate its residents about disaster preparedness and response. These actions would have a direct impact of the health and safety of Miami's residents:

- Literature – consisting of handouts, mailers, advisory notices, booklets, etc. that would be distributed widely to city residents. Estimated cost: $300,000

- Public Meetings – these meetings would provide residents with an opportunity to

learn more about resources available at the city and to learn about other neighborhood-based city programs (e.g., Community Emergency Response Teams, NET Centers). Estimated cost: $150,000

- Web Site – the city would develop a web site to provide disaster-related information to residents. The site would help people prepare for disasters, and could provide a vital source of information to people about storm alerts, evacuation routes, shelters, etc. The site would be integrated with the web site already being developed by the police department for community policing and other internal record management purposes. Estimated cost: $150,000

- Cable Television – The city would provide information through its cable access channel (Channel 9) during disasters. Estimated cost: $50,000

Total estimated cost: $650,000.

Project 4: Flagami Storm Water Drainage Improvements

The community of Flagami is located in the western part of Miami, west of 37th Avenue, north of 8th Street and south of Miami International Airport. Its northern boundary is the Blue Lagoon, maintained by the South Florida Water Management District. Flagami consists of approximately 2,000 acres (roughly three square miles w multiple pockets of property that are subject to repetitive flooding losses. Alterations to storm drainage patterns west of Flagami (related to larger-scale regional projects) have created a continuing problem in Flagami that is especially difficult and costly to correct. The "Governor's South Florida Flood Task Force" is formulating a regional plan for flooding abatement that will affect existing drainage system performance and future drainage design. In the event of a major storm, Flagami is subject to severe flooding that could destroy numerous homes and possibly cause loss of human life. The city proposes to make improvements to the storm water drainage system and, in some cases, elevate or buyout existing homes and businesses likely to be most affected by flooding. New pump stations will be required to pump overflow storm water eastward to the easterly side of the tidal control structures that control the level of water in the Tamiami Canal/Blue Lagoon drainage systems. Also, the city would construct approximately five wetlands areas to provide storm water retention and allow for the natural recharge of groundwater. Estimated cost: $33,000,000

Project 5: Storm Shelter for Families of City Employees

During a disaster, the separation stress of employees being away from their families and loved ones is a critical issue that adversely affects the city's ability to respond during a disaster. Employees' job performance may suffer because of this concern and some employees may elect to remain with their families instead of responding to city needs. One way to solve this problem is to create a shelter specifically dedicated to city personnel and their families. This would help assure the city's emergency workers that their families will be safe during a disaster and allow them to concentrate on providing essential services. As part of this project, the city would conduct a study to determine the best location for such a shelter, whether one large shelter or multi-

ple smaller shelters should be constructed, if there is an existing facility (or multiple facilities) that could meet these requirements, and estimated costs. Resources and services needed include safety and security, medical care, food and lodging, and communications. The study also would examine the effect of these new, dedicated shelters on the larger shelter deficit that exists throughout Miami-Dade County. Estimated cost: $750,000

Project 6: Citywide Fueling System & Underground Tank Removal

The city of Miami currently uses a number of underground storage tanks for gasoline and diesel fuel at several city facilities. Some of these underground tanks are old and may pose an environmental hazard during a disaster. The city would like to remove these tanks and replace them with state-of-the-art above ground tanks that meet all current standards and requirements. These new above ground tanks could serve as a fueling station for neighboring communities and unincorporated areas that could benefit from a centrally located source of fuel for emergency vehicles and other essential uses. Estimated cost: TBD

Project 7: Storage Facilities for Critical Equipment

Currently, the city of Miami has a severe shortage of hardened storage locations for city equipment during a major disaster. Equipment such as the fire department's urban search and rescue trailers, Public Works' heavy equipment, parks department buses, and other similar items are stored outside on a normal day-to-day basis and could be damaged and destroyed during a storm. Much of this equipment is vital during a disaster to serve functions such as rescuing trapped citizens, clearing roadways, and providing support to other disaster recovery operations. The city of Miami has identified a need for three hardened facilities, located in three different areas of the city that would allow for the proper protection of this equipment and allow for the rapid deployment following a disaster. The facility would need to meet, and in most cases exceed current construction and protective equipment requirements and have emergency power and communications equipment for workers at these facilities. Estimated cost: TBD.

Project 8: Harden Fire Facilities

Most of the fire facilities in the city of Miami have (or soon will have) full hurricane shutter protection, yet there is no protection from rising water. The city proposes to harden fire facilities by elevating backup generators and HVAC equipment to the roof or other flood resistant areas. The city also would provide a source of potable drinking water (e.g. "buffaloes") in each fire station that could be used in emergencies. Also, the city proposes to elevate critical equipment or move its fire department chop, presently located in the floodplain of the Miami River. This facility provides repair, supplies, and medical items to the city's fire and rescue equipment. Estimated cost: TBD

Project 9: Clean and Dredge Canals and Waterways

Within the city of Miami, there are numerous canals and waterways that provide storm water drainage to Biscayne Bay. Debris, sand, and other materials that block the canals threaten

their ability to provide essential drainage of storm water to outfalls. The city proposes to mitigate this threat by cleaning and dredging these facilities and removing accumulated debris. The most important affected waterways, listed in order of priority, are as follows:

- Wagner Creek: Drains approximately 600 acres of residential and commercial property. Activities already completed include removal of household refuse, installation of new fencing, and bank stabilization activities. Pollution control measures will be added to the outfalls and any illegal connections identified during the cleanup will be disconnected. Estimated cost: $20,000,000

- Lawrence Canal: Drains approximately 64 acres of residential and commercial property. Some of the work already has been completed as part of the city's regular maintenance program. Estimate cost: $20,000,000

- Seybold Canal: A navigable waterway that drains approximately 500 acres of residential and commercial property. Estimated cost: $25,000,000

In addition to these waterways, there are a number of smaller canals and waterways that require removal of debris and bank stabilization. Estimated cost: $300,000.

Project 10: Harden Neighborhood Enhancement Team Centers

The city of Miami operates 13 Neighborhood Enhancement Team (NET) centers located throughout the city. These centers are designed to provide essential services and disaster information to the local communities, improve communication between the city and its citizens, and provide a central source for services, supplies, and information. Originally developed in 1992, these centers have been well received by the citizens and have shown their value repeatedly in non-disaster applications. The NET Centers are well equipped to serve as disaster field offices for the city and a distribution site for relief goods such as ice, food, and water. Because these centers can provide such a vital service to the city's residents, the city is proposing to make the buildings more resistant to damage from a hurricane or other disasters. Improvements that could be made to these structures include providing emergency generators, storm shutters, flood proofing, and structural strengthening. All of these improvements would allow the centers to become fully operational immediately after the disasters. Estimated cost: $100,000 per NET Center

Project 11: Flood-Proofing Government and EOC Buildings

The main Police Building and the Riverside Government Building (444 SW 2nd Avenue) need the installation of waterproofing elements. The areas critical to address in the Riverside building are the first, ninth, and tenth floor glass window areas. This will protect against flying debris, explosions, firebombs, glass shattering, and ultra-violet protection. Both buildings are used during Emergency activation for EOC functions. The first floor of the Main Police Building (located at 400 NW 2nd Street) is below grade and is currently being used to store the records, property, and evidence for the city of Miami. These items must be maintained in a secured area to prevent improper access, while allowing use by police for on-going investigations. The pro-

posed mitigation project would prevent water from entering the first floor and provide a water removal system to protect the building from flooding. The project would include installation of floodgates that would be put into place during high-risk periods for flooding. This would not only protect vital police records, but would ensure the continuous operation of this critical facility during a disaster as well as the response and recovery phase. The City's Emergency Operations Center is housed within this building. Estimated cost: $7,000,000

Project 12: Tree Trimming

This project would develop and implement a tree-trimming program throughout the city. With the proper control of tree growth, the risk of fallen trees and tree limbs damaging utility lines, blocking roadways, and impacting city-owned and private sector property could be greatly reduced. Well-trained and well-equipped crews can effectively control these risks, while helping trees remain healthy and attractive. The city is currently attempting to control the tree problem, but because of staffing limitations, it can handle only emergency requests. The city has several options for addressing the tree problem, including hiring staff to do the work in-house, contracting with private sector companies to perform the work, or working in conjunction with the countywide program. The city estimates that approximately eight crews would be needed to address the problem citywide. Estimated initial cost for four bucket trucks: $480,000.
Estimated annual cost: $1,500,000

Project 13: Mobile Command Vehicles

Currently, the city of Miami has one fixed emergency operations center (EOC) located at the main Police Building. Although a new backup facility is currently under construction at the Fire Department training facility in Coconut Grove, the city currently has no mobile command unit that could serve as the city's EOC if the fixed facilities become damaged or are otherwise non-functional. The city of Miami is seeking resources to acquire two mobile command centers that could serve as forward command posts during a large-scale disaster, such as a hurricane, hazardous material incident, terrorism incident, and other such events. The city of Miami has identified a need for two vehicles specifically designed to fill the role of a mobile command post/mobile EOC. One of the vehicles would be designed primarily to serve the fire department and the other would be designed to meet police department needs. Both vehicles would be configured similarly to facilitate operations, while retaining the needed specialized support services from both fire and police operations. Both units would contain a complete communication suite including radios, cellular and satellite phones, fax machines, and commercial television. The phone system would be designed to allow the local phone company to provide a full array of business telephone features. The city proposes that both vehicles be configured so they could be connected together to share internal telephone and computer networking to create an integrated, seamless police and fire mobile command unit.
Estimated cost per vehicle: $200,000; Total cost: $400,000

Project 14: Backup for Essential City Mainframe Functions

The city of Miami currently does not have a backup computer for the mainframe that provides core city services the city on day-to-day basis. Loss of the computer center at the Miami Riverside Center building would affect the city's ability to respond to and recover from a disaster by preventing access to critical functions such as payroll, purchasing, fire and police records, and other essential city services. A new backup computer system is needed to allow critical functions to be quickly restored and allow the city to continue operations while the main system is relocated or repaired. The new computer, to be installed in the city's emergency operations center, would replicate essential functions currently performed on the city's primary mainframe computer, but would not provide all of the functions needed by the city.
Estimated cost: $1,000,000

Project 15: Backup System for City Communications

Communication is vital for the success of city in responding to and coordinating the efforts of various departments and agencies following a disaster. The city currently does not have sufficient redundancy designed or built into its radio and telecommunication systems. The city is proposing a three-level approach to ensure that it is able to maintain an effective communication system following a disaster. The first level is the use of satellite telephones (such as Iridium), which do not require any ground-based facilities. Each of these phones can communicate with other Iridium phones by using only the satellite system. Approximately 20 of these phones would provide a basic level of critical communications among the EOC, fire, police and the 13 NET centers located throughout the city. The second level of backup communication is to acquire a temporary radio tower, such as the portable trailers used following Hurricane Andrew to provide cellular phone service, that can be deployed and setup within a few hours of a disaster and restore some, if not most, of the capability of the radio system. The final phase would be a more comprehensive project that would backup all of the communication capabilities normally available to the city of Miami. Estimated cost: TBD.

Project 16: Acquire Portable Pumps and Generators

Trailer-mounted portable pumps are needed to remove floodwaters during and after major storms. The city has identified a need for four of these diesel power pumps. Estimated cost: $40,000. In addition portable generators are needed to supply power to tools that are used in a variety of applications following a disaster. The city has identified a need for six of these portable generators. Estimated cost: $70,000

Project 17: Community Emergency Response Teams

The Community Emergency Response Team (CERT) is a program in which local citizens are trained to provide basic emergency services after a disaster until professional assistance arrives from the city's emergency response personnel. The training is such that CERT members can handle basic items for the first 36 hours of a disaster. The training would consist of learning basic medical treatment procedures, scene safety, securing utilities and other hazards, and some

rescue operations. To initiate the program, the city would need a training staff to develop and present the material, market the program using a variety of methods, coordinate the registration process and other logistical matters, deliver the classes to the citizens, and schedule some type of annual refresher training program. The city would capitalize on the experience already gained by the 25 CERT teams currently in place in Miami-Dade County. Estimated cost: $150,000

Project 18: Loans to Private Owners to Improve Seawalls & Stabilize Shorelines

The majority of the city's canal and bay shoreline (70 percent) is privately owned and maintained, much of which is in poor or overgrown condition. In the event of a major storm, there could be tremendous loss of property into the city's drainage canals, causing upstream flooding. This project recognizes the need to harden seawalls on private property within the city and would complement the replacement and improvement of city-owned seawalls. The city would establish a loan program that would provide an incentive for private property owners to replace or improve areas of deteriorating seawall on their property, allowing for a greater overall level of mitigation citywide. The project includes establishing and administering the loan program but not actually providing city funding to borrowers. Estimated cost: $250,000.

Project 19: Replace and Improve City-owned Seawalls

This project would improve or replace, as necessary, seawalls located at fifteen city-owned parks along Biscayne Bay and the Miami River. These seawalls are currently in fair to poor condition. Failure of the seawalls would result in the loss of city property, increased risk to nearby structures, and an increase in public safety hazards. All of the affected seawalls are made of concrete. The specific design of seawalls to be replaced has not yet been determined, although it is likely that boulders and riprap would be included to serve as wave baffles. The areas in greatest need of repair and improvement are the seawalls at Antonio Maceo, Legion, Lummus, Baywood and Pallot Park. In addition to the city parks, two other areas owned by the city of Miami contain concrete seawalls that either are failing or are in poor condition. These locations are on the north side of the Florida East Coast (FEC) Railroad boat slip and the Bicentennial Center. In conjunction with the proposed seawall replacement and improvements, two city-owned boat ramps (at the Watson Island Marina and the Seminole boat ramp in Coconut Grove) need to be improved to allow faster removal of boats in the event of a major storm. In addition, the stadium marina needs docks that would serve as a staging area while boats wait to be removed from the water. Both to these actions would reduce the amount of damage to the boats remaining in the water and to city-owned structures and private property that could result from boats being blown inland. Estimated cost: $1,800,000

Project 20: Portable Traffic Control Signs

Effective and efficient communication is vital to allow for the rapid evacuation of citizens prior to the impact of a hurricane in the city of Miami. With a residential population of about 400,000 people and a commuter population that at least doubles the affected population during the work-week, traffic jams are a certainty. Portable traffic control signs that provide scrolling text messages would allow traffic to be directed to alternative routes and to provide

other vital information to motorists. The portable signs have other uses besides assisting in evacuations: they can be used to display information during events such as fire/rescue emergencies, hazardous material spills, special events, terrorist incidents, and special police events such as SWAT operations. These signs display a text message that is easily programmed into the unit and can be moved using most any city vehicle with a trailer hitch. The city of Miami would purchase ten of these units at a cost of about $50,000 each, plus additional trailer hitches for police vehicles. Estimated cost: $500,000.

Project 21: Storm Shutters for City Buildings

This project would install hurricane shutters and reinforced doors on all municipal buildings not already so protected. The shutters and doors are designed to prevent hurricane force winds and debris from breaking the windows and allowing wind, water, and debris to enter the structures. The proposed modifications would allow these buildings to not only survive the hurricane with less damage to the structure and the property stored inside, but also reduce the financial impact to the city. From a purely practical standpoint, the hurricane shutters and doors also would allow the buildings to remain functional during a storm and help ensure that they could be used immediately afterwards in the response and recovery phase. The city of Miami has already made an effort to protect critical facilities such as the main police station, the General Services Administration (GSA) building, and all fire department facilities. The structures that still need the installation of shutters and doors are:

- Two Police Substations
- City Maintenance Garage
- General Services Administration Property Maintenance building
- Press Box at the Orange Bowl – used by the City as a staging area
- Athletic Club building – used as a City employee deployment center
- Convention Center
- Old Arena
- 26 park buildings & structures located throughout the City

Estimated cost: TBD.

Project 22: Storm Water Drainage Facilities for Belle Meade

The community of Belle Meade consists of approximately one square mile of residential area that is subject to repetitive flooding. The project would include the installation of deep injection wells, multiple pump stations, and associated piping to more quickly remove storm water from city streets. All pumping stations and injection well sites would have emergency generating capacity of at least 72 continuous hours of operation. Belle Meade is the neighborhood at the north side of the city where the Little River flows into Biscayne Bay. The cost of this project would cover the pumping stations, piping, drilling, and construction of the injection wells and any permits and environmental assessments that may be required. Miami-Dade County would provide ongoing maintenance after the improvements are completed.
Estimated cost: $3,300,000

Project 23: Flood-Proof First Floor of Main Police Building

The first floor of the Main Police Building (located at 400 NW 2nd Street) is below grade and is currently being used to store the records, property, and evidence for the city of Miami. These items must be maintained in a secure area to prevent improper access while allowing use by police for on-going investigations. The proposed mitigation project would prevent water from entering the first floor and provide a water removal system to protect the building from flooding. The project would include installation of floodgates that would be put into place during high-risk periods for flooding. This would not only protect vital police records, but would ensure the continuous operation of this critical facility both during the disaster and during the response and recovery phase of the disaster. Estimated cost: $750,000.

Project 24: Low Power Portable Radio Stations

Low power portable radio stations would allow for the transmission of vital and time-critical information to the public. These units are small trailer units similar to those used to provide information to motorists about a variety of topics, such as airport information, roadway construction warnings, parks and recreation information, etc. They have a short range (approximately three miles in most cases) and can be set up quickly. The units would be used throughout a disaster. Initially, they would be used during evacuations to provide information about traffic routes, blocked roadways and other key information. Following a disaster, these units could be used in conjunction with Miami's NET Centers and broadcast information about the locations of food and medical centers, ice distribution centers, and other critical information without the delays associated with other media. Another benefit is that this information can be specifically targeted to the local people (e.g., those within a single NET service area) and not the entire region. The mobile radio stations also could be used to provide information about hazardous material spills, other police or fire emergencies, and special events. The city of Miami proposes to acquire seven of these units to properly cover the city. Estimated cost: TBD.

Project 25: Protect Vital City Records

This project is a study to investigate ways to best preserve the city's vital records and other documents having archival or historical value. The city has been storing approximately 1,300 boxes of records in the basement of the Miami city hall, an area that is subject to flooding during a major storm. More than 700 boxes already have been moved to temporary storage in the Coconut Grove Convention Center, but approximately 600 boxes still need to be moved. All of the boxes need to be inventoried for vital records (i.e., those related to business continuity), records of historical or archival value, and inactive records. The city already has identified an outside contractor to provide storage for inactive records that can be disposed of once a required holding time has been met. The city estimates that approximately two to three percent of the existing records will need to be retained in a controlled environment where temperature and humidity are monitored and where security of the documents can be assured. The proposed study would identify the number of current and future records that need to be protected in an environ-

mentally controlled area, alternatives for providing the needed storage, and the estimated cost. Estimated cost: $60,000.

Project 27: Anchor Park Fixtures

This project would replace unsecured park furnishings, such as tables and chairs, with permanently installed ones, such as those with concrete footings. This would help prevent damages caused by high winds and water that could mobilize these items, causing unnecessary damage to people and property. Estimated cost: $150,000.

Project 28: Power Backup for Storm Water and Sewer Lift Stations

The city of Miami currently has four storm water lift stations and numerous sanitary sewer lift stations that do not presently have an emergency (backup) source of power. This lack of emergency power could cause critical problems during a disaster, such as a buildup of storm water and raw sewage, causing flooding and health problems. To solve this problem, automatic emergency generators with a 72-hour fuel supply would be installed at key locations to ensure continuous operation of the lift stations. Estimated cost: $400,000.

Project 29: Study to Reduce Erosion on Virginia Key Beach

This project is a study of measures that could be used to protect the beach and reduce the loss of sand from Virginia Key Beach. The city of Miami owns approximately 42 acres of ocean front beach on Virginia Key, approximately one mile long. The beach area is currently part of a beach improvement plan that will include importing sand to the area. The city recognizes that offshore groins (corrugated steel piles driven into the ocean floor) have been used in other areas with only limited success. The city is seeking a solution that will help reduce sand loss while allowing for maximum public enjoyment of the beach. Estimated cost: $75,000.

Project 31: Study Potential Fire Hazards on City-owned Islands

The city of Miami owns approximately ten islands in Biscayne Bay and other locations near the coast in the northern part of Miami that may pose a threat to nearby residents and commercial buildings in the event of a brush fire. While the city recognizes that these islands provide a barrier to winds and other potential threats, it is seeking a study to determine the magnitude of any potential threat of fire on these islands. Potential actions could include controlled burns to remove non-native species and replace them with native species in a manner that provides for greater fire safety. Estimated cost: $40,000.

Project 32: West Avalon Storm Water Drainage Improvements

The Avalon community is located in the south/ central part of Miami bordered by SW 22 Street, South Dixie Highway, SW 32 Avenue and S. W. 37 Avenue. West Avalon consists of approximately 312 acres (roughly one half square mile). A large depression located in the center and covering approximately one third of the neighborhood, creates a large "bowl" that collects

storm water causing wide-scale repetitive flooding losses. Smaller pockets of property suffering similar flooding losses surround the depression. A major storm with prolonged flooding could cause the destruction of numerous homes. The improvements necessary to correct this flooding problem include construction of a collection system with ex-filtration drainage with an overflow to a positive drainage system. A pump station to accept the overflow will be required with a positive drainpipe constructed along SW 32 Avenue from South Dixie Highway and through Coconut Grove to an outfall into Biscayne Bay. Estimated cost: $11,000,000

Project 33: Pinehurst Storm Sewer Retrofitting

The Pinehurst neighborhood is located in the Wagner Creek Drainage Basin. This basin is the most critical shed area of concern in the city's National Pollutant Discharge Elimination System permit program and the Wagner Creek is a major tributary of the Miami River. This is the last major neighborhood in this basin that has not been retrofitted to provide the maximum environmental protection to the Wagner Creek, which flows into the Miami River affecting the water quality in Biscayne Bay. Numerous local flooding complaints are also recorded within the neighborhood. This project was identified as a potential S.W.I.M. funding candidate. This project involves construction of an ex-filtration drainage system, grease and oil interceptors and other pollution control structures to minimize overflow into the Wagner Creek. Direct discharge connections to the Wagner Creek will be reduced and storm water drainage will be improved, thereby eliminating local flooding. Construction will include the area bounded by NW 28 Street, NW 12 Avenue, NW 20 Street and NW 17 Avenue. Estimated cost: $1,600,000

Project 34: Communications Systems Generator

Communications Services Division 100 kilowatt emergency generator project that encompasses the following:

- Purchase and installation of a new 100 KW generator to provide electricity for the city's communications system in case of catastrophic electrical failure. This replaces the existing 31 KW generator that is inadequate for the city's existing needs.

- The existing generator is located at the city's fire garage. The specific area housing the existing generator will need to be expanded to accommodate the new generator and to comply with current codes.

Estimated cost: $56,000

Project 35: Property Maintenance Division Upgrades

Property Maintenance Division 105-kilowatt emergency generator project that encompasses the following:

- Purchase and installation of a new 105 KW generator to provide electricity for the city's property maintenance building in case of catastrophic electrical failure. The building is

the operations base for trade personnel who provide services throughout the city for other departments. The installation includes all required improvements necessary to meet current code. There is no existing generator at this location.

- Purchase and installation of hurricane shutters will provide windstorm protection as well as increased security for the building.

Estimated cost: $59,900

Project 37: Security Film at Riverside Center Building

Request the installation of security and safety film at the Miami Riverside Center Building lobby and cafeteria glass window areas. This will protect against thrown and flying debris, explosions, firebombs, glass shattering, and ultra-violet protection. Estimated cost: $250,000.

Project 38: Generator for Riverside Center Building

Request is for a 1600 KVA Emergency Power Generator; this will provide constant electrical power to the Miami Riverside Center Building. This will minimize downtime and allow operations to continue at the MRC without interruption. This estimate was based on a cost of $500 per KVA plus $200,000 for labor and materials for the installation.
Estimated cost: $1,000,000.

Project 39: Radio Tower

Request for a self-supporting, steel, monopole radio tower for Fire Station 11; existing tower is held by guy wires and is more prone to failure than the one requested.
Estimated cost $200,000.

Project 40: Little Haiti Park

Upon the successful completion of land acquisition for the subject property, that is, the one-block area bounded on west by NE 2nd Avenue, on the north by NE 61st Street, on the east by the FEC Railway corridor and on the south by NE 60th Street, the city of Miami proposes to create the following, as is also depicted on the site plan. The historic buildings at the northwest corner of the block, the former DuPuis Medical Office and Pharmacy will remain in place and be incorporated into a cultural and recreation center as an adaptive re-use, with restoration to follow historic preservation guidelines. Similarly the small cottages located now in the southwest area of the block will be relocated closer to the DuPuis building and restored for adaptive re-use as classrooms, interpretive exhibit spaces and/or studios as part of the cultural and recreation center. All other structures that presently exist on the property are proposed for demolition. Parking for this facility will likely be located in an area to the south, outside of the grant-funded boundary. The central area of the site would be utilized as an open meadow or multi-purpose field, which would be graded and landscaped with sod and native trees at its perimeter. In the eastern third of the block, the existing hardwood, rockland hammock would be enhanced by the removal of ex-

otic plant species and the planting of additional native trees. Nature trails and interpretive signage would be introduced throughout the hammock, and will connect to trails along the perimeter of the site. Within the hammock, we propose to place picnic tables, and just outside the hammock to the west, will be a small children's playground. Park bench seating will occur at appropriate areas along the trails and at the playground. Defined park entries will be placed at the four corners of this site. To address potential hazard mitigation, shutters or impact resistant windows will be used in the historic structures, at a total estimated cost of $20,000, as required under the South Florida Building Code. Likewise, the trailers, non-historic buildings and other site features will be removed at an estimated cost of $100,000, reducing potential flooding damage. The entire site will be graded and swales will be created to retain water on site.
Estimated cost: $60,000.

Project 41: South Fork Dredging Project

This project consists of dredging sediment material along approximately 4,900 linear feet of the canal's bottom including removal of debris and exotic tree removal from the banks between NW 27th Avenue to the Miami River as permitted by Florida Department of Environmental Protection, Army Corp of Engineers, and Miami-Dade County Department of Resources Management. Estimated cost: $ 5,000,000

Project 42: North River Drive Spring Garden Improvements Project

This project involves a new storm drainage system and complete street reconstruction along NW N. River Drive between NW 7th Street and NW Place. The design will be in accordance to all applicable environmental requirements including the Miami Greenway recommendations. Estimated cost: $ 1,500,000

Project 44: Little River Storm Sewers Retrofitting Project, Phase II

This project will provide a modern drainage system for the area bordered by NW 79th Street, Little River Canal, and N. Miami Avenue. The existing system will be expanded and upgraded. The new drainage facilities will consist of a combination of ex-filtration drain, deep drainage wells, grease & oil interceptors and other pollution control structures. Any storm sewers identified as illegally connected to a sanitary sewer will be disconnected.
Estimated cost: $3,000,000

Project 45: Fairlawn Storm Sewers Project, Phase III

This project will provide a modern drainage system for the area bordered by W. Flagler Street, SW 8th Street, SW 47th Avenue, and SW 57th Avenue. At the present time, this area is served by scattered localized drainage structures that are old and inadequate to properly drain the area. The new drainage facilities will consist of a combination of ex-filtration drain, deep drainage wells, grease & oil interceptors and other pollution control structures.
Estimated cost: $7,000,000

Project 46: Kinloch Storm Sewers Project

This project will provide additional storm sewers to the area bounded by NW 7th Street, West 42nd Avenue, SW 8th Street and West 42nd Avenue. A positive overflow sewer will be constructed along NW 45th Avenue to the Tamiami Canal as part of this project.
Estimated cost: $3,200,000

Project 47: Tamiami Storm Sewer Project

This project consists of the design and construction for storm sewer improvements within the area bounded by NW 7th Street, SW 8th Street, W. 62 Avenue, and W. 57 Avenue.
Estimated cost: $4,000,000

Project 48: Englewood Storm Sewers Project -Phase III

This project will provide a modern drainage system for the area bordered by SW 16th Street, SW 22nd Street, SW 27th Avenue and SW 32nd Avenue. At the present time, this area is served by scattered localized drainage structures that are old and inadequate to properly drain the area. The new drainage facilities will consist of a combination of ex-filtration drains, deep drainage wells, grease & oil interceptors and other pollution control structures.
Estimated cost: $5,400,000

Project 49: Northwest Storm Sewers Project

This project involves the design and construction of a local drainage system in the area bounded by NW 7th Avenue, NW 71st Street, NW 12th Avenue, and NW 62nd Street.
Estimated cost: $4,200,000

Project 50: Garden Storm Sewers Project -Phase I

This project will provide a modern drainage system for the area bordered by NW 28th Street, NW 38th Street, NW 22nd Avenue and NW 27th Avenue. The new drainage facilities will consist of a combination of ex-filtration drains, grease & oil interceptors and other pollution control structures. Estimated cost: $4,300,000

Project 51: Liberty Storm Sewers Project

This project involves the design and construction of a local drainage system in the area bounded by NW 17th Avenue, NW 71st Street, NW 12th Avenue, and NW 62nd Street.
Estimated cost: $4,200,000

Project 52: Glenroyal Storm Sewers Project

This project involves construction of a positive storm sewer system for the area bounded by W. Flagler Street, and NW 22ndAvenue, NW 7th Street, and NW 17th Avenue.

Estimated cost: $5,400,000

Project 53: Lawnview Storm Sewers Project

This project involves construction of a local drainage system for the area bounded by SW 8th Street, and SW 17th Avenue, W. Flagler Street, and SW 22nd Avenue.
Estimated cost: $4,300,000

Project 54: Auburn Storm Sewers Project -Phase I and Phase II

This project involves construction of a local drainage system for the area bounded by NW 7th Street, and NW 27th Avenue, W. Flagler Street, and NW 37th Avenue.
Estimated cost: $3,700,000

Project 55: Reid Acres Storm Sewers Project

This project will provide a positive drainage system to the area bounded by NE 71st Street, FEC Railroad, NE 62 Street and NE 2nd Avenue. Bore and jack construction under the FEC Railroad at NE 71 Street will be required. The positive outfall line will be constructed on NE 5th Avenue to the Little River Canal. Estimated cost: $ 4,300,000

Project 56: Belle Meade Storm Sewers Project, Phase I

This project will provide storm sewers to the area bounded by NE 83rd Street, East Dixie Highway, North City limits and Biscayne Boulevard. Estimated cost: $4,200,000

Project 57: Fairway Storm Sewers Project

This project involves the design and construction of a local drainage system in the area bounded by NW 2nd Avenue, FEC Railroad, N 73rd Street, and N 62nd Street.
Estimated cost: $4,200,000

Project 58: Avalon Storm Sewers Project -Phase III

This project will provide a modern drainage system for the area bordered by SW 22nd Street, SW 27th Street, SW 27th Avenue and SW 32nd Avenue. Currently, this area is served by scattered localized drainage structures that are old and inadequate to properly drain the area. The new drainage facilities will consist of a combination of ex-filtration drains, deep drainage wells, grease & oil interceptors and other pollution control structures. Estimated cost: $5,300,000

Project 59: Auburn Storm Sewers Project -Phase III

This project will provide a modern drainage system for the area bordered by W. Flagler Street, SW 8th Street, SW 27th Avenue and SW 32nd Avenue. At the present time, this area is served by scattered localized drainage structures that are old and inadequate to properly drain the

area. The new drainage facilities will consist of a combination of ex-filtration drains, deep drainage wells, grease & oil interceptors and other pollution control structures.
Estimated cost: $5,300,000

Project 60: N.W. 71st Street Main Trunk Storm Sewer Project

This project will provide positive drainage for N 71st Street between NW 17 Avenue and . Miami Avenue and also provide a relief system and overflow connection for the Liberty, Fairway, and Northwest storm sewer district project. This project is a recommendation of the Storm Drainage Master Plan. The trunk main will be constructed in N. 71st Street to either N. Miami Avenue or NE 2nd Avenue at which point the main will be extended north to the Little River Canal. Estimated cost: $7,500,000

Project 61: Hurricane Window Barriers for Park Recreation Buildings

As a significant component of the 2001 Homeland Defense Neighborhood Improvement Bond Program, the Department of Capital Improvements will undertake the renovation and/or expansion of over 27 recreation buildings in city of Miami parks, and will construct 3 new additional recreation buildings. As part of this construction, we will include new Storm Shield hurricane barriers that comply with the Florida Building Code and Miami-Dade County Hurricane Product Approval Program. This will not only provide sufficient storm protection for the buildings and their contents, but will also eliminate or dramatically reduce costly pre-storm event labor charges associated with the installation of traditional storm shutters.
Estimated cost: $250,000.

Project 62: Update of Storm Water Master Plan

The city's existing Storm Water Master Plan was developed in 1987 and, although not yet fully implemented, requires a significant update to accommodate new requirements of environmental regulators as well as new technology in assessing and monitoring the city's systems. This comprehensive update will prioritize and program retrofits and upgrades to the city's utility system for the next 30 to 50 years, allowing us better characterize critical areas and to minimize flooding for storm events. Estimated cost: $400,000.

Project 63: Street Sweeping Program Improvement

The city currently has minimal staff and equipment assigned to sweep streets so as to minimize blockage of storm drains. This project includes the acquisition of five additional pieces of equipment, one year of equipment maintenance, tipping fees and the hiring of equipment operators. Street sweeping program would be conducted citywide on a systematic, programmed basis. Estimated cost: $900,000.

Project 64: Storm Sewer Cleaning Program Enhancement

In this project, the city proposes to expand its catch basin cleaning program by the addition of one Vac-Truck, with an equipment operator and a year of equipment maintenance, and by contacting with an outside firm for the regular hauling and disposal of the removed debris.
Estimated cost: $500,000 (first year).

Project 65: Watson Island Baywalk

The Watson Island Shoreline Stabilization Project, located on the southeastern section of Watson Island will stabilize a 500-foot section of the Biscayne Bay shoreline along the southeastern shoreline of Watson Island. The project will entail installation of rip-rap along this shoreline and construction of a seawall to stabilize and contain erosion to this shoreline, along a proposed bay-walk which will run parallel to this seawall. Complementary public access features will be constructed and installed to enhance this waterfront area.
Estimated cost: $300,000.

Project 67: Bicentennial Park Shoreline Stabilization

Bicentennial Park is located at 1075 Biscayne Boulevard, Miami, Florida. The shoreline stabilization will be in three phases:

- Phase I**:** Consists of the construction of approximately 3,000 LF of a new bulkhead seawall of steel sheet piling on the south and east sides of Bicentennial Park. The project includes a new reinforced concrete cap, steel sheet piling, fill aggregate and riprap at the toe of the wall. Demolition work is included to create clearance for the new seawall cap. Relocation of palm trees and grading and filling of 20-foot of smooth lime rock finish base type of walkway to match existing grade is part of the scope of work.
  Estimated cost: $6,960,000.

- Phase II: Consists of the construction of approximately 1,000 LF of a new bulkhead seawall of steel sheet piling on the west and south sides of FEC Slip located at Bicentennial Park The project includes a new reinforced concrete cap, steel sheet piling, fill aggregate and rip-rap at the toe of the wall. Demolition work is included to create clearance for the new seawall cap. Grading and filling of 20-foot of smooth lime rock finish base type of walkway to match existing grade is part of the scope of work.
  Estimated cost: $3,106,227.

- Phase III**:** Consists of the replacement of a deteriorated seawall located along the eastern end of the FEC slip on the American Airlines Arena. The project includes of approximately 130 LF of a new bulkhead seawall of steel sheet piling, a new reinforced concrete cap, steel sheet piling, fill aggregate and rip-rap at the toe of the wall. Demolition work is included to create clearance for the new seawall cap. Also, the project includes the construction of a bay walk structure supported by piling of approximately 720 LF and

covering an approximately 36,000 square feet area. The walkway platform goes from the floating dock to "Parcel B" on the American Airlines Arena side.
Estimated cost: $5,500,000

Total estimated project cost: $17 million.

Project 68: Restoration of Native Species

At Virginia Key, a portion of the scope of work in a Coastal Partnership Initiative proposal will include natural erosion prevention/mitigation by replacing exotics with native species along the mangrove hammock area. These native species have root systems that stabilized the soil in the uplands and contribute reducing beach erosion. The project includes other elements not related to LMS but at least $75,000 in hard-costs as well as volunteer time will be allocated to exotic removal.

Project 69: Replacement of Channel Markers

Dinner Key marina will submit a grant request to the Florida Boating Infrastructure program for channel markers on the Brennan Channel. These new markers replace deteriorated structures. The markers are vital for navigation and are especially significant for transient boaters seeking shelter from hurricanes, storms, and other inclement weather. Estimated cost: $65,000.

Project 70: Master Plan for Virginia Key

Planning will submit a proposal under the Coastal Partnership Initiative for a Virginia Key master plan. That plan will include provisions for restoring natural tidal action near the historic African American beach. Such restoration would contribute towards a mitigation of beach erosion. The plan recognizes the importance of natural plant communities and habitats and the role each play in stabilizing the soil for this natural barrier island. As stated in the proposal: "The process of a new master plan, taking into account the entire island, while including all stake holders and the public, will allow for a comprehensive process to address a very complex barrier island. The plan which includes economic, environmental, architectural, design, traffic, and landscaping criteria will give the new master plan concrete proposals to insure sound land use decisions for this unique uninhabited barrier island." Estimated cost: $550,000.

Project 72: City Hall

The project requires flood and wind-damage proofing of City Hall, a government hub, and historic structure that is significant to Florida and Aviation history as the Pan American Seaplane Terminal; City Hall's basement has flooded many times over the years with the most significant damage arising from Hurricane Andrew in 1992. The hurricane allowed seawater and wind to destroy historical records stored in the basement. The project has two inter-related elements to safeguard the structure from storm surge and wind damage. The first includes adding storm-proof doors and seals on doors facing the bay; the second is replacing the entrance store front with front impact resistant glass doors and windows that meet 100-year storm code specifi-

cations and given the historic properties of the building, Secretary of the Interior Preservation standards. Estimated cost: $650,000.

Project 79: Shutter North District Police Station

Purchase and install electric shutters on the North District Station, 1000 NW 62 Street, totals 23, 486 sq. feet and is constructed of concrete block. This building currently has hurricane shutters, however these shutters were installed in 1989 when the building was constructed and do not meet the current South Florida Building code. Additionally, the old shutters are beyond their useful life. Estimated cost: $250,000

City of Miami Beach

Project 1: Storm Shutters and Protective Glass for City Buildings

The buildings listed below require protection for windows during a significant weather event. The city is a barrier island that is subject to high winds, missile hazards and significant impact damage.

Building	Location	Windows	Cost ($)
City Hall	1700 Convention Center Drive	75+	650,000
Fleet Management	McArthur Causeway	15	30,000
Fire Station 1	Jefferson Street	15	43,000
Fire Station 3	Collins Avenue	15	43,000
Log Cabin	Collins Avenue	10	30,000
Garden Center	Convention Center Drive	24	35,000
Police Station	Washington Avenue	60+	300,000
South Shore Comm Center	6th Street	25	200,000
21 St Comm Center	2100 Washington Avenue	20	50,500
Rakow Youth Center	Pine Tree Drive	25	35,000
555 Building	17th Street	15	36,000
777 Building	17th Street	30	108,000

Total project cost: $1,591,666

Project 2: Canal Cleaning and Shaping - Citywide

Dredging of the approximately 12 miles of inland canals located within the city of Miami Beach would restore depth and bottom contour. This restoration would directly impact on the ability of the canal to hold tidal flooding and minimize flooding of surrounding properties during significant weather events. This dredging project would require funds for hydrographic surveys and bottom contours to determine the scope of work and cost. Dredging requires a state, ACE, and DERM permit. A hydrographic survey will be required along with soil sampling of the proposed dredged materials. Mitigation work may be required to

compensate for damaged ecosystems and will be determined by DERM prior to dredging. Mitigation may include placement of new riprap or creation of artificial reefs.
Estimated cost: $4,775,000

Project 3: Portable Traffic Light Signals

During power outages, the traffic lights are inoperable, causing a potential hazard. Portable traffic signals will provide the safety that is needed for traffic control. The city anticipates that it will need ten portable traffic signals to adequately handle an emergency situation. Estimated Cost: $160,000

Project 4: 4,500 Gallon Fuel Tanker

4,500 All-Aluminum fuel tanker that can support multiple fuels in a single transport. Multi-compartmented tanker, capable of direct distribution of emergency fuel supply to generators and emergency response vehicles in the field. The tanker transports large volumes of fuel (gas and diesel) safely and is capable of dispensing fuel to vehicles, generators and equipment at remote sites. Capable of draining product from in-ground storage tanks and dispensing multiple fuel types, as necessary in an emergency. Estimated Cost: $200,000

Project 5: 16th Street Drainage Improvements

Drainage improvements are proposed for the 16th Street right-of-way from Washington Avenue to Collins Avenue. Improvements consist of the additional drainage collection, conveyance, treatment and disposal facilities. The project may include construction of new catch basins, associated piping, gravity and / or pressurized Class V Group 6 disposal wells for stormwater water quality treatment / disposal. This project is part of a comprehensive program of drainage improvement projects along Washington Avenue which will alleviate chronic flooding situations and will alleviate flooding concerns to a major emergency evacuation right-of-way / thoroughfare. The drainage project will mitigate street level flooding to reduce commercial property flooding concerns and improves emergency response vehicle access to an urban commercial district and high rise hotel properties. Estimated cost: $1,500,000

Project 6: Nautilus Drainage Improvements

Drainage improvements are proposed for the Nautilus neighborhood which consists of additional drainage collection, conveyance, treatment and disposal facilities. The project includes construction of new catch basins, associated piping, outfalls and Class V Group 6 gravity disposal wells for stormwater water quality treatment. The Nautilus neighborhood is bounded along the west by North Bay Road, along the east by Michigan Avenue, along the north by 47th / 48th Streets and 42nd Street along the South. This project is part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations and will alleviate flooding concerns to the only access points to the only hospital in the area (Miami Heart Institute). The drainage project will mitigate street level flooding to reduce residential

flooding concerns and improves emergency response vehicle access to the Miami Heart Institute. The Nautilus area contains eleven properties with repetitive flood claims.
Estimated cost: $6,600,182

Project 7: Flood Proofing Sewer and Pump Stations

Relining and sealing 31 pump stations and 500 manholes to prevent water intrusion which would damage pump station equipment and structures and would prevent failure of stations thereby avoiding flooding. In the past five pump stations have failed during storms and resulted in flooding. Estimated Cost: $1,785,000

Project 8: Biscayne Point Drainage Improvements

Construction of drainage improvements at Stillwater Drive and 85th and 86th street in Biscayne Beach as part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations. The project includes construction of new catch basins and outfalls with associated piping. The stormwater will be treated using gravity wells. The Biscayne Point area contains several properties with repetitive flood claims and flooding impedes the single means of access to the homes in the area, including access for emergency vehicles. Estimated cost: $2,500,000

Project 9: Bayshore Drainage Improvements

Construction of drainage improvements from Lower Bay Road between 21st to 23rd Streets and also between 27th and Alton Road as part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations. The project includes construction of new catch basins and outfalls with associated piping. The stormwater will be treated using gravity. The Bayshore area contains several properties with repetitive flood claims. Estimated cost: $5,393,978

Project 10: Normandy Shores Drainage Improvements

Construction of drainage improvements for the entirety of Normandy Shores excluding the golf course as part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations. The project includes construction of new catch basins and outfalls with associated piping. The stormwater will be treated using gravity wells. The Normandy Shores area contains several properties with repetitive flood claims.
Estimated cost: $3,773,554

Project 11: Belle Isle/Belle Isle Park Area Drainage Improvements

Belle Isle is located off of the Venetian Causeway and is one of four islands that are interconnected along the Venetian Causeway. Improvements consist of additional drainage collection, conveyance, treatment and disposal facilities. The project includes construction of new catch basins, associated piping, and pressurized Class V Group 6 disposal wells for stormwater

water quality treatment / disposal. This project is part of a comprehensive program of drainage improvement projects which will alleviate chronic flooding situations and will alleviate flooding concerns to the only emergency evacuation right-of-way / thoroughfare on the Island. The drainage project will mitigate street level flooding to reduce street level flooding concerns and improves emergency response vehicle access to an urban residential high rise condominium community. Estimated cost: $2,180,000

Project 12: Jefferson Avenue Drainage Improvements

Construction of drainage improvements for the south point area bounded by Meridian Court to the east and 3rd street to the north, Jefferson Avenue to the west, 2nd street to the south. The project includes construction of new catch basins and associated piping, including Storm water gravity wells and drainage structures. This area contains at least one property with repetitive flood claims. Estimated cost: $1,500,000

Project 13: Lakeview Drainage Improvements

Construction of drainage improvements for the Lakeview Area bounded by 51st Street to North, N. Bay Road to West, Cherokee Ave. To East and Lake View Drive to South as part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations. The project includes construction of new catch basins and outfalls with associated piping. The stormwater will be treated using gravity wells. The Lakeview area contains at least one property with repetitive flood claims. Estimated cost: $1,094,166

Project 14: Lake Pancoast Area Drainage Improvements

Construction of drainage improvements for West 24th Street and Lake Pancoast Drive and West 25th Street as part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations. The project includes construction of new catch basins and outfalls with associated piping. The stormwater will be treated using gravity wells. This area contains at least one property with repetitive flood claims.
Estimated cost: $596,636

Project 15: Stormwater Outfall and Seawall Reconstruction

Replacement of seawalls and 150 stormwater outfalls with associated relining of piping leading to outfalls as part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations. Overall, the outfalls impact drainage in areas that have three properties with repetitive flood claims. Environmental Impacts of the reconstruction will be mitigated by including a pollution control device at the outfall, for example an oil separator, to remain in compliance with the NPDES permit. Replacement of outfalls may require demolition of existing seawalls. If this occurs, the seawall will need to be repaired. New stormwater infrastructure should take into consideration site history, water tables, and any previous ammonia or arsenic contamination. Seawall & bulkhead repairs will require a Miami-Dade DERM permit, which typically requires a hydrographic survey to determine any possible impacts

to the adjacent waterway ecosystems, particularly sea grass. Any damage to riprap or sea grass will require mitigation work to be determined by DERM in advance of the project. Mitigation work may include placement of riprap at a new location. Estimated Cost: $1,800,000

Project 16: Enhanced Emergency Response Program

The city maintains forces which are responsible for responding to emergency situations including, regional operations tactical response to emergency incidents; search and rescue operations; and situations exposing personnel to dangerous conditions and hazardous materials. The city of Miami Beach is listed within the countywide Local Mitigation Strategy as having high frequency and catastrophic severity from hurricane winds and storm surge; high frequency and extensive severity from flooding; as well as serious frequency and risk potential from hazardous materials. Public safety responders as well as the crews tasked with assessment and remediation require protective clothing and equipment. This project provides for a comprehensive preparedness program by the city including field deployment with hazard mitigation equipment and training, and equipment and training for search and rescue teams. Estimated cost: $1,572,000

Project 17: City of Miami Beach Emergency Operations Center:

This project includes the funding for a fully operational Emergency Operations Center for the city of Miami Beach, including equipment and modifications to Miami Beach EOC and enhancements to the city of Miami Beach data center to ensure that systems are available to the Miami Beach EOC during and emergency event. Estimated cost: $1,050,000

Project 18: Palm and Hibiscus Area Drainage Improvements

Construction of drainage improvements for Palm and Hibiscus Islands as part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations. The project includes construction of new catch basins and outfalls with associated piping. The stormwater will be treated using gravity wells. Estimated cost: $2,679,400

Project 19: West Avenue Drainage Improvements

Drainage improvements are proposed for the West Avenue / Bay Road neighborhood which consists of additional drainage collection, conveyance, treatment and disposal facilities. The project includes construction of new catch basins, associated piping, outfalls and pressurized Class V Group 6 disposal wells. The West Avenue neighborhood is bounded along the west by Biscayne Bay, along the east by Alton Road, along the north by Dade Boulevard and along the South by 5th Street. This project is part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations and will alleviate flooding concerns to the only access points to the only hospital in the area (South Shore Medical Center). The drainage project will mitigate street level flooding to reduce residential / commercial flooding concerns and improves emergency response vehicle access to the South Shore Medical Center. Estimated cost: $6,000,000.

Project 20: Flamingo/Lummus Drainage Improvements

Drainage improvements are proposed for the Flamingo / Lummus neighborhood which consists of additional drainage collection, conveyance, treatment and disposal facilities. The project includes construction of new catch basins, associated piping, outfalls and gravity Class V Group 6 disposal wells for stormwater water quality treatment. The Flamingo / Lummus neighborhood is bounded along the west by Alton Road, along the east by Ocean Drive, along the north by Lincoln Road / 14th Place and 5th Street along the South. This project is part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations and will alleviate flooding concerns along the only east / west rights-of-ways that connect designated emergency evacuation rights-of-way in the South Beach area. The drainage project will mitigate street level flooding to reduce residential / commercial / public facility flooding concerns and improves emergency response vehicle access along evacuation routes within the neighborhood boundary. Estimated cost: $18,188,000

Project 22: Parkview Canal Seawall Revetment

In 2002, a city-wide survey was conducted to determine the condition of 99 seawalls and bulkheads within the city of Miami Beach. All have been prioritized according to condition and location. Approximately twenty-five need extensive repairs. Funding and completion of these seawalls would mitigate the damage to the inland shoreline located throughout the City. The seawalls provide the "armor" protection from the effects of tidal and wave action along the waterways. Present conditions will lead to erosion of the banks and eventual loss of property into the canals. The loss of property into the canals contributes to flooding due the reduction in canal depth. This project includes constructing revetment along eroded bank areas. In order to be in compliance with environmental concerns, seawall & bulkhead repairs will require a Miami-Dade DERM permit, which typically requires a hydrographic survey to determine any possible impacts to the adjacent waterway ecosystems, particularly sea grass. A State FDEP and Army Corps of Engineers permit will also be required. Any damage to riprap or sea grass will require mitigation work to be determined in advance of the project. Mitigation work may include placement of riprap at a new location. Estimated Cost: $1,800,000

Project 23: Extensive Repairs to Seawalls

Approximately twenty-five seawalls in Miami Beach are in need extensive repairs. Funding and completion of these seawalls would mitigate the damage to the inland shoreline located throughout the city. The seawalls provide the "armor" protection from the effects of tidal and wave action along the waterways. Present conditions will lead to erosion of the banks and eventual loss of property into the canals. The loss of property into the canals contributes to flooding due the reduction in canal depth. In order to be in compliance with environmental concerns, seawall & bulkhead repairs will require a Miami-Dade DERM permit, which typically requires a hydrographic survey to determine any possible impacts to the adjacent waterway ecosystems, particularly sea grass. Seawall & Bulkhead construction equipment and/or work may damage adjacent ecosystems. Any damage to riprap or sea grass will require mitigation work to be determined by DERM in advance of the project. Mitigation work may include placement of riprap

at a new location. A State FDEP and Army Corps of Engineers permit will also be required. Any damage to riprap or sea grass will require mitigation work. Estimated Cost: $559,000

Location	Scope of Work	Est. Cost
Sunset Lake Park	Replace the seawall	$84,000
Jones Street	Replace the seawall	40,000
Wofford Park	Construct a cap and seal all cracks. Remove trees bordering the seawall	70,000
Henedon Ave.- north end	Seal the wall and remove the banyan tree	30,000
Ray Street	Fill cavities at East and West ends. Seal crack	35,000
Rue Granville - south end	Replace the cap. Replace the guardrail	30,000
Rue Notre Dame - north end	Seal all cracks. Replace the top of the seawall. Trim the vegetation	70,000
Rue Versailles - south end	Replace cracked section of the seawall	60,000
Indian Beach Park	Repair the cap	45,000
Alton Road & I-195 Interchange	Repair the seawall	45,000
	Repair sea wall	50,000
	Seawall Replacement Total:	$559.000

Project 24: La Gorce Drainage Improvements

Construction of drainage improvements for the La Gorce Park Area bounded 63rd Street on South, N. Bay Road, West and intercostals on East and North as part of a comprehensive program of drainage improvement projects which will alleviate chronic neighborhood flooding situations. The project includes construction of new catch basins and outfalls with associated piping. The stormwater will be treated using gravity wells.
Estimated cost: $2,671,603

Project 25: Streetlight System Upgrade

There are approximately 4,000 streetlight poles that the electrical system connection at the pole base does not meet the Miami Dade County Code. When flooding occurs in low areas both residential and commercial, water intrusion occurs inside the bases of the streetlight poles and creates short circuits resulting in the malfunction of the lighting system. This project improvement will include re-wiring and placing individual fuses at each pole base. It will eliminate streetlight service interruptions, and reduce repetitive interruptions and/or damages to the street lighting infrastructure system. Once immersed, the system will fault and turn off the grid for either specific city blocks of neighborhoods.
Estimated cost: $1,600,000

Project 26: West Avenue Bridge

The West Avenue Bridge project is of regional significance and will help relieve congestion on State road 907 (Alton Road). West Avenue parallels the busiest segment of SR 907/Alton Road, where level of service (LOS) E is normal occurrence; intersects with US 41/McArthur Causewayp with an urban collector road (17th Street), and a minor arterial road (Dade Boulevard) which lead to the Venetian Causeway and downtown Miami. A connected West Avenue would help reduce the volume of local traffic at the busiest intersections. In addition, it would provide a safer venue for cyclists, pedestrians and motorists making their way to the causeway to Miami, than other existing traffic congested.
Estimated cost: $7,500,000

Project 27: Citywide Wastewater Infrastructure Improvements

The city's wastewater system provides collection and transmission service to the city's population. The city's wastewater is treated at the county's treatment plant. The wastewater is collected and transmitted through wastewater force mains and directed across Government Cut to Fisher Island and then south to Virginia Key Treatment Plant. The wastewater lines were built between 1926 and 1956, making them approximately between 50-80 years old. The useful life of these force mains is approximately 50 years and the pipes are either beyond or at the end of their useful life. The iron pipes are significantly tuberculated, resulting in hydraulic problems and water quality problems. This project will implement the city's *Water System Master Plan*, which will replace aging water lines (60 years old +). Estimated cost: $2,250,000

Project 28: Citywide Stormwater Infrastructure Imrpovements

The city's master plan effort identified over 160 drainage basins in the city of Miami Beach. Approximately 34 of these basins were identified as a priority, based upon pollutant loading, pollutant concentration, flooding potential, citizen complaints and city operational staff rankings. Many of the priority drainage basins are barely above sea level and the city's stormwater system is not capable of handling a 5-year storm event, as a result, flooding occurs in many of the basins, with even higher flooding levels during high tide. Flooding has a significant environmental, health and economic impact, causing businesses to be inaccessible to customers, and resulting in the additional cost of replacing and repairing damaged property. In addition, due to high groundwater elevation, drainage is slow, in these areas, requiring extensive periods of time to dissipate. Continuous excessive ponding over the long term has caused deterioration and then failure of paved roads, mosquito breeding areas, and other public health issues. The city has committed to improving the facilites within the 34 priority basins. Stormwater will be collected and treated through either gravity wells or exfiltration trenches, where pollutants will be filtered or treated. Estimated cost: $53,000,000

Project 29: Citywide Water Infrastructure Improvements

This project will implement the city of Miami Beach *Water System Master Plan*; the project includes the replacement of aging water lines (60+ years old). These iron pipes are signifi-

cantly tuberculated which has resulted in diminished water quality and hydraulic problems. Under certain conditions, iron pipe can release iron either as a soluble or particulate into drinking water supplies, resulting in water quality problems. Estimated cost: $34,000,000.

Project 30: Citywide Dune Enhancement Project:

The goal of this project is to enhance and restore the city's dune system. The project will identify where exotic plant species are invading the dune system and variations in dune height and stabilize the dune system through dune enhancement projects that remove exotic species, plant native species, and build up dune height where necessary, thereby improving the overall health of the dune system and its ability to retain sand and protect upland structures from storm surges and flooding impacts. Baseline data for the height and width and species variation of the dune will be gathered through extensive surveying work and an overall landscape-scale dune enhancement project will be developed based on survey results. All work will be designed and completed within local, state, and federal regulations governing the Miami Beach land east of the CCCL. A rope and post fence system will be placed along with signage throughout the project to educate and protect the project results and minimize impacts to the protected area.
Estimated cost: $515,000

City of Miami Gardens

Project 1: Storm Drain Cleaning Program

This project will be set-up to clean all storm water drains throughout the city on a scheduled maintenance program. It is expected that during fiscal year 2006, the city will be taking over the responsibility of maintaining the stormwater system throughout the city.
Estimated costs: $425,000

Project 2: Flood Planning Prevention

The city of Miami Garden's preparation of the Floodplain Management Plan (FMP) reflects the city's commitment to identify areas of flooding risk and assess the extent of the problem, should a flooding disaster take place. Following this assessment, the FMP will outline activities (goals, objectives, policies and implementation programs). The FMP will be implemented to proactively mitigate the effects of flood related damage within the city. This is a pre-disaster planning approach that is required by the Federal Emergency Management Agency (FEMA) for the city to participate in the National Flood Insurance Program, Community Rating System (NFIP/CRS). Estimated cost: $250,000

Project 3: Drainage Improvements

NW 175th Street between NW 37th Avenue to NW 42nd Avenue has been identified for stormwater drainage improvements due to flooding and requires immediate attention. This project involves design and construction of local drainage system. Estimated cost: $460,000

Bunche Park Drive West from NW 159 Street Rd and NW 155 Terrace has been identified for stormwater drainage improvements due to flooding and requires immediate attention. This project involves design and construction of local drainage system.
Estimated cost: $325,000

NW 45th Court from NW 171st Terrace to 171st Street has been identified for stormwater drainage improvements due to flooding and requires immediate attention. This project involves design and construction of local drainage system. Estimated cost: $415,000

NW 171st Terrace from NW 44th Avenue to 45th Court has been identified for stormwater drainage improvements due to flooding and requires immediate attention. This project involves design and construction of local drainage system. Estimated Cost: $225,000

Industrial Areas: NW 57th Avenue to NW 47th Avenue between NW 167th Street and NW 154th Terrace has been identified for stormwater drainage improvements due to flooding and requires immediate attention. This project involves design and construction of local drainage system. Estimated cost: $1,200,000

Project 4: Street Sweeping Program

The city is expected to take the responsibility of the stormwater system throughout. To be able to minimize blockage of storm drains, the city will be required to clean the debris before it washes into the drain. A street sweeping program will comply with provisions of the federally mandated Clean Water Act. In addition, street sweeping helps to remove pollutants that potentially can drain into the stormwater system. Estimated cost: $140,000

Project 5: Swale Tree Trimming Programs & Debris Clearance

Develop and implement a citywide program to trim trees prior to hurricane season and allow for an increase in survivability of the trees and reduce the safety concerns of residents. In addition, proper trimming and pruning would benefit in minimizing damage to utility, building structures, and vehicles as a result of down trees during a severe storm. This initiative will also reduce debris and protect the infrastructure from damage to sidewalks and roads.
Estimated cost: $275,000

Project 6: Removal of Australian Pines and Other Exotics

After a storm debris removal is an expensive and time-consuming process. Fallen trees can delay the re-entry process by blocking access to roads and properties. The purpose of this project is to create a permanent ongoing tree removal program within Miami Gardens. It would ensure elimination of nuisance and dangerous trees on public rights-of-way such as Australian pines, ficus, melaleuca, and dead or dying trees that could create problems in high winds or storms. These exotics would be replaced by appropriate native trees to enhance our tree canopy that will be maintained by the city of Miami Gardens. Estimated cost: $1,000,000

Project 7: Community Emergency Response Teams

Establish Community Emergency Response Teams (CERT). When an emergency or disaster occurs at any time and any place in the city, trained CERT volunteers will be ready and able to respond to save lives and protect property. CERT members will be able to do the greatest good for the greatest number after a disaster, while protecting themselves from becoming victims. This program will include but not limited to basic medical treatment procedures, scene safety, securing utilities, and other hazards, and some rescue operations.
Estimated cost: $150,000

Project 8: Emergency Broadcast System

Install an emergency broadcast system to give the residents emergency and evacuation information. Estimated cost: $90,000

Project 9: Burial of Power Lines

Due to the wind storms, the burial of main electrical lines (FPL, cable, telephone, etc.) is essential to the community. This is intended to minimize damage, loss of property, and aid in the return to normal operations as soon as possible. Estimated cost: $10,000,000

Project 10: Housing Rehabilitation to Support Hardening Activities

Due to wind storm damages done by past storms that impacted many residents, the city of Miami Gardens has a priority to assist residents in hardening their structures.
Estimated cost: $2,252,000

Town of Miami Lakes

Project 1: Public Information & Education

Develop a “How To” manual specifically for Miami Lake's citizens. Through the use of grant funds, the town can develop community disaster education programs to promote awareness of emergencies and educate residents on the appropriate response and necessary preparation when an emergency threatens. This effort should reduce demands on the local government and facilitate recovery after the event. This is a key item during the town’s first few years when both the town and the county are responsible for various city services. Estimated cost: $10,000.

Project 2: Assess & Harden Town Hall

Inspect and assess the storm-worthiness of the current town hall location. Although the location is leased, certain provisions can be made to allow the town hall to function in aftermath of an emergency. We anticipate that town hall would become the coordinating center for recovery and volunteer activities. The initiative includes an assessment of the facility to identify defi-

ciencies and the lease availability of a generator sufficient to enable the town hall center to continue operations in the event electricity is lost. Estimated cost: $80,000.

Project 3: Purchase Computerized Equipment Storage for Vital Public Records

The Town of Miami Lakes was incorporated on December 5, 2001 and elected town officials on February 28, 2001. Adequate daily back-up and off-site storage of vital public records has not been addressed in the new town. Planning for storage and back up of vital records is well timed while the town's computer systems are being created. Estimated cost: $15,000.

Project 4: Purchase and Install Emergency Radio System

During an emergency, it is critical that the town manager and key employees communicate with each other, county police, public works and county EOC. This project is to purchase and install a small-sized radio system (5 to 8 radios) and base station.
Estimated cost: $15,000.

Project 5: NW 154th St and NW 82nd Ave Drainage Improvements

NW 154th Street and NW 82nd Avenue are two of the highest utilized roadways within the Town of Miami Lakes. NW 154th Street is the main east/west corridor within the town and is a section line road. NW 82nd Avenue is a half section line road and provides north/south connections between the Town of Miami Lakes and the adjacent communities. Both of these major roadways are experiencing significant drainage problems. During minor rainfall events, both of these roadways experience significant flooding to the point where runoff tops the back of the curbs and encroaches onto private property. The existing storm drainage systems for both roadways oftentimes take several days to discharge the runoff that is on the roads creating a nuisance and potential danger to the motoring public.

The NW 154th Street sub-basin is generally located west of the Palmetto and east of NW 82nd Avenue. This sub-basin consists of approximately 3,100 linear feet of four-lane divided roadway and includes approximately 6.9 acres of road right-of-way. The NW 82nd Avenue sub-basin is generally located north of NW 154th Street and south of NW 170th Street. This sub-basin consists of approximately 5,100 linear feet of two and five lane roadway and includes approximately 7.9 acres of road right-of-way.

From site observations these sub-basins have existing drainage inlets and limited exfiltration trench. There is no evidence of any existing outfalls. Due to the lack of outfalls and the age of the existing system, the culverts and drainage inlets frequently clog with debris and sediment such that water flow is blocked or highly restricted. Based on observed ponding and drainage calculations, the existing drainage inlets and exfiltration trenches are inadequate. Additional drainage inlets, manholes, culverts and exfiltration trenches are recommended to be constructed to interconnect the existing drainage inlets. In addition, outfalls to the nearby canals should be considered. Estimated cost: $1,780,000.

Project 6: Acquire Madden's Hammock

The Town of Miami Lakes seeks to purchase the property known as Madden's Hammock in order to support mitigation efforts within its jurisdiction. Purchase of this 60-acre parcel will help relieve local stormwater runoff and drainage issues in the town and remove property from development within the 100-year flood zone. Estimated cost: $8,000,000.

Miami Shores Village

Project 1: Harden Village Hall

Village Hall is the location of shelter during a hurricane for employees that ride out the storm so that they are in position when the wind reaches a level that it is safe for the first road clearing operations after the storm. From fifteen to twenty employees are sheltered during the hurricane and fifteen employees work in Village Hall on a day to day basis. Install a provision room/safe room, roof strapping, re-roof with hurricane resistant roofing system, shutters, and outside wall reinforcement. Design and engineering studies. Estimated cost: $610,000

Project 2: Change Window Protection to Improve Preparation Time

Install roll up/accordion type shutters on all critical village buildings to reduce the cost and time of preparing for storms including: village community center, recreation field house, police station and Miami Shores Golf and Country Club. Estimated cost: $210,000.

Project 3: Redesign Bayfront Park Seawall

Design and construct new seawall system using poured concrete and tiebacks to replace existing 900 foot seawall, currently in poor condition. Explore more hurricane resistant design, including the angling of the seawall to allow better deflection of wave action. Re-engineer pylons to accept pedestrian safety rails. Estimated cost: $810,000

Project 4: Harden and Flood Proof Public Works Facility

Replace Butler Aluminum Building with CBS concrete block construction raising the floor elevation; add injection well/exfiltration drainage system to protect administrative/inventory storage from flooding. Make existing offices hurricane proof by using poured concrete roofing and steel reinforced doors, enabling the facility to augment Village Hall as an employee hurricane shelter during storms. Replace existing overhead garage doors with hurricane proof doors. Strengthen UHF radio tower to withstand hurricane force wind loads.
Estimated cost: $710,000.

Project 5: Hurricane proof emergency generator room (Police Department)

Replace the aluminum cover currently housing the generator used for emergency power to support public safety operations during and after hurricanes. Replace with a hardened poured concrete structure. Estimated cost: $61,000

Project 6: Purchase Hurricane Preparedness and Debris Clearance Equipment

a. Inflatable Zodiac Rescue Boats (2) $33,600
b. Vacon Drain Truck $193,200
c. Articulated 40' dump trucks (2) $231,000
d. Bobcats with debris removal attachments (2) $56,650
e. Bulldozer for debris management $142,800

City of Miami Springs

Project 1: Stormwater Management Master Plan

The city retained PBS&J to prepare a stormwater master plan. The plan has established eight (8) drainage projects within the city. Thus far the city has completed the first three projects and Phase I of Project 4 is in design. The city wishes to include Phase 2 of Project 4 and Projects 5 through 8 in LMS. The projects are as follows with the projected cost:

Project	Cost
Phase 2 of Project #4 (Basin 14) Cost	$ 654,480
Project #5 (Basin 13)	91,125
Project #6 (Basin 19B)	364,500
Project #7 (Basin 9)	457,313
Project #8 (Basin 25)	747,225

Estimated total cost**:** $2,300,000

Project 2: Storm Shutters for Municipal Buildings

The city intends to install storm shutters at the following critical and non-critical municipal buildings: Cavalier Annex, the swimming pool office, Stafford Park office, the Country Club building (this building cooks with gas and could prepare food for city employees during post storm conditions), and public works lunch and meeting room, and the community police office. Note: the last building is privately owned and leased to the city. Estimated cost: $30,000.

Project 3: Emergency Generator for the Senior Center

The Miami Springs Senior Center serves the nutritional and social needs of our senior residents. If the area was to be affected by a hurricane or other climatic condition and there was

no electricity, a generator would allow the city to continue serving the needs of these individuals during such a stressful period. Estimated cost: $30,000.

Project 4: Creation of a Disaster Shelter

The City of Miami Springs has no designated shelter to house victims in an emergency. The senior high school was a designated "Civil Defense" shelter and later a Red Cross hurricane shelter, but that was years ago. The city-owned gymnasium would be a suitable structure and has a fairly central location in the city. However, the structure currently has extensive physical fatigue and is in need of being replaced. Estimated cost: $3,000,000.

Project 5: Telemetry System

Install a telemetry system for the city's twelve pump stations. Estimated cost $150,000.

Project 6: Purchase and Install a Radio Repeater System

This project would improve the communication of city forces and enable a faster response time in an emergency situation. The current system does not have sufficient range for vehicle mounted or handheld radios. The current system does not even have adequate power to cover the city boundaries. Estimated cost: $45,000.

Project 7: Removal of Hazardous Australian Pines

The city has a large number of old, deteriorated Australian pines that easily become a hazard during high winds. The removal of these conifers requires specialized equipment and skills that city crews do not possess. This project would enable the city to hire a professional firm to remove approximately 30 Australian pines. Estimated cost: $90,000.

Project 8: GIS System for Maintenance of Flood Zone Data

The implementation of a GIS system would allow the city to coordinate with Miami-Dade County and other agencies in managing and mapping flood zones.

Project 9: Engineering Study to Determine Sites of Canal Bank Restoration

The Melrose Canal runs through the city and acts as one of the main conveyors of storm water. The canal was recently dredged through FEMA mitigation funds, but the funding was not adequate to address the restoration of the eroding canal banks along the length of the canal. The dredging efforts will, over time, lose their intended purpose of increasing conveyance capacity if the canal banks continue to erode at the current rate. This canal bank stabilization project would reduce flooding hazards and help to maintain adequate conveyance. Estimated cost: $60,000.

Project 10: Storm Sewer Cleaning Program Improvements

The NPDES requirements for storm draining are straining the existing capacity of city resources to comply. This project would be for the addition of one *Vaccon* truck with an equipment operator. Equipment maintenance would also be included. Estimated cost: $350,000.

City of North Bay Village

Project 1: Storm Drainage, Sewage, Bay Restoration

This will be the biggest environmentally focused project the city has encountered. Biscayne Bay is currently exposed to almost 10,000 linear feet of North Bay Village-Miami Beach bound sewage pipe. This project involves a new Miami bound pipe. The new force main will originate at the city's main sewer pump station (Galleon Street) and travel to N. Treasure Drive turn north at Adventure Avenue and west on J.F. Kennedy Causeway (SR 934). It will turn south in NE 6th St. (Miami) and end at Miami-Dade County's sewer lift station just south of SR 934. This project involves storm water improvements to all roadways affected. The environment will benefit the most by replacing the current eastbound 10,000 linear feet of raw sewage pipe that crosses Biscayne Bay to only 300 linear feet of new westbound pipe. If horizontal directional drilling is used to cross under Biscayne Bay there would be zero pipe exposure to the bay. Estimated cost: $6,500,000

Project 2: Existing Sewer Force Main

This is a Department of Environmental Resource Management mandated project. In order for the city to continue day-to-day construction development the sole existing sewer force main must be inspected for leaks, structurally analyzed and protected. This project consist of performing a dye-test which will reveal any leaks in the pipe; As well as an ultrasonic scan which will provide the existing cross-sectional thickness of the pipe at several locations. The final step is the installation of 40 buoys marking the sewer force main trajectory. This will alert and prohibit vessels from damaging the brittle 38 year old force main. All previous breaks have been man endues. The first was an anchor, the second was a ship that ran ashore and the third was a vessel that stroke the main leaving a clear deformation, the forth was a 40' wooden pile that caused a perforation after Hurricanes Charlie and Frances. Estimated cost: $66,600

Project 3: Storm Drainage Outfall Protection

This project involves video recording the existing storm drainage system, rehabilitating all portions needed, and the installation of backflow preventors at all stormwater outfalls in the city. This will prevent build up of barnacles which decrease the cross-sectional diameter of the pipes in turn decreasing the flow capacity. The valves will maintain the high water table bay waters out of our storm system allowing our pipes to act as additional containment volume. Most importantly they will maintain flow moving in a positive flow and prohibit contaminants to enter Biscayne Bay and the waters of the United States. Estimated cost: $100,000

Project 4: North Bay Island Stormwater Pump Station Rehabilitation

When North Bay Island is affected by a serve storm, storm surge or heavy rains, which can cause a great deal of damage the public right of way and residential homes. Therefore we are proposing that the following project to be included in the Local Mitigation Strategy. Rehabilitation of the stormwater station located on North Bay Island. Estimated costs: $124,840

Project 5: Underground Electrical Power Lines

This project involves the removal of above ground electrical power lines and the replacement of a complete underground electrical power line system for the entire city. The city of North Bay Village is within the hurricane evacuation Red Zone, which means it is exposed to possible severe damage. Having an underground electrical power system will tremendously lower the power outages caused by hurricane force winds. Estimated cost: $7,070,000

Project 6: Municipal Park

The city of North Bay Village serves over seven thousand residents and yet only has one very small "tot-lot." The future of a city depends on the well being of its young residents. A city park is greatly needed. This project will fund the acquisition of a lot and its conversion to a municipal Park. Estimated cost: $1,400,000

Project 7: Hispaniola Sewage Pump Station

The city's wastewater system is made up of only four pump stations. The busiest pump station next to the main pump station is the Hispaniola pump station. This is a wet well/dry well station located on Treasure Island. A recent pump station inspection found the dry well to be in bad condition. The wall lining has peeled away, and in several areas, the wall itself has deteriorated to the point of exposing the rebar. Both pumps are barely operational and the pump controls were disintegrating. The calculated average daily flow to the station is 576 Gallons per minute (gpm). The station pumping capacity must be increased by a factor of 1.2 to meet EPA ten-hour criteria. This translates to a flow rate of 1383 gpm per pump to meet current needs and to account for the potential growth on Treasure Island. The project consist of converting the existing dry/wet pit station to a fully wet station. This will nearly double its holding capacity. Two new chopper pumps, which devourer any debris introduced in the sewer system, will be installed. Estimated cost: $100,000

Project 8: Digital City Survey

This project encompasses the creation of a complete city electronic topographic survey in *MicroStation* or *AutoCAD*. This will help incorporate the recently created geo-referenced wastewater system. By obtaining the global satellite positions for all wastewater manholes, pump stations, and force mains, the entire wastewater system for the city is now digitized. The city's water distribution system will be digitized once an entire city survey is created by

obtaining the global satellite positions for all water valves, water meters, and water mains. Estimated cost: $35,500

Project 9: Smart Meters

This project consist of the acquisition of four "smart meters" that immediately advise of a power outage. telephoning up to three individuals and entering a trouble-ticket to Florida Power and Light. This will prevent drastic environmental disasters caused by sewage over flow out of the city's four sewage pump stations. Estimated cost: $5,000

City of North Miami

Project 1: Flood Prevention and Mitigation: Drainage Basins 8 and 9

Stormwater Master Plan Priority Basin 8 includes two sub-basins in the Biscayne East system. The area is bounded by the Biscayne Canal and NE 6 Avenue, between NE 125th and NE 131st Streets. Stormwater Master Plan Priority Basin 9 includes two sub-basins in the Biscayne East system. The area is bounded by NE 6th Avenue and West Dixie Highway, between NE 126th and NE 135th Streets. While there currently exists a limited number of drainage structures in these two areas, they require critical updates including the installation of baffles and replacement of grates. The installation of additional structures with French drainage systems, as outlined in the Master Plan conceptual design, will prevent repetitive flooding, reduce damages to residential properties, and decrease the number of recurring insurance claims.
Estimated cost: $1,550,000

Project 2: Critical Facilities Hazard Mitigation

The city has identified four of its buildings as critical facilities. These facilities are essential in maintaining and restoring essential city services during major storm events and other emergencies. Critical facilities include the Police Station, the Winson Water Plant at Sunkist Grove, the motorpool, and the Utility Operations Center. The city of North Miami is one of seven municipalities identified as a Divisional Host City (Division 2) housing a Divisional Emergency Operations Center. The city of North Miami provides emergency response support to the town of Bay Harbor Island, the village of Biscayne Park, Indian Creek, and the town of Surfside. The Police Station is an integral part of Miami-Dade County's Emergency Management's Divisional and Response Plan while the Winson Water Plant at Sunkist Grove, the motorpool, and the Utility Operations Center house city staff who are first responders after storm events and other emergencies and who are charged with clearing roads for emergency vehicles, performing damage assessments and repairing water and sewer breaks. All points of entry, glass doors and windows at these facilities must be protected during major storm events and other emergencies. A combination of high impact/shatterproof windows, roll downs and/or hurricane proof screens will protect both the facilities and staff during these events.
Estimated cost: $710,000

Project 3: Non-critical Facilities Hazard Mitigation

The city has identified six of its buildings as non-critical facilities. These facilities support the restoration of essential city services after major storm events and other emergencies. Non-critical facilities include all community centers such as the Griffing Senior Adult Center, the Gwen Margolis Community Center, the Keystone Center, the Sunkist Grove Community Center as well as the Building and Zoning Facility, and the Museum of Contemporary Art. Non-critical buildings are used as staging facilities by city staff, FEMA, Red Cross, and other emergency response agencies. Over the years, building officials and staff have researched various types of protection, ranging from plywood to roll down fixed metal shutters and shields. Non-critical city facilities, currently secure their windows and doors with plywood. Plywood requires considerable storage space and time-consuming installation. The installation of a combination high impact/shatterproof windows, roll downs and/or hurricane proof screens in these facilities will reduce significantly the time, manpower and storage currently required to secure them. Estimated cost: $450,000

Project 4: Embankment stabilization at Keystone Point Bridge #2

Keystone Bridge #2 is a functioning bridge that provides access to Keystone Point Islands #5 and #2. The Florida Department of Transportation (FDOT) inspects this bridge annually. While FDOT has determined that the bridge is in fair working condition, the surrounding embankment is highly susceptible to severe damage from storm surges. Once the embankments are destabilized, residents are effectively cut off from the mainland and emergency response teams cannot reach the islands. The city is therefore proposing to hire a firm to design a stabilization protocol and install an embankment stabilization system.
Estimated cost: $1,800,000

Project 5: Surge Resistance and Flood Mitigation at Keystone Point and Sans Souci

The eastern boundary of North Miami borders Biscayne Bay for approximately three miles. Keystone Point and Sans Souci are the two subdivisions located along this eastern shoreline. There are five canal ends in Sans Souci currently in good condition. and are twenty-three canal ends in Keystone Point that have been repaired. When these subdivisions were developed, these canal ends were constructed to prevent soil erosion. The canal ends were not designed as seawalls and their structural integrity was not considered at the time. In 1998, the city received a Federal Emergency Management Agency grant to reconstruct nineteen of the twenty-eight seawalls. While two existing retaining walls do not need repairs, the remaining seven retaining walls need reconstruction to ensure structural integrity in the event of storm-related tidal surges. Approximately 50 homes will be affected if the remaining retaining walls are damaged by a tidal surge. In addition, any surface or subterranean deterioration to the existing retaining walls will adversely impact the structural integrity of the swales directly behind the seawalls and subsequently damage underground utilities in close proximity to the retaining walls. This project will prevent repetitive flooding, reduce damages to residential properties, decrease the number of recurring insurance claims, and provide uninterrupted telephone, water and sanitary sewer services to residents. Estimated cost: $2,000,000

Project 6: Sanitary Sewer Backup

The city maintains and operates forty-five sanitary sewer lift stations. These lift stations, located throughout the city, vary in size and configuration and allow sanitary sewage to flow through a pressurized sewer main system. This sewer system infrastructure is monitored regularly to ensure it functions properly. In the event that any lift station ceases to operate due to power failure or malfunction, the entire system fails as required pressures cannot be maintained. Sanitary sewage, then backs up into the system eventually entering homes as inflow/outflow pressures are reversed. More than half of the city's forty-five sanitary sewer lift stations have high priority needs for generators. Ten lift stations are constructed with the capability to house permanent stationary generators. Estimated cost: $1,770,000

Project 7: Safeguarding Availability of Potable Water

Six remote raw water wells provide water to the city's Winson Water Plant at Sunkist Grove and supply the water necessary to operate the water plant at full capacity. This project will provide emergency power to the six remote raw water wells. These emergency generators will ensure that the remote water wells remain operational during power outages caused by storm events, and that the plant will operate at full capacity. This will provide an uninterrupted source of potable water for North Miami residents as well as residents in surrounding water service areas. In addition, it will also ensure interconnectivity with other municipalities and service areas including the city of Opa-locka, the city of North Miami Beach and Miami-Dade County.
Estimated cost: $325,000

Project 8: Flood Zone Data Maintenance: GIS System

This project will fund the creation of a GIS system to support several activities of the city's National Flood Insurance Community Rating System program including mapping, annual outreach and notification, and the maintenance of all flood zone designations and other data for all real property folio numbers within the city. In addition, the project will integrate city's data into Miami-Dade County's GIS system tailoring products generated for city use. The additional information generated by this system will be essential for the preparation of detailed flood mitigation reports and allow users to track conditions by specific property location. This data will then be utilized to clearly identify and designate low lying areas, which will streamline flood prevention efforts when designing new systems and upgrading existing drainage systems.
Estimated cost: $125,000

Project 9: Global Positioning System

The city of North Miami has purchased a set of base maps from Florida Power and Light that are currently utilized by all city departments. The city is seeking funds to purchase a global positioning system (GPS) that would facilitate and streamline the updating and retrofitting of water, sewer and stormwater utilities.

The city of North Miami has municipal boundaries along Biscayne Bay. The positioning and maintenance of channel markers and other safety signs could be implemented more using a GPS instead of conventional surveying methods. Estimated cost: $12,000

Project 10: Emergency Portable Stormwater Pumps

The easternmost boundary of North Miami borders Biscayne Bay for approximately 3 miles. There are, therefore, several low-lying areas that flood during regular rainfall and major storm events. The city is seeking funds to purchase four portable emergency pumps to assist in the discharge of stormwater runoff. These four portable pumps will be housed at the Utility Operation Center located near low-lying coastal areas to ensure a timely response. These portable stormwater pumps will help prevent repetitive flooding, reduce damages to residential properties, and decrease the number of recurring insurance claims. Estimated cost: $125,000

Project 11: Gravity Sewer Systems Improvements for Groundwater Infiltration Reduction

The city is seeking funds to implement remedial protocols, namely sanitary sewer pipe lining and manhole rehabilitation to reduce groundwater infiltration into the sanitary sewer collection system. The project calls for lining the interior of existing sewer lines. Lining the system will significantly reduce the inflow and infiltration of ground water into the sewer collection system. This, in turn, will reduce the total volume of water being treated at the Miami-Dade County sewage treatment facility consequently reducing processing costs. In addition, this project will also reduce leakage of raw sewage from existing compromised lines into the environment, prevent groundwater contamination and ensure the public health, safety and general welfare of are residents. Estimated cost: $6,000,000

Project 12: Emergency Power for Water and Sewer Utility Operations Center.

The city's Water and Sewer Utility Operations Center is not manned during major storm events. The Center, however, must be operational immediately after an "all-clear" notice is issued. All water and sewer equipment, materials and supplies are stored at this location. In addition, repair crews are dispatched and monitored from the Center during storm events and other emergencies. The city is therefore seeking funds to install a stationary emergency generator at the Center. Estimated cost: $90,000

Project 13: Communications and Records Management System

The city of North Miami is an integral part of Miami-Dade County's Emergency Management Divisional and Emergency Response Plans. The city of North Miami has been identified as one of seven municipalities that are Divisional host cities. The remaining municipalities are assigned to one of the seven Divisional host cities. The Divisional EOC Structure enhances emergency planning, communication, and information receipt and dissemination. During an actual emergency, the ability to have interoperable communication is an important part of dealing with Homeland Security incidents. The city of North Miami Police Department is in need of the

following equipment in order to better fulfill our responsibilities as the Divisional #2 Emergency Operations Center:

Computer Aided Dispatch (CAD) System:

- E-911 link with Miami-Dade County Police Department so that information is automatically downloaded
- Checks for hazardous locations, prior and pending incidents, and crucial information
- Dispatch calls for service to mobile data terminals
- Integrated with Records Management System

Mobile Data:

- Voiceless Dispatch and CAD messaging from police vehicles that provide: local, state and national warrant checks, stolen vehicle and property information, records management information, CAD history information including previous events, hazards and potential dangers; a mapping function to provide real-time geographic analysis of crimes and events

Field Reporting:

- Provides the generation of all police reports in the field
- Documents can be instantly reviewed and revised
- Reports can be searched and accessed in the Records Management System

Records Management System:

- Comprehensive system that collects, stores, and provides access to all information
- Powerful data query capabilities to locate specific information in the system
- An integral part of CAD, Mobile Data, Field Reporting and Property/Evidence Management System

Crime Analysis Module/Mapping/GIS:

- Includes integrated maps to deliver geographic analysis for investigative purposes
- Automatically import crime data and define search criteria, identify crime locations, and enhance the ability to forecast future crime trends

Property/Evidence Management System:

- Evidence Management – Control of all seized and recovered stolen property
- Automatic, selective, and random inventory auditing
- Check in/check out controls ensuring security

Case Management System:

- For case tracking, compiling and viewing documents relating to investigative cases, and a Confidential Informant System

Emergency Notification (Reverse 911):

- Mass high-speed notification for public safety efforts such as terrorist threats, inclement weather (floods, hurricanes), HAZMAT, live-saving instructions, etc.

Digital Imaging:
- Digital Imaging System to store and retrieve agency records and pictures

Data Sharing Application:
- Provides and maintains control of data sharing with other law enforcement agencies

Handheld and vehicle radios:
- Purchase and programming of 168 handheld radios and 120 vehicle radios.
  Estimated cost**:** $1,586,000

Project 14: Replacement Generator for Police Station

The current generator, which is 10 years old, supplies back up power for the North Miami Police Station. The Police Station is an integral part of Miami-Dade County's Emergency Management's Divisional Response Plan. The city of North Miami is one of seven municipalities identified as host cities (Division 2) housing a Divisional Emergency Operations Center and serving not only city residents but also residents from the town of Bay Harbor Islands, the village of Biscayne Park, the town of Surfside, Indian Creek and North Bay Village. The ability to operate and provide communications from a functional facility during manmade or natural disasters is of vital importance to the overall safety of the community and neighboring municipalities. The city is therefore seeking funds to replace the back-up generator at the Police Station. Estimated cost: $200,000.

Project 15: Security for City Hall

City Hall is a Miami-Dade County designated Regional Emergency Operations Command Center. Constructed in 1963, City Hall is located at 776 NE 125 Street in the center of North Miami. City Hall is open daily, Monday through Friday to residents and business owners that require local government services and assistance. The building houses the offices of the Mayor and Council as well as the City Manager and several key departments such as Finance, Parks and Recreation, Public Works and Risk Management. These offices must be secured from external intrusion during emergencies. Currently the only security measure provided is restricted access to the 3rd and 4th floors after 5:00 pm via a user key. Stairwells are locked and a camera monitors the first floor lobby only. This camera does not record and is visually monitored at the Police Department. Listed below are needed security measures and an estimated cost.

- Install security cameras and monitors that are connected to a security company.
  ($35,000)
- Keyless entry system to all protected areas.
  ($27,750)

Estimated cost: $62,750

Project 16: Correct Water Infiltration at City Hall (EOC) Basement

Constructed in 1963, City Hall was designed to house a civil defense bomb shelter in the basement. Over the years, the need for a bomb shelter has become obsolete and the basement has been used for offices, classrooms, employee break rooms and storage space for department supplies. City records are also stored in the basement. Currently, the basement also contains office space for five municipalities which participate in the North Miami Divisional Emergency Operations Center. These municipalities house emergency response teams and are the link to the Miami-Dade EOC during natural disasters. Since the basement is below the natural water table, the structural integrity of the walls and flooring has diminished causing water intrusion. The walls and flooring should be sealed and possibly excavated and sealed along exterior walls. Correcting the flooding problem in the basement, will ensure that vital facilities and staff are secure during major storm events. Estimated cost**:** $45,300

Project 17: Structural Hardening of Police Station

The city of North Miami is an integral part of Miami-Dade County's Emergency Divisional Response Plan. The city of North Miami is one of seven municipalities identified as host cities, serving the town of Bay Harbor Islands, the village of Biscayne Park, the town of Surfside, Indian Creek and North Bay Village. The Divisional Emergency Operations Center (EOC) facility houses staff and provide emergency planning, communication, and information receipt and dissemination services. During manmade or natural disasters, the ability to operate and provide communications from a protected and safe facility is of vital importance to the overall safety of the community and neighboring municipalities. The city is therefore seeking funds to protect all points of entry, including glass doors and windows, roll down shutters and/or hurricane proof screens will protect both the staff and the facility during these events.
Estimated cost: $344,000

City of North Miami Beach

Project 1: City of North Miami Beach Emergency Operations Center

The city of North Miami Beach EOC is the Divisional EOC for Northeastern Miami-Dade County and serves the following cities: North Miami Beach, Golden Beach, Sunny Isles Beach, Aventura, Bal Harbour Village, Miami Gardens. In addition, several support agencies such as, FP&L, BellSouth, TECO Gas, and other are encompassed as well. The NMB EOC is responsible for a population of approximately 180,000 residents. Critical structures under the NMB EOC purview include municipal drinking water supply, wastewater treatment, major corridor highways, railroad, natural gas and chemical plants as well as industrial warehouses. The NMB EOC activates to ensure proper Response and Recovery in the event of Hurricanes, major flooding and other disasters whether natural or manmade. To this end, the NMB EOC is in need of upgrading and renewing its capabilities with new equipment to include: computers, monitors, satellite communications, fax machines, printer and other needed equipment.
Estimated cost: $43,000.00.

Project 2: Construct DIRC Center/Establish CERTs

Establish Community Emergency Response Teams (CERTs). This will affect all the northeast Divisional EOC areas of Miami-Dade.

Project 3: Develop Evacuation Procedures & Contractual Agreements

In addition to posting evacuation routes on the Internet, the city would like to develop evacuation procedures to facilitate and expedite activities during an evacuation. This would include setting up contractual agreements with potential partners prior to a disaster so essential services (tree trimming, additional transportation, etc.) would be immediately available.

Project 4: Perform Free Hurricane Inspections for City Residents

By performing free hurricane inspections for city residents, the city would help to mitigate damages to individual residences as well as educate the public on issues related to hurricane and storm safety, evacuation routes, and other essential topics. This project has the potential to benefit 100 percent of the city, however the actual percentage depends on the number of individuals who participate in the program.

Project 5: Secure Shelter for Dependents of City Employees

This will affect up to 250 individuals, including employees and their families.

Project 6: Establish Additional Hurricane Shelters

Due to the geographic location of the city and its surrounding communities, there is a high demand for shelter space during hurricanes classified as Category 2 or higher. Residents of both the city of North Miami and the surrounding communities depend on the city to provide shelter space in the event of a disaster. The current shelters are inadequate to accommodate the large numbers of people who require these services. Identifying, establishing, and performing any other activities to ensure additional shelter space is available in the event of a disaster would provide a significant benefit to residents.

Project 7: Provide Disaster Training for Public Works Employee

By providing disaster training for public works employees prior to a disaster, the city would have at its disposal a trained, knowledgeable group of individuals who could deal with the problems associated with disasters in a more efficient and effective manner, thereby reducing total costs and delays often associated with disasters.

Project 8: Establish a Community Outreach Program & Public Information Campaign

- Post evacuation routes on its web site

- City sponsored Flood Awareness Week to partner with other agencies (and community groups) and provide information about flood risk potential, safety tips, and steps to take in a flood
- Create a children's coloring book as an interagency initiative (can also be placed on our website)
- Publish a floodplain or pre-disaster preparedness brochure and post on website
- Send flood related articles in utility bills
- Broadcast on our local cable channel FEMA's "Best Build" video and other local flood plain videos
- Publish a Flood safety section in the yellow pages
- Offer flood safety and hazard information recording on the city's phone system
- Develop an educational program for local schools
- Sponsor a "Name the Park" contest as an organized community project/event
- Establish a flood audit program to serve as a pre-disaster vulnerability and planning effort
- Maintain elevation certificate data on our website and a link to FEMA's website
- Provide material on how to select a qualified contractor and the property owner's recourse if dissatisfied with the contractor's performance

Project 9: Clean and Improve Drainage Systems

Cleaning and improving the city's drainage system, including 1,394 catch basins, would help dispose of stormwater and benefit all residents of the municipality, as well as approximately 20 percent of Miami-Dade County. The cost to clean the catch basins once is $83,640 (based on a cost of $60 per catch basin) and installing a new drainage system is approximately $1 million per 200 residential lots.

Project 10: Install Additional Stormwater Basins, or Increase Existing Basins

Installing additional stormwater management basins will help the city reduce the potential for flooding after storms and heavy rains. Installation of additional basins will affect the entire municipality, as well about 20 percent of Miami-Dade County, at a cost of approximately $30,000 per basin.

Project 11: Construct Injection Wells in Areas Prone to Flooding

Installing deep-well injection wells to reduce flooding would benefit approximately 30 percent of the city at a cost of approximately $21,000 per well. This type project is allowed only where the substrate in saltwater intruded.

Project 12: Extend Sanitary Sewer System/Remove Septic Tank Systems

Flooding in areas with septic tank systems poses significant environmental and health risks to the immediate residents and the community at large because flooded septic systems have the potential to contaminate both groundwater and surface water. Extending the sanitary sewer system to residents currently utilizing septic systems would benefit approximately 25% of the

city of North Miami Beach. This project is estimated to cost the city approximately $15,000 per removal and replacement.

Project 13: Remove Australian Pines within City Limits

Australian pines have shallow root structures that make the trees susceptible to uprooting in high winds and heavy storms. Removing these trees would mitigate future damages caused by fallen trees and help to reduce the amount of debris present after a storm. This project would affect approximately 20 percent of the city and benefit about 15,000 residents.

Project 14: Proactive Hurricane Tree Trimming and Pruning

This proposal is for the funding of tree trimming services to properly prune and maintain over 16,000 trees throughout the city of North Miami Beach. Properly pruning and thinning of trees canopy would be especially beneficial in minimizing damage to utilities, building structures, and automobiles as a result of downed trees during severe storm systems. Tree trimming services can be performed by a contractor at an estimated cost of $150,000 annually. Alternatively, tree trimming and pruning can be accomplished with the purchase of a bucket truck, an initial capital cost of $180,000, and a two-person crew with annual operating cost of $60,000.

Project 15: Renovation of Eastern Shores Outfall pipes

The entire stormwater system of this neighborhood, Eastern Shores located east of US1 depends on the proper functioning of the outfall pipes that discharge in the canal and Intercoastal. There is a total of approximately 5,018 linear feet of existing outfall pipes in 44 locations in the neighborhood of Eastern Shores and Western Eastern Shores. Most of these outfall pipes were installed in the early 1960's up to the late 1970's. These pipes have deteriorated and are collapsing due to age and salinity of the ground water in the area. Estimated cost: $550,000.

Project 16: Establishment of Emergency Operations Center for Public Services

The proposal is to upgrade the power generating capacity of the Carter Tyree Public Services Operations Center to be self-sustaining during and after a disaster. This facility was constructed in 1997 to withstand winds exceeding 180 MPH but lacks the power generation capacity to power crucial functions that operate from this facility. This the facility from which, emergency preparedness and disaster recovery crews are headquartered. The scope of work would include an upgraded generator, conversion of empty "bunker" room into command center, installation of radio and communication equipment, enhancement of on site fueling station and installation of remote fueling facility at Water Plant. Estimate cost: $385,000

Project 17: Upgrading Generator at City Hall

The proposal to upgrade the generator at city hall to be able to power crucial functions related to the following departments: city manager's offices, finance department and information technology. These are essential areas that need full functionality before and after a disaster.

Estimated cost: $200,000.

Project 18: Norwood Water Treatment Plant Stormwater Retention Ponds

The city of North Miami Beach is currently undergoing a major Norwood-Oeffler Water Plant Expansion Program. Approximately 15 million gallons per day (MGD) membrane treatment system will be added to the current 16 MGD lime softening process. Due to increased pervious areas, the current stormwater system needs to be expanded. However, due to well field protection requirements and site limitations, the existing exfiltration system cannot be expanded. To achieve the goals of stormwater management and protection of public water supply wells, the city had to construct three dry stormwater retention ponds and associated piping system. The total pond area is approximately 0.8 acre. The system also includes 550 ft of 18-inch, 550 ft of 24 inch, and more than 1000 ft of 36 inch fiber reinforced concrete pipe, and associated about 30 inlet or manhole structures. Estimated cost: $600,000.

Project 19: Well Field Stormwater System Improvements

In order to protect public water supply wells #13 and #19 from contamination, the city needs to modify the stormwater system previously constructed in the vicinity of the wells. Approximately 300 ft of 30-inch French drain needs to be removed and replaced with solid pipe. The associated inlet structures also need to be modified. Estimated cost: $29,000.

Project 20: Emergency Generators for Norwood Water Treatment Plant

This project consists of the installation of emergency back-up power for the Norwood Water Treatment Plant expansion project. Emergency standby power facilities would be provided at the Norwood WTP to handle the expanded treatment facilities and on-site wells, and additional emergency standby facilities would be provided at the Parkway Elementary School site to supply standby power for the new off-site Biscayne Aquifer wells.
Estimated cost: $1,550,000.

City of Opa-locka

Project 1: Canal Clean-up

Remove debris and silt from Opa-locka Canal. Dredge to required depth. Set up and continue a canal maintenance system.

Project 2: Improved Storm Water Drainage System

Cleaning and improving the city's drainage system, including catch basins, would help dispose of stormwater and benefit all residents of the municipality, as well as Miami-Dade County and adjacent municipalities. Drainage and street improvements are as follows:

- Cairo Street – install 2,700 lf of storm sewer lines with an outfall to the 127th Street Canal. Also install 2,200 lf of sanitary sewer, 1,100 lf of 8" force main and one pump station. Total cost $2,500,000.
- 127th Street; south and North Alexandria Drive improvements – install 3,600 lf storm sewers, 3,400 lf water main with hydrants, sewer system with 2,400 lf 8" mains, 1000 lf 6" main and one 250 gpm pump. Cost $3,400,000
- Port Said Road – install 2,700 lf of storm sewer lines with outfall to 128th Street Canal. 1,400 lf sanitary sewer and 800 lf of 8" force main with pump. Cost $2,000,000.
- Other drainage systems for Arabia Avenue, Curtis Drive, Sultan Avenue, Bahman Avenue, Rutland Avenue, Wilmington street, York Street and NW 21st Court.

Project 3: Pump System at Alexandria Gardens Apartments

The proposed project consists of the construction of a stormwater pumping system that will discharge south from the project site to an outfall at the Dade County Canal located approximately 1200 ft. south of the site. The work will also include the replacement of an existing stormwater control structure located approximately 2200 ft. east of the proposed outfall in the canal. This structure is a manually operated structure that is currently in disrepair. The proposed structure will include gates that open automatically to ensure the conveyance of stormwater in the canal during heavy rainfall events. Preliminary surface water management calculations indicate that the proposed flood mitigation will provide protection from the 100-year storm event. The estimated cost of construction is $1,713,600.00 and the estimated cost for professional services is $479,808.00. Estimated total cost: $2,193,000

Project 4: Acquire Generators

Acquire generators for the Public Works Department and for each of the municipal sewer lift stations.

Project 5: Storm Shutters

Purchase and install storm shutters for the public works building, city hall, the library, the old fire station and the Police Department.

Project 6: Tree Trimming

Create a tree-trimming program throughout the entire city. Purchase or otherwise acquire a 60ft. boom truck and other tree trimming equipment.

Project 7: Mobile Emergency Command Center

The city of Opa-locka proposes to construct a local mobile emergency command center that will allow our City officials to maintain connections with the Miami-Dade County EOC before and after an emergency, organize pre and post disaster activities, and provide immediate assistance where needed. The proposed mobile EOC will allow for adequate and prompt emer-

gency response not only locally but also on a statewide basis. In addition, the center may be utilized by other safety-related agencies as necessary when local EOC's are inoperable.
Estimated cost: $300,000

Project 8: Construct Hurricane Shelter

The City of Opa-locka would like to construct a gymnasium which will act as an Emergency Hurricane shelter for the residents of the City of Opa-locka and the surrounding areas of unincorporated Miami-Dade County and the City of Miami Gardens. Currently the City of Opa-locka doesn't have a shelter. Estimated cost: $4,000,000

Village of Palmetto Bay

Project 1: Drainage Improvements to Sub-Basin #1

Drainage sub-basin #1 located north of SW 168th Street, south of SW 164th Street, east of SW 90th Avenue, and west of SW 87th Place. Drainage sub-basin #1 is part of the C-100 S-7 Basin. Construct additional catch basins and exfiltration trench at low points in the roadway swales of the sub-basin. Estimated cost: $580,000.

Project 2: Drainage Improvements to Sub-Basin #7

Drainage sub-basin #7 is located south of SW 144th Street, north of SW 148th Drive and SW 146th Street, west of SW 83rd Avenue, east of SW 87th Avenue. Drainage sub-basin #7 is part of the C-100-W-5 Basin. Construct catch basins and exfiltration trench at low points in the roadway swales of the sub-basins and connect them to drainage wells.
Estimated cost: $420,000.

Project 3: Drainage Improvements to Sub-Basin #6

Drainage sub-basin #6 located south of SW 144th Street, north of SW 148th Street, west of SW 83rd Avenue and east of SW 79th Avenue. The sub-basin consists of approximately 56.5 acres of existing detached single family residential development with approximately 12,000 linear feet of roadway. Construct additional catch basins and exfiltration trench at low points in the roadway swales of the sub-basin. Estimated cost: $490,000.

Project 4: Drainage Improvements to Sub-Basin #8

Drainage sub-basin #8 located south of SW 146th Street, north of SW 152nd Street, west of SW 84th Court and east of SW 87th Avenue. Drainage sub-basin consists of approximately 53.5 acres of existing detached single family residential development with approximately 12,900 linear feet of roadway. Drainage sub-basin #8 is part of C-100 C-W-5 Basin. Construct additional catch basins and exfiltration trench at low points in the roadway swales of the sub-basin and connect to drainage wells. Estimated cost: $280,000.

Project 5: Drainage Improvements to Sub-Basin #5

Drainage sub-basin #5 located south and east of SW 148th Drive and SW 148th Street, north of SW 152nd Street and west of SW 80th Avenue. Drainage sub-basin #5 is part of C-100C-W-5 Basin. Drainage sub-basin consists of approximately 59.7 acres of existing detached single family residential development with approximately 13,100 linear feet of roadway. Construct additional drainage wells at low points in the roadway swales of the sub-basin.
Estimated cost: $340,000.

Project 6: Drainage Improvements to Sub-Basin #9

Drainage sub-basin #9 located south of SW 148th Street, north of SW 152nd Street, west of SW 88th Avenue and east of South Dixie Highway. The sub-basin consists of approximately 43.7 acres of existing detached single family residential development and commercial development with approximately 9,100 linear feet of roadway. Construct additional catch basins and exfiltration trench at low points in the roadway swales of the sub-basin and connect to drainage wells. Estimated cost: $330,000.

Project 7: Drainage Improvements to Sub-Basin # 11

Sub-basin #11 consists of approximately 48.3 acres of existing residential and commercial development located south of SW 152nd Street, north of SW 156th Street, west of SW 89th Avenue, and east of Dixie Highway (US1). Construct additional catch basins and exfiltration trench at low points in the roadway swales of the sub-basin and connect to drainage wells.
Estimated cost: $330,000.

Project 8: Drainage Improvements to Sub-Basin #10

Drainage sub-basin #10 located south of SW 152nd Street, north of SW 156th Terrace, west of SW 87th Avenue and east of SW 89th Avenue. The sub-basin consists of approximately 41.5 acres of existing detached single family residential development and commercial development with approximately 11,500 linear feet of roadway. Construct additional catch basins and exfiltration trench at low points in the roadway swales of the sub-basin and connect to drainage wells. Estimated cost: $310,000.

Project 9: Annual Operation and Maintenance of Sub-Basins

Clean and flush all sediment and debris from catch basins, pipe, and exfiltration trench. Existing catch basins should be modified or reconstructed as required to provide sediment traps and pollution retardant baffles to protect the exfiltration trench and canal outfalls.
Estimated cost: $413,000.

Project 10: Purchase Hurricane Preparedness & Debris Clearance Equipment

- Vacon Drain Truck - $193,200

- Trash Grabber, 20-Yard Dump Bed - $89,250

Estimated cost: $282,450

Project 11: Purchase and Install Emergency Radio System

During an emergency, it is critical that the village manager and key staff communicate with each other, police, public works, and county EOC. This project is to purchase and install a small sized radio system (6 to 8 radios) base station. Estimated cost: $15,000.

Project 12: Street Sweeping Program

In order to minimize blockage of storm drains, the village will be required to clean the debris from its roadways before it washes into the drain. A street sweeping program will comply with provisions of the federal mandated Clean Water Act. In addition, street sweeping helps to remove pollutants that potentially can drain into the stormwater system.
Estimated cost: $150,000.

Project 13: Swale and Tree Trimming Program

Develop and implement a program to trim trees prior to hurricane season and allow for an increase in survivability of the trees and reduce the safety concerns of residents. n addition, proper trimming and pruning would benefit in minimizing damage to utility, building structures, and vehicles as a result of down trees during a severe storm. This initiative will also reduce debris and protect the infrastructure from damage to sidewalks and roads.
Estimated cost: $300,000.

Project 14: Acquire a High Water Vehicle

The village needs a vehicle capable of movement through flooded areas to assist citizens in distress. Estimated cost: $50,000.

Project 15: Storm Surge Mitigation for Public Library & Community Center

The Palmetto Bay branch library and community center is slated for construction beginning in 2006. The 5,000 square foot building will be located off Old Cutler Road on the east, within an environmentally-oriented park and preservation area. The village proposes to elevate the building in an effort to mitigate flooding resulting from a storm surge, particularly since the location of the property falls within the floodplains of Biscayne Bay. Estimated cost: $500,000

Project 16: Strengthening and Protecting the Perrine Park Community Room

This building serves as the village's secondary local EOC to be used in the event the primary EOC (existing Village Hall) is not accessible. The project involves hardening the structure and installing shutters on doors and windows to prevent serious damage to the building in the

event of a strong hurricane. Built in the 1970's, the structure was not constructed to survive a major storm event. This effort will ensure the facility remain functional if needed to be used after the storm ensuring continuity of services, particularly during the emergency response and recovery phases. Estimated cost: $150,000

Project 17: Strengthening and Protecting the Coral Reef Park Community Room

This facility currently serves as the main storage facility for the Parks and Recreation and Public Works departments. The building was constructed in the 1970's before the post-Andrew South Florida Building Code was enacted. The project involves hardening the structure and installing shutters on doors and windows to prevent serious damage to the building in the event of a serious storm. Estimated cost: $150,000

Project 18: Strengthening and Protecting the C-100/Bayfront Park

This property is located immediately south of the Deering Estate and abutting Biscayne Bay on the east. The park houses a historic villa that severely damaged by Hurricane Andrew and has been partially restored. Strengthening the building envelope and fenestrations will allow for the preservation and protection of this historic gem. Estimated cost: $400,000

Village of Pinecrest

Project 1: Harden Pinecrest Community Center and Library

Add hurricane rated windows, storm shutters, reinforced doors and otherwise harden the future Pinecrest branch of the Miami-Dade County Library and adjoining Pinecrest Community Center. Construction is scheduled to begin in the summer of 2006. Estimated cost: $75,000

Project 2: Community Radio Station

Purchase and operate a community radio station to keep residents informed before, during and after a hurricane, and to give them information regarding storm events such as blocked streets and power outages. Estimated cost: $40,000

Project 3: Purchase of Portable Emergency Traffic Lights

Purchase portable solar-powered emergency traffic lights to be used at main intersections throughout the village of Pinecrest, including US 1. Estimated cost: $100,000

Project 4: Improvements to Emergency Generator at the Pinecrest Municipal Center

Improve emergency power to Municipal Center which houses the Police Department and Emergency 911 Operations by changing the emergency generator from diesel fuel powered to natural gas. Estimated cost: $55,000

Project 5: Improvements to Pinecrest Gardens

Develop and implement a master plan to reconstruct and/or redesign this important historic landmark. This project(s) involves the reconstruction of all signs; reconfiguration of parking, including engineering work for drainage and paving; design and installation of a state of the art security system; reconstructing, improving and/or refurbishing all buildings to sustain hurricane winds and to comply with current Florida Building Code requirements. The project also involves the construction of a series of new structures such as gazebos and chickee huts and play areas, which will be built to sustain high velocity winds. Estimated cost: $500,000

Project 6: Tree Trimming

This project would develop and implement a tree-trimming program throughout the village to resolve safety hazards involving trees in the rights-of-way and on private property prior to a disaster event. With proper pruning, the village can control tree growth around power lines and avoid the number of fallen trees during storm events. This project would require close coordination with FPL. Estimated cost: $300,000

Project 7: Community Disaster Education Program

Develop education materials such as brochures and newsletters to promote emergency preparation awareness and provide information to the residents of the village of Pinecrest urging them to act proactively in the preparation of properties and structures in the event of a disaster. Estimated cost: $25,000

Project 8: Reverse 911 System

To purchase a reverse 911 system that would allow the village of Pinecrest Police Department to provide emergency information to village residents. Estimated cost: $75,000

Project 9: GIS System for Maintenance of Flood Zone Data

Develop and implement GIS/GPS systems to support the activities of the village's CRS, ISO, and other FEMA programs to aid mapping flood zones and identifying repetitive damage locations. Estimated cost: $50,000

Project 10: Purchase Computerized Equipment Storage of Vital Public Records

Regularly backing up of vital electronic files is essential to the quick restoration of operations after a storm event. The loss of public records could impact the operations for months or even years after such an event and cost thousands of dollars to restore. Some proprietary data may be completely unrecoverable. Therefore, back-ups will be performed on a daily basis; they will be done overnight as not to interfere with daily operations; they will be automated; and weekly exchanges of tapes will be performed and put in the safe to prevent fire, flood or wind damage. Estimated cost: $50,000

Project 11: Canal Bank Erosion Protection

Design and construct erosion protection structures and bank stabilization projects along village canals which are vulnerable to bank erosion due to storm surge or inland flooding. This project includes the removal of undesirable debris, trees, predominantly Australian pines and ficus, located in close proximity to the canal bank. These trees are prone to falling during a severe windstorm or hurricane causing flow obstructions as well as damage to the canal bank resulting in increased erosion. We must also schedule regular maintenance of village canals to restore flow. Estimated cost: $100,000

Project 12: Burial of Over-head Power Lines along Arterial Roadway

Design and construct the burial of all over-head power lines along the municipal arterial roadways. This project would mitigate the potential for loss of power during severe weather events and would enhance the response to areas of the village during emergencies by limiting obstacles and life-safety issues on critical transportation infrastructure. Power loss in the Village is critical since the majority of residents obtain water from wells which use electricity to power their pumps. Estimated cost: $50,000,000

Project 13: On-site Fuel System

The installation of a 6,000 gallon double walled above ground unleaded fuel system which would allow public works vehicles and equipment and police vehicles to attain fuel without having to depend on private entities, which may not have power and/or gas and normally have extensive wait times during any emergency. The on-site fuel pump will be located within the Public works parking lot. Emergency and non-emergency personnel will be able to attend roll call, pick-up needed equipment, and fuel their vehicles more quickly and efficiently enabling them to spend more time in the field. Estimate cost: $63,000

Project 14: Public Works EOC Facility

The construction of a fully functional EOC facility on the second floor of the existing Public Works Department. Currently, the 2-story building is structurally safe and provides a lunch room and shop on the first floor. However, the 2nd floor is currently unused and not sufficiently equipped to provide electricity, air conditioning or any sleeping accommodations. In the event of a disaster, it is imperative that all village Public Works Department employees report to duty. Public Works must be operable before, during and immediately after any disaster.
Estimate cost: $30,000

City of South Miami

Project 1: Installation of Hurricane Shutters in City Buildings:

Currently, some of the city's buildings do not have shutters. Installing shutters in these buildings would provide secured facilities for emergency response team, city employees and equipment. Estimated cost: $100,000

Project 2: Harden Police Station

Strengthen police station roof, windows and doors to sustain Category 5 hurricane force winds. Estimated cost: TBD

Project 3: Improvement of the Stormwater Drainage System:

To upgrade the city's drainage system by implementing engineering design and construction plans preparation needed to retrofit existing positive drain system and construction of new drainage system, in an effort to meet the flood protection responsibilities. The program will also include removal of slit from the canal system and creating needed depth for proper flow.
Estimated cost: $1,750,000

Project 4: Acquisition of Vacuum Truck for Drainage System Cleaning:

To complement the continue improvement to the drainage system, acquiring a vacuum truck for the cleaning of the catch basins and drain system will help to provide well maintained system clean of debris. Estimated cost: $250,000

Project 5: Back-up Generator:

It is essential that certain city facilities stay operational during and after disaster event, with uninterrupted electrical services. Having a back-up generator will allow city staff to immediately respond and provide assistance needed to the residents. Estimated cost: $100,000

Project 6: Placing Utility Lines Underground:

Placing overhead utility lines underground would reduce power outages during disaster. Electrical, telephone and cable television are considered necessity today. Protecting these utilities will ensure a standard level of services our residents deserve. Business district only.
Estimated cost: $3,900,000

Project 7: Water Main Upgrades/Relocation & Extensions:

Upgrading of undersized water main and relocation of the lines presently located in backyard easements to the paved right-of-way, will reduce loss of services from the uprooting of trees and provide needed water pressure for potable water and fire protection.
Estimated cost: $1,500,000

Project 8: Sanitary Sewer Extension & Removal of Septic Tank System:

This is a very important safety issue that is often overlooked because it is out of site (underground). A flood disaster within an area with septic tank system could pose a major environmental and health risk to the residents and the entire potable drinking water community as a whole. Flooded septic tanks have a potential to contaminate both drinking water and surface water. As a result, eliminating septic tanks and extending sanitary sewer system is very essential for the safety of our residents. Estimated cost: $6,500,000

Project 9: Bike Path

The city intend to create a bike path with the vision of making sure residents may safely bicycle on roadways or connect multi-use paths; individuals may choose to use bicycle for commuting or as an alternative to private transportation because it is safe and efficient; and to make sure the roads are willingly shared with bicyclists. Estimated cost: $750,000

Project 10: Swimming Pool Facility for Murray Park

The Murray Park area is an urban residential neighborhood comprised of a predominantly minority population which experiences many of the socioeconomic problems associated with the urban/inner city environment, including crime, drugs, single parent families, truancy and a high drop-out rate. This swimming pool facility is intended to be an aquatic safety center used to teach the community youth how to swim and to provide them with viable and safe recreational opportunity. Estimated cost: $6,500,000

City of Sunny Isles Beach

Project 1: Central Island Drainage Project – Deep Well Construction

The city of Sunny Isles Beach is completing the final design drawings of a flood mitigation project that will benefit numerous residents of an area bounded from west to east by North Bay Road and Collins Avenue, and from south to north by NE 174th Street and NE 183rd Street. Several previous studies indicate the presence of a faulty drainage system due to floods and storm surge, causing periodic street flooding and increasing pavement damage. These deficient conditions added to the characteristics of a high risk flood area due to the proximity of the project to the bay, plus the fact that the existing drainage system is not in compliance with the required minimum FDOT standards on flow and water quality, justify the need for an upgraded system. The city participates in the FEMA-National Insurance Flood Plan (NFIP) and its citizens will benefit from the Community Rating System (CRS). The requested funds will be used specifically for the portion of this project related to the drilling and construction of deep wells of over 100 ft. deep. Storm water will flow into these wells, and the static pressure of the water will force it into the bedrock layer beneath the city, where it will be diffused. Engineers estimate that if the system is properly maintained, it can provide effective drainage indefinitely. Twenty five such wells will be constructed as part of this project. Estimated cost: $40,000 per well

Project 2: Improvements to the Government Center

The city is located on a barrier island with an average elevation of six feet above sea level, making it particularly vulnerable to flooding and storm surge events. The emergency generator room and telecommunications room for the Sunny Isles Beach Government Center are located on the first floor of the building, putting these critical functions at risk for flooding. Plans are being reviewed to put up storm barriers and secure both of these rooms from the threat of flooding. Estimated cost: $20,000.

The emergency exit located on the east side of the building is also an area of potential problems during a severe weather event. A stairwell on the exterior of the building leads from the ground floor directly into the interior with no barrier or emergency door in between. This increases the risk of wind and water damage to the building, as wind and water can be blown from the outside, through the stairwell, and into the interior of the building with no barrier to stop them. Estimated cost to make the necessary modifications to the stairwell is $4,000.

Town of Surfside

Project 1: Remove Overhead Utility Lines

Burying overhead utility lines would reduce future power outages during disaster and improve the aesthetics of the town.

Project 2: Obtain Backup Generators

The biggest need for these generators is to provide backup power to two sewer-pumping stations.

Project 3: Stormwater Management System Improvements

There are areas of Surfside that flood repeatedly. This project would improve the stormwater management system in those areas to reduce flooding in future disasters.

Project 4: Conduct a Study of Storm Surge Mitigation Measures

The town is subject to the loss of sand from its beaches and has proposed a study to determine if any measures are available to mitigate the effects of storm surges.
Estimated cost: $50,000.

City of Sweetwater

Project 1: Comprehensive Stormwater Drainage Project

East Side Project:

The city is preparing for ground breaking on the east side portion of a citywide comprehensive drainage project. The east side portion has been fully planned and permitted and encompasses two large stormwater pumping stations, seventy drainage structures, 7700 lf of drainage pipe and 15,000 sq yd of asphalt overlay. The project area is bounded on the south by the Tamiami (C-4) canal, on the north by Flagler Street, on the west by SW 104th Avenue and on the east by SW 102nd Avenue. The total drainage area for this portion is 104 acres or about 20% of the city's current land area. The project will provide new drainage to several hundred homes. Stormwater will be pumped directly into the C-4 canal by means of a single, manatee protected, 54" outfall. Estimated cost: $2,170,000

Central Area Project**:**

The city is currently planning for the central area portion of a citywide comprehensive drainage project. The central portion is currently in the planning and development stage. This portion will encompass the largest pro-rata area of the city, approximately 160 acres or 31% of the city's current land area. The project area is bounded on the south by the Tamiami (C-4) canal, on the north by Flagler Street, on the west SW 112th Avenue and on the east by SW 107th Avenue. The project will provide new drainage to numerous homes and businesses in the area. Preliminary plans indicate four stormwater pump stations with discharge directly into the C-4 canal. Additional features include one hundred and fifty drainage structures, 13,000 lf of drainage pipe and 35,000 sq yd of asphalt overlay. Estimated cost: $4,300,000

Northside Project**:**

The city is currently in the design and permitting phase of the proposed north area of a citywide comprehensive drainage project. The north side portion encompasses the area know as the Lil' Abner Trailer Park. It is bounded on the south by Flagler Street, on the north by NW 7th Street on the west by NW 114th Avenue and the east by NW 110th Avenue. The total drainage area is approximately 125 acres or 24% of the city's current land area. The project will provide new drainage to numerous homes in the area. Three stormwater pump stations are proposed as well as thirty drainage structures 4800 lf of drainage pipe, new 112th Avenue roadway, new sidewalk and drainage retention area. The stormwater will discharge through a force main network extending westward to the C-2 canal. Estimated cost: $2,100,000

Project 2: Community Outreach

Provide a public education program using various media in cooperation with Miami-Dade County and other members of the Divisional EOC.

Project 3: City Hall

Harden the city hall building that also contains the municipal Police Department. This project would include replacement of the roof and roof system and the installation of hurricane shutters throughout the building.

Project 4: Purchase City Vehicles

Purchase of ten GMC Jimmys, one crane truck, one dump truck and five heavy-duty pickups for police, public works and administration. We continue to lose vehicles during each rainstorm that results in flooding. With the purchase of these higher vehicles, we will be able to provide necessary services during floods and not lose more vehicles. The vehicles will facilitate the emergency evacuation of our residents, assist in the debris removal and mobilization of emergency equipment during the storms and assist in the recovery efforts.

Village of Virginia Gardens

Project 1: Flood Mitigation Project

The village of Virginia Gardens has developed a three phase Flood Mitigation Project (FMP) that will improve the existing storm water infrastructure system by means of designing, constructing, and implementing additional flood abatement measures to the existing storm water drainage system in accordance with federal, state, and local stormwater management requirements.

The FMP is comprised of three phases. Phase 1 involves the construction of an exfiltration trench system to catch the first inch of rainfall as a pretreatment and interconnected to a receiving wet well for further discharge through a force main that will be constructed as part of the FMP into the FEC Borrow Ditch. Phase 2 includes with the construction of additional exfiltration trenches and one overflow to the FEC Borrow Ditch. Phase 3 entails the construction of the storm water pumping station and force main with a discharge structure. Preparation of a Storm Water Management Master Plan (SWMMP) and documentation for bidding, permitting, and construction purposes will also be prepared as part of Phase I of the FMP. The estimated cost of Phase I of the FMP is approximately $600,000. The estimated cost of Phase 2 of the FMP is approximately $900,000. The estimated cost of Phase 3 of the FMP is approximately $1,200,000. Phase I of the FMP has been funded through the South Florida Water Management District with a State of Florida Grant of $550,000.

Project 2: Acquire Generator

Virginia Gardens intends to acquire a 150-200 kilowatt generator to increase the capacity of the emergency generator at the Village Hall-Police Department in order to ensure full operation of the facility. Estimated cost: $55,000.

Project 3: Acquire Trailer Mounted Flood Pump

Virginia Gardens intends to acquire a trailer mounted pump, hoses, and accessories to aid Virginia Gardens for immediate flood relief. Estimated cost: $20,000.

Project 4: Debris Removal

Virginia Gardens currently relies on other Miami-Dade County cities to remove debris caused by severe storm events, so Virginia Gardens intends to acquire a front-end loader, a utility truck, and additional debris removal tools and equipment. The estimated cost of the front-end loader is approximately $45,000. Estimated cost: $25,000.

City of West Miami

Project 1: Impact Resistant Windows and Doors for West Miami City Hall

The windows and doors currently installed are not impact resistant. The project entails the replacement of a total of 26 existing windows and 4 existing doors (3 storefront and 1 front door) on the West Miami city hall building, with impact resistant windows and doors.
Estimated cost: $52,000

Project 2: Citywide Drainage Improvements

The area included in this project has been historically flood-prone for storm events exceeding the 10-year frequency. Drainage improvements from SW 62nd Avenue to SW 59th Avenue and from SW 8th Street to SW 18th Street consisting of construction of storm sewer collection and exfiltration systems including street and surface restorations.
Estimated cost: $6,000,000

Project 3: Reconstruction/Raising of the Public Works/Motor Pool Building

This facility floods frequently due to its low finished floor elevation. This flooding occurs for storm events exceeding the 10-year frequency. Demolish a single story CMU/concrete structure (approx. 1900 sq. ft. area) and construction of a two-story CMU/concrete structure with 2000 sq. ft. area per floor. The first floor will accommodate vehicle parking, vehicle maintenance bays and toilet rooms to service existing adjacent vehicle maintenance building. The second floor, which will be above the 100-year flood level, will accommodate office spaces and toilets. Required elevator access will be included. The building will have similar finishes and aesthetics to match the existing administration building. Estimated cost: $550,000

Project 4: Reconstruction/Raising of the Recreational Center Building

This facility floods frequently due to its low finished floor elevation. This flooding occurs for storm events exceeding the 10-year frequency. Demolish a single story CMU/concrete structure (approx. 2200 sq. ft. area) and construction of a single story CMU/concrete structure

with 2200 sq. ft. with a finished floor elevation above the 100-year flood level. The building's primary function is to accommodate the parks recreational operations but will have the capability to serve as a storm shelter. The buildings design will be sensitive to the spatial and aesthetic needs of the park's surrounding areas and will reflect an approach that fully enhances the neighborhood. Estimated cost: $380,000

Private Sector & Other Participants

The municipalities are not the only LMS Working Group members that have developed hazard mitigation projects. Participation has included private not-for-profit corporations, schools and universities, civic associations and organizations and state of Florida agencies located within Miami-Dade County.

American Red Cross of Greater Miami and the Keys

Project 1: American Red Cross Shelter Operations

The Red Cross plays a critical emergency response role for mass care under the Federal Response Plan (primary), the state of Florida CEMP (support) and the Terrorism Response Plan (support). Also, the Florida Department of Health post-event plan for a smallpox outbreak calls for the establishment of Type R and Type X facilities by the Red Cross. This project seeks to increase the agency's operational capability to perform sheltering/evacuation activities by enhancing the deployment of mass care equipment and supplies. Project funds will support the acquisition of shelter equipment and supplies (such as shelter trailers, pick-up trucks, cots, blankets, cambros, shelter management kits and shelter signage kits), logistics vehicles and communications equipment (such as radios, antennas and chargers) to be used by Red Cross shelter managers and disaster function leads and volunteers deployed in evacuation shelters.
Estimated cost: $150,000

Project 2: American Red Cross Headquarters Retrofitting

The headquarters of the American Red Cross of Greater Miami and The Keys serve as the agency's training and operations center for preparation and response to all types of disasters/hazards that affect Miami-Dade County. This critical facility built in 1960 requires major retrofitting to ensure continuity of operations in the event of a natural or human made disaster. Major improvements include the acquisition and installation of a generator, electrical rewiring, roof improvements, construction of a concrete fence, upgrades of wheel-chair access ramp, pavement replacement, back-up computer equipment and supplies and acquisition and installation of building access control system. Estimated cost: $250,000

Project 3: American Red Cross Together We Prepare Education and Outreach

The American Red Cross of Greater Miami & The Keys serves as the only non-profit agency providing emergency preparedness and recovery from natural and human-made disasters in Miami-Dade County for the general population. The recent active hurricane season demonstrated the need for our community to be prepared to respond to all disasters, from those affecting single families, such as fires, to those that threaten all of Miami-Dade and Monroe Counties, such as hurricanes and terrorist attacks.

This project will increase the capacity of individuals to take responsibility to help themselves and be able to prevent, prepare for and respond to disasters and emergencies so they can help themselves, their families, their friends and their neighbors and gain better control of their own situations. The project will support the implementation of the Together We Prepare Education and Outreach Project in Miami-Dade County. Funds will finance program implementation and the acquisition and distribution of education materials and supplies in English, Spanish and Creole.
Estimated cost: $250,000

Baptist Health South Florida

Project 1: Baptist Hospital of Miami, Cooling Towers Protection

Baptist Hospital of Miami is a 551-bed hospital. The existing cooling towers on the south side of campus lack protection. The project will retrofit structures around the cooling towers to provide impact protection. The protective structures will be designed to survive a 3 Second 185 MPH wind gust. Estimated cost: $2,048,000

Project 2: South Miami Hospital Wind Mitigation

South Miami Hospital is a 445 bed hospital. The project will retrofit structures around the rooftop mounted HVAC Equipment, rooftop mounted chilled water lines and other rooftop mounted equipment to provide impact protection. The project will retrofit tie-downs and add protective structures around these devices provide impact protection. The structures will be designed to survive a 3 Second 185 MPH wind gust. Estimated cost: $1,000,000

Project 3: South Miami Hospital Structure Enhancement

South Miami Hospital, a 445-bed hospital, is in the early design stage of an expansion of the existing Emergency Department. Baptist Health South Florida (BHSF) would like to enhance the structure so that it can survive a 3 Second 185 MPH wind gust without requiring evacuation of the new Emergency Department addition. BHSF will fund the construction of the expansion to current codes and standards and request a funding grant for the upgraded enhancements. Estimated cost: $2,900,000

Project 4: Baptist Hospital of Miami, Rooftop Equipment Protection

Baptist Hospital of Miami is a 551-bed hospital. The campus has rooftop mounted HVAC equipment on a number of buildings which need protective enclosures and tie-downs. The project will retrofit tie-downs and add protective structures around these devices to provide impact protection. The structures will be designed to survive a 3 Second 185 MPH wind gust.
Estimated cost: $ 1,045,000

Project 5: BHSF Business Support Center-Call Center Structure Enhancement

The BHSF Business Support Center-Call Center performs the scheduling and provides critical support to all Baptist Health South Florida (BHSF) Hospitals. It also houses the emergency personnel that operate the Baptist Air Transport Services. The project will enhance the perimeter of the existing structure so that it can survive a 3 second 185 MPH wind gust, thereby enhancing facility survivability. Estimated cost: $2,700,000

Project 6: Baptist Hospital Medical Arts Buildings Roof Mounted Equipment Protection

The Baptist Hospital of Miami campus includes 2 Medical Arts Buildings in which the hospital provides outpatient clinical services, and which house hospital staff during and after a declared hurricane. This project will retrofit structures around the rooftop mounted cooling tower and other rooftop mounted equipment to provide impact protection for East and West tower buildings. Estimated cost: $1,700,000

Project 7: Doctors Hospital Medical Arts Building Wind Mitigation

Doctor's Hospital is a 281-bed hospital. The adjoining Medical Arts Building, in which the Hospital provides clinical out-patient services, lacks hurricane rated window protection throughout. This project will install impact resistant windows or roll down shutters, replace exterior doors and frames with impact resistant assemblies, replace existing mechanical room louvers with impact resistant louvers, retrofit tie-downs and add protective structures rooftop mounted mechanical equipment. Estimated cost: $683,000

Barry University

Project 1: Install shutters on Thompson Hall

The university plans to reinforce the doors and roof and install electrically operated roll-down hurricane shutters on Thompson Hall to make it secure as a hurricane shelter. In the event of a hurricane, this 50,000 SF building would shelter half the resident students, non-resident students without adequate shelter, plus staff and administrators who would be required to remain on campus in an emergency – a total of approximately 500 persons. In addition to providing shelter for students, Thompson Hall houses records and equipment that are vital to the operation of the university. On the first floor in the Telecommunications Center which houses the main telephone hub. On the second floor is the financial services department that houses all the universities financial records. Estimated cost: $225,000

Project 2: Install shutters on Monsignor William Barry Library

The university plans to reinforce the doors and roof and install electrically operated roll-down shutters on Monsignor William Barry Library to make it secure as a hurricane shelter. In the event of a hurricane, this 82,000 SF building would shelter half the resident students, non-resident students without adequate shelter, plus staff and administrators who would be required

to remain on campus in an emergency – a total of approximately 500 – 700 persons. In addition to providing shelter for students, the library houses books, records and equipment valued at more than the building structure. In addition the university archives are stored in this building.
Estimated cost: $325,000

Project 3: Install Shutters on LaVoie Hall

The University plans to install shutters on LaVoie Hall to make it secure from hurricane and high winds. LaVoie Hall houses the president's office and Institutional Advancement staff, equipment and files. These are valuable assets to the University that must be protected. This building is 19,694 SF. Estimated cost: $160,000.

Project 4: Install Emergency Generator for R. Kirk Landon Student Union

The R. Kirk Landon Student Union is built to current Miami-Dade code. This building houses the primary dining facility for the campus. With adequate emergency power to operate the kitchen and dining hall this building would be the most efficient means of feeding the students (potentially 1,200) and faculty during the hurricane recovery phase when power is unlikely to be available. Estimated cost: $75,000.

Project 5: Install Shutters on All Dormitories Not Reinforced with Impact Windows

Our intent is to protect resident student personal property and provide a safe haven where students can be sheltered during the most critical 24 hours of a hurricane. To accomplish this, we want to shutter all our resident dormitories that are not currently fitted with impact glass. These dormitories with estimated cost are:

- Weber 40,830 SF $160,000
- Flood 19,730 SF $90,000
- Mottram-Doss 20,292 SF $80,000
- Dalton 16,800 SF $70,000
- Dunspaugh 16,000 SF $65,000
- Browne 15,000 SF $60,000
- Sage 15,000 SF $60,000

Project 6: Install Hardened Roof and Shutters for Adrian Hall

Adrian Hall is used by the School of Health and Natural Sciences and houses numerous pieces of expensive equipment and several hundred thousand dollars in research projects. As part of the hardening process, the roof should be upgraded and replaced and shutters should be installed on all windows. Adrian Hall is 23,600 SF. Estimated cost $350,

Project 7: Install Hardened Roof, Shutters and Emergency Generator for Garner Hall

Garner Hall houses the university's computer and technology center. It is the central hub for all Internet, e-mail and computer learning at the university. By re-roofing, shuttering and providing emergency power to the computer center, the University can maintain communications and web access. Garner Hall is 43,364 SF. Estimated cost: $600,000

Camillus House, Inc.

Project 1: Construction of New Homeless Facility to "Above Code" Standards

Camillus House is about to construct a new campus housing homeless persons, to be located on NW 7th Avenue and NW 15th Street in Miami. The facility will house 340 persons on a normal night, with extra capacity of up to 680 during emergency situations. The campus will include three connected buildings, with one of those buildings constructed "above code," so that it is able to withstand a Category 5 hurricane and can serve as a shelter for homeless persons from throughout the county. Camillus already operates several other homeless facilities located in flood-zones requiring evacuation during hurricanes. The new facility will be able to house those evacuees as well as persons living on the streets during hurricanes. Camillus will fund construction of the facility to code from other sources, and will use mitigation funds for the above-code enhancements. Estimated cost: $4,000,000

Project 2: Emergency Power Supply for New Homeless Facility

Camillus House intends that the new facility referenced above will be able to serve as an emergency shelter post-disaster, housing up to 680 people for some period of time. In order to provide appropriate care and services, including meals, showers, and shelter, to the emergency residents and the street-based homeless population, the facility will need to be equipped with generators capable of powering the entire facility. Estimated cost: $100,000

Project 3: Window Protection for Matt Talbot House

Camillus House operates the Matt Talbot House program, located at 2136 NW 8th Avenue in Allapattah, within the city of Miami. The facility provides transitional housing to formerly homeless adults in 27 efficiency-style units. The facility also serves as an emergency shelter for homeless persons who live in other Camillus-operated facilities that are located within flood zones. During the past several hurricanes, Matt Talbot House has sheltered approximately 100 homeless individuals throughout the storm. However, the facility, which was constructed in 1925, lacks hurricane shutters. Staff has been protecting the windows with plywood. In order to install hurricane shutters, the facility must also have central air conditioning installed so that the window-units don't interfere with the shutters. Estimated cost: $150,000

Project 4: Emergency Power Supply for Matt Talbot House

Since the facility described above serves as an emergency shelter for up to 100 homeless individuals during and after hurricanes, it is essential that the facility maintain power in order to be able to prepare meals for its temporary residents. This project would purchase a generator able to power the entire facility. Estimated cost: $40,000

Project 5: Window Protection for Good Shepherd Villas

The Good Shepherd Villas program provides transitional housing for formerly homeless persons in nine duplex buildings, located at 3030-3048 NW 77th Avenue. This project would install hurricane shutters on each of the buildings. Estimated cost: $20,000

Catholic Charities of the Archdiocese of Miami

Project 1: Rain Protection for Entrance

Install rain barrier or awning at entrance of South Dade Child Care Center to allow infants and children to be brought into the building during storm without getting wet.

Project 2: Neighborhood Sheltering Program

In an effort to mitigate against possible catastrophic event victims by increasing Miami-Dade County's sheltering capacity, the Neighborhood Sheltering Program has been proposed. Through partnerships with community-based agencies as well as faith-based organizations such as FRIENDS, many of these efforts are being carried out. The preliminary stages of this project have identified the following objectives:

- Create a list of structural and human needs requirements to provide guidance to those community groups interested in participating in this process.
- Create a list of potential buildings and/or structures to be utilized as potential neighborhood shelters.
- Identify funding sources for potential structure retrofitting needs.
- Develop a neighborhood shelter certification process.
- Coordinate and assess training needs for sheltering staff and the community at large.
- Integrate this sheltering capacity list into the currently existing countywide sheltering program.
- Establish a Neighborhood Sheltering Program continuance process.

It is estimated that the potential sheltering space that will be made available by this initiative is a significant one (approximately 2000 to 5000 spaces). The benefits of this project are far-reaching and will promote a higher level of community involvement.

Project 3: Hurricane Shutters on St. Luke

St. Luke Addiction Recovery Center is a residential drug and alcohol rehabilitation facility, which is dedicated to identifying and reducing harm to vulnerable populations. Those populations include the homeless, dually diagnosed, and people living with AIDS. It is our mission to use the best treatment methods in a caring, professional manner, as well as, in a safe and secure environment. Our efforts at Hazard Mitigation include a plan to retrofit the building with hurricane shutters. These shutters are constructed from aluminum alloy reinforced panels with steel wheel carriages, nylon coated wheels and reinforced ribs for extra strength, and tracking will be installed over seventy-one (71) windows in the building as protection from wind damage. These accordion panels will provide protection from hurricane winds of up to 170 miles per hour. They will also provide protection from flying objects. Estimated cost: $23,000

CHARLEE of Dade County, Inc.

Project: Install Hurricane Shutters

CHARLEE (Children Have All Rights: Legal, Educational and Emotional) is a private not-for-profit agency that cares for children in Miami-Dade County who have been placed in foster care due to abuse, abandonment, and neglect. CHARLEE currently has over 1000 children in our care. CHARLEE has three group homes, each of which is in need of hurricane shutters. The addresses and cost of each is:

1. 11174 SW 112 Terrace, Miami – Estimated cost: $8,300
2. 11390 SW 112 Terrace, Miami – Estimated cost: $8,300
3. 7550 SW 69 Court, Miami – Estimated cost: $7,280

Community Partnership for Homeless Inc.

Project: Harden Facility

Community Partnership for Homeless' south facility encompasses 13 buildings, including administrative offices; residential dormitories housing 302 homeless men, women and children; and a medical clinic. Built in 1999 under pre-Hurricane Andrew building codes, the 364 windows throughout the facility do not have windstorm protection, and highly expose vulnerable clients and staff to potential harm as a result of windstorm damage, including projectile objects. During the active 2005 hurricane season, the American Red Cross and Community Partnership for Homeless (CPH) executed a formal written agreement whereby the south facility is contracted as an American Red Cross food distribution center during a declared disaster. Based on declared disasters in 2005, CPH nightly served 125,000 meals to Homestead residents on behalf

of the American Red Cross, in addition to housing and feeding its 302 residential clients. CPH's efforts at Hazard Mitigation include retrofitting its south facility with Storm Shield Hurricane Barriers, fully egressable shutters offering the maximum level of protection from violent storms and hurricanes. Estimated cost: $307,000

The Economic Opportunity Family Health Center, Inc.

Project 1: Harden Facilities

The Economic Opportunity Family Health Center, Inc., is a Florida non-profit, federally qualified community health center that provides comprehensive primary healthcare services to mostly uninsured and underinsured individuals residing in Miami-Dade County communities such as Liberty City, Hialeah, Little Haiti, and North Miami. We operate several health clinic locations including Family Health Center North, Flamingo Center, Norland Family Health Center and provide immunizations for adults and children, physical examinations, and other disease prevention programs. We look to harden these facilities to support our current facilities emergency preparedness program. This will allow us to maintain our clinical operations and increase community access to health services to individuals that would otherwise go without healthcare and increase hospital emergency room visits for non-urgent reasons during times of natural disasters, crises or other related emergency situations.

- Family Health Center North, 1220 NW 95th Street, Miami, FL 33147
- Flamingo Center, 901 E. 10th Avenue, Bay 39, Hialeah, FL 33010
- Norland Family Health Center, 18360 NW 7th Avenue, Miami, FL 33169

Estimated cost: $75,000

Project 2: Harden Jefferson Reeves House

The Economic Opportunity Family Health Center, Inc., is a Florida non-profit, federally qualified community health center that provides comprehensive primary healthcare services to mostly uninsured and underinsured individuals residing in Miami-Dade County communities such as Liberty City, Hialeah, Little Haiti, and North Miami. Since 1989, we have operated the Jefferson Reaves House Women's Residential Program, a 24-hour substance abuse treatment program for women. This is a unique program that allows women to go through the treatment program with their child (from infant to 5 years) on-site, so that the relationship between mother and child is maintained during the transition process. A full-time registered nurse and other personnel remains on site to provide health services and medication management, and doctor's visits are coordinated between our other health clinic locations. The program is located in a two-story 20,000 sq. ft. facility with a total of 40 beds. We look to harden the facility and enhance the Reaves House emergency preparedness in order to maintain services for women in the program and continue program operations. These women including their children would otherwise go without treatment and increase hospital emergency room visits for non-urgent reasons during times of natural disasters, crises or other related emergency situations.
Estimated cost: $150,000

Family Resource Center

Project: Improve Window Protection

The project proposes improvements to the outside of the Hurwit Emergency Shelter located in Miami-Dade County, Florida. As a result of the 2004 Hurricane Season the shelter needs to repair and replace 35 Windows, and 28 Shutters on the two buildings of the shelter. Estimated cost: $17,000

Florida Atlantic University
Small Business Development Center

In the wake of September's hurricane assault, there is an opportunity for outreach to the South Florida business community. Many in that community are now aware of the devastation storms can wreak on business operations.

The Small Business Development Center (SBDC) has pioneered storm preparedness seminars over the last two years. It is now in an excellent position to reach out to Miami-Dade County business owners with useful advice about how to prepare both physically and operationally to resume commerce as soon as possible after a natural disaster.

The Florida Atlantic University/SBDC proposes hiring a Business Analyst in Miami-Dade to meet with business owners, directors or managers at their place of business and assist in devising hurricane preparedness plans that meet the specific needs of individual businesses. Businesses are the lifeblood of communities; therefore, business owners need to know that there is help and professional guidance to develop an emergency and recovery plan. Then, financial support to promote this assistance is also a key part of this proposal.

Clearly, businesses that resume operations quickly benefit owners, employees and consumers. For this reason, the potential benefit to the business community suggests that each dollar spent on this analyst's wages and promotional methods will be reflected in a multiple - perhaps exponential - dollar benefit to the local economy. Estimated cost: $75,000

Florida International University

Project 1: Public Safety Building Construction

A new Public Safety building will be constructed on the University Park Campus. This will incorporate the new Emergency Operations Center for the university, and provide the new building with an emergency generator to maintain full operations during a power outage. By constructing this building, the university would be able to better mitigate disasters of any kind, as Emergency Management and Public Safety would be situated in the same building, thus decreasing communication time and increasing the amount of work that can be accomplished. A new building would not only benefit FIU, but the surrounding communities, as well as Monroe

County, as local law enforcement agency. This addresses the university's goals in designing and implementing enhanced building standards for new construction to maximize protection from high risk hazards, pursues funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities, improves FIU's internal communication capabilities to better prepare for, mitigate against and respond to hazard events, and increase FIU's emergency operations capabilities in order to protect lives and property through facility enhancements.
Estimated cost: $750,000

Project 2: Emergency Generator for Charles Perry Building

The emergency generator to be provided to the Charles Perry Building will primarily provide power to the University Technological Services department, telephone system, and internet service. This will save time and energy when the university resumes its normal services after an event, as UTS would only power down its servers in the most extreme circumstances. This serves the local municipalities, students, Miami-Dade and Monroe County residents, as the Charles Perry Building is the central nervous system for the entire campus, and the primary shelter for Monroe County. This initiative improves FIU's internal communication capabilities to better prepare for, and mitigate against and respond to hazard events. Estimated cost: $900,000

Project 3: Hardening of Health and Life Sciences (HLS) Building I

The hardening of HLS will be done by providing enhanced protection for existing rooftop equipment, providing support for the labs, as well as providing CMU wall enclosures to cover emergency generator package units and fuel tanks. HLS will be one of the several buildings on campus that will support FIU's new medical school program, and needs to be reinforced to ensure the safety and well-being of FIU's employees and property, as well as the survival of the medical program itself. HLS engages in medical research on a regular basis, assisting in its support of the Miami medical community. By reinforcing the roof and generators, we are developing and implementing sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events; additionally, we will pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities.
Estimated cost: $125,000

Project 4: Bay View Housing Window Protection

All window openings will be provided with protection. Bay View Housing is the resident hall on the Biscayne Bay campus, and houses many students. Without proper window protection, the damaged facilities would displace students for weeks on end. The students living in the dormitories will benefit the most from this. By reinforcing the windows, we are developing and implementing sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events; additionally, we will pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Estimated cost: $TBD

Project 5: Hardening Charles Perry Building Roof Equipment

The current frames and future roof mounted installation for all mechanical equipment related to research and teaching labs will be upgraded in order to assure continuity of the use of the facility. The PC building is the location of multiple laboratories, which without proper ventilation equipment, can not be used. By reinforcing the roof equipment, we are developing and implementing sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events; additionally, we will pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities.
Estimated cost: $250,000

Project 6: Hardening of Health and Life Sciences (HLS) II Roof Equipment

This initiative will provide enhanced protection for the six existing laboratory fume hood stacks, as well as hurricane protection shutters on FA intakes and MECH air handlers on the main roof. Without these protective measures, the laboratories would be closed if any of these components were damaged. Additionally, HLS II will be one of the several buildings on campus that will support FIU's new medical school program, and needs to be reinforced to ensure the safety and well-being of FIU's employees and property, as well as the survival of the medical program itself. HLS engages in medical research on a regular basis, assisting in its support of the Miami medical community. By reinforcing the roof equipment, we are developing and implementing sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events; additionally, we will pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Estimated cost: $500,000

Project 7: HLS I and II Emergency Generator

An additional power source is intended to supplement the existing emergency generator to provide limited HVAC capacity to critical Air Handlers within both buildings. This additional power is critical to the function of the HVAC system, as many research projects could be ruined, with months of labor lost. HLS engages in medical research on a regular basis, assisting in its support of the Miami medical community. The HLS Doing this would increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management.
Estimated cost: $700,000

Project 8: Chemistry & Physics Emergency Generator

Emergency generators will provide power for life safety equipment as well as limited HVAC capacity to crucial Air Handlers within the building. The Chemistry & Physics building supports numerous research projects that benefit FIU's students and Florida residents. By installing an emergency generator FIU would increase FIU's emergency operations capabilities in

order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management. Estimated cost: $500,000

Project 9: Owa Ehan Roof Equipment Hardening

The current frames and future roof mounted installation for all mechanical equipment related to research and teaching labs will be upgraded in order to assure continuity of the use of the facility. The OE building is the location of multiple laboratories, which without proper ventilation equipment, can not be used. Owa Ehan supports numerous marine biology research labs, all of which contribute to the survival and understanding of South Florida's ecological system. By reinforcing the roof equipment, we are developing and implementing sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events; additionally, we will pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Estimated cost: $250,000

Project 10: Recreation Center Generator and Window Protection

A new emergency generator will provide power to the HVAC system, and limited lighting throughout the building. Additionally, this initiative will provide enhanced window protection of large expanses of impact resistant glazing. Aside from providing FIU's students with a modern and safe environment to exercise, the recreation center doubles as the shelter location for Monroe County's special needs clientele. Without an emergency generator and window protection, these people would be in danger of being left without electricity or even being injured. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities, and increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management and Homeland Security. Estimated cost: $TBD

Project 11: Library Hardening

The FIU library houses over one million books, many of which are rare or irreplaceable. The building envelope will be protected on the first floor, while passive building envelope protection will be installed on all ground floor windows. Additionally, a new emergency generator will provide power for life safety equipment as well as limited HVAC capacity to crucial Air Handlers within the building. This is very important, since the FIU Library This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities, and increase FIU's emergency operations

capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management and Homeland Security. Estimated cost: $750,000

Project 12: Owa Ehan Emergency Generator

An emergency generator will be provided to power life safety equipment as well as limited HVAC capacity to critical air handlers within the building. Owa Ehan supports numerous marine biology research labs, all of which contribute to the survival and understanding of South Florida's ecological system. This will increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management and Homeland Security. Estimated cost: $500,000

Project 13: Engineering and Computer Science Generator Protection

This initiative will provide a CMU wall enclosure to cover the emergency generator package unit and fuel tanks. This will only be implemented if the generator project for ECS is not approved. ECS houses numerous computer science research projects, networking projects as well as the computer science department, and college of arts and sciences. The support of this building is critical to the academics of the university, as well as the future members of information technology fields. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Estimated cost: $35,000

Project 14: Chemistry and Physics Window Glazing

Existing windows will be replaced with impact resistant glazing assemblies to assure continuity of operations of research / teaching labs. Chemistry and Physics houses all of the primary chemistry instructional labs, as well as the chemistry department's stockroom. This initiative will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities.
Estimated cost: $750,000

Project 15: Graham University Center Hardening

The Graham University Center's building envelope will be retrofitted / hardened to be inclusive of providing internal partitions to compartmentalize sections, and protection of exterior glazing / wall openings. The Graham Center is also the backup shelter for Monroe County, serving its needs in the event of an evacuation. Without proper hardening, the shelter would not be

safe for use. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Estimated cost: $1,750,000

Project 16: Academic One (ACI) Hardening

Academic One's hardening will encompass building envelope protection and provide a new emergency generator to provide power for life safety equipment as well as limited HVAC capacity to critical Air Handlers within the building. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Additionally, it will increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management. Estimated cost: $750,000

Project 17: Chemistry and Physics Roof Protection

Enhanced protection will be provided for the approximately twelve existing laboratory fume stacks. In addition, this initiative will provide hurricane protection shutters on FA intakes at MECH air handlers at the main roof. Three AHU rooms are involved. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Estimated cost: $200,000

Project 18: Viertes Haus Emergency Generator

Viertes Haus will be provided with an emergency generator to provide power for life safety equipment as well as limited HVAC capacity to critical Air Handlers within the building. This will increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management and Homeland Security. Estimated cost: $500,000

Project 19: Engineering and Computer Science Emergency Generator

The Engineering and Computer Science building will be provided with an emergency generator to provide power for life safety equipment as well as limited HVAC capacity to critical air handlers within the building. This will increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous

planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management and Homeland Security. Estimated cost: $500,000

Project 20: Graham University Center Building Upgrades

The Graham University Center will be provided upgrades to building frame assembly, roof openings and roof mounted mechanical equipment to assure continuity of use of facility. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities.
Estimated cost: $2,000,000

Project 21: Wolfe University Center Roof and Envelope Hardening

The Wolfe University Center will harden its envelope and provide enhanced protection for existing rooftop equipment. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Estimated cost: $750,000

Project 22: Academic II Hardening and Emergency Generator

Academic II's hardening will include reinforcing its building envelope, providing enhanced protection for existing roof top equipment, and providing a new emergency generator to provide power for life safety equipment as well as limited HVAC capacity to critical Air Handlers within the building. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. In addition, this initiative will increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management and Homeland Security. Estimated cost: $600,000

Project 23: Viertes Haus Impact Resistant Window Glazing

Existing windows will be replaced by impact resistant glazed windows across the Viertes Haus structure to assure continuity of operations of research / teaching laboratories. Many of the departments under the College of Arts and Sciences are located in this building, which serves many of the students on campus. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as

well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Estimated cost: $750,000

Project 24: Central Utilities (University Park) Emergency Generator

An emergency generator will be provided to power limited chilled water generation for critical structures. This is critical to the central cooling for many buildings on campus. Without a functioning Central Utilities building, many of the rooms on campus would become inhospitable, which would affect FIU students, staff and faculty, as well as Monroe County evacuees. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management and Homeland Security. Estimated cost: $2,000,000

Project 25: Engineering and Computer Science Hardening

Existing windows will be replaced with impact resistant glazing assemblies to assure continuity of operations of research / teaching labs. Additionally, the existing gap in the storefront building envelope will be remediated. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, as well as pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. Estimated cost: $125,000

Project 26: Hospitality Management Hardening

The Hospitality Management building envelope and rooftop equipment will be fortified. A new emergency generator will be installed to provide power for life safety equipment as well as limited HVAC capacity to critical Air Handlers within the building. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events, and pursue funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities. In addition, this initiative will increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management and Homeland Security. Estimated cost: $750,000

Project 27: Central Utilities (Biscayne Bay) Emergency Generator

A new generator will be provided in order to provide limited chilled water capacity generation. Without a functioning Central Utilities building, many of the rooms on campus would become inhospitable, which would affect FIU students, staff and faculty. This will increase FIU's emergency operations capabilities in order to protect lives and property through facility/equipment enhancements and continuous planning, training and mock exercises activities and increased coordination with Miami-Dade County Office of Emergency Management and Homeland Security. Estimated cost: $ 2,000,000

Project 28: Wolfsonian Annex Envelope Protection

The building's envelope will be hardened for added protection. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events. Additionally, this initiative will allow the pursuit of funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities.
Estimated cost: $100,000

Project 29: Wolfsonian Museum Envelope Protection

The building's envelope will be hardened for added protection. This will develop and implement sound mitigation measures for FIU infrastructure and utilities in order to minimize, if not prevent disruption or business interruption for FIU facilities, infrastructure and utilities during and following hazard events. Additionally, this initiative will allow the pursuit of funding from a wide range of sources to reduce potential losses and identified hazard vulnerabilities.
Estimated cost: $200,000

Florida Memorial College

Project 1: Windstorm Protection for Residence Halls

In an effort to mitigate wind damage, it is necessary to retrofit our existing residence halls, J.T. Brown Residence Hall, A.B. Coleman Sr. Residence Hall and Willie C. Robinson Residence Hall with accordion style hurricane shutters.
Estimated cost: Brown & Coleman at $129,000 each, Robinson at $48,000

Project 2: Create On-campus Hurricane Shelter

To protect our staff and students, it is necessary to harden the shell of the Albert E. and Sadie B. Smith Dining Hall and Conference Center building to serve as an evacuation center by installing window protection and adding auxiliary power. Estimated cost: $108,000

Haitian American Disaster Resource Center, Inc

Project 1: All Hazard Haitian Preparedness

This project will take on the task of liaison between the Miami-Dade Haitian Community and all existing foundations, community based organizations, and local to federal governmental agencies. The HADRC will use the already existing local mitigation measures to reduce the loss of live and property in the Haitian community by creating an avenue of communication and collaboration with all existing agencies and institutions that already provide the groundwork for mitigation, recovery, response, and relief. We will ensure that these information networks have the resources necessary to get their message across, as well as ensure that their message is brought to the Haitian community in a culturally sensitive and linguistic manner. This project is one that will assist in solving an independent problem in the Haitian community and constitute a functional component of a larger solution within Miami-Dade County. Areas of example include: Hurricane preparation, family disaster plans, food and water emergencies, fire and flood preparation, terrorism, power outages, etc. Estimated cost: $100,000

Project 2: Special Needs in the Haitian Community

The HADRC will ensure that Haitians with special needs throughout Miami Dade County which includes individuals and families with infants, elderly and persons with disabilities, have the proper information to prepare for their needs in the case of an emergency such as a major hurricane. Aside from the communication gap, this group usually needs more attention and information in order to be prepared for any emergency. Estimated cost: $40,000

Project 3: Haitian Media Campaign

The HADRC will work will all Haitian media toward ensuring that all new and existing information as well as services from governmental Emergency Management organizations are communicated in a clear, efficient, and most importantly, effective manger. The HADRC will also work towards the participation of all Haitian Media as part of the information network and provide that link to the entire Haitian community that is desperately lacking. As part of this project, a spokesperson will be identified to be the representative liaison between the Haitian media and emergency management agencies. Estimated cost: $25,000

Project 4: Little Haiti Shutter and Information Program

The HADRC will work with the existing shutter mitigation program and assist in the communication, application, and follow-up for Haitian families living within Miami-Dade County. The Haitian community is unaware of the effectiveness and benefits of shuttering and or the installation of other home and window protection devices. The HADRC will also work with low income families and elderly to apply for the free shuttering program and other home preparation programs provided by foundations, non-profits, and governmental agencies.
Estimated cost: $5,000

Hialeah Housing Authority

All projects are for windstorm protection.

Project 1: Ashley Plaza

199 Units – Public housing located at 70 East 7th Street, Hialeah, Florida. 564 windows and 201 glass panels. Estimated cost: $255,000

Project 2: Patterson Pavilion

100 Units – Project based Section 8 housing located at 1875 West 44th Place, Hialeah, Florida. 221 windows. Estimated cost: $73,250

Project 3: Holland Hall

101 Units – Public housing 555 East 1st Avenue, Hialeah, Florida. 121 windows and 187 glass panels. Estimated cost: $170,750

Project 4: Hoffman Gardens

200 Units – Public housing located at 7650 West 8th Avenue, Hialeah, Florida. 889 windows and 16 glass panels. Estimated cost: $260,640

Project 5: Milander Manor

60 Units – Public housing located at 815 West 75th Street, Hialeah, Florida. 129 windows and 39 glass panels. Estimated cost: $48,384

Project 6: La Esperanza

133 Units – Public housing located at 1770 West 44th Place, Hialeah, Florida. 556 windows and 21 glass panels. Estimated cost: $93,600

Project 7: Bright Villas

50 Units – Public housing located at 5215 West 25th Avenue, Hialeah, Florida. 223 windows and 2 glass panels. Estimated cost: $64,800

Project 8: Dale G. Bennett

50 Units – Public housing located at 2850 West 71 Street, Hialeah, Florida. 223 windows and 2 glass panels. Estimated cost: $64,800

Project 9: Project 16

60 Units – Public Housing located at 6325 West 24th Avenue, Hialeah, Florida. 292 windows. Estimated cost: $84,096

Project 10: Ruth Tinsman

100 Units – Public Housing located at 6545 West 24th Avenue, Hialeah, Florida. 229 windows and 6 Glass Panels. Estimated cost: $67,680

Project 11: Project 21

14 Units – Public Housing located at 23rd.Street & 24th Street on West 5th Way and West 6th Court, Hialeah, Florida. 70 windows. Estimated cost: $20,160

Project 12: 56 Street

360 Units-affordable housing in 4 buildings – 1650 West 56th Street, 1655 West 56th Street, 1675 West 56th Street, and 1680 West 56th Street, Hialeah, Florida.
Estimated cost: $232,704

Each Building.	150 Windows	600 Windows
	52 Glass Panels	208 Glass Panels

Project 13: 68 Street

78 Units – Affordable housing in 2 Buildings) – 6830 West 7th Avenue, 183 windows and 6870 West 7TH Avenue , 366 Windows, Hialeah Florida. Estimated cost: $105,408

Project 14: 28 Street

16 Units – Affordable housing in 2 Buildings located at 1415 West 28th Street, 42 windows, and 1425 West 28th Street, 84 windows, Hialeah, Florida.
Estimated cost per building: $24,192

Project 15: 32 Street

16 Units – Affordable housing located at 30 West 32nd Street, Hialeah, Florida. 40 windows. Estimated cost: $11,520

Project 16: 33 Street

16 Units – Affordable housing located at 35 West 33rd Street, Hialeah, Florida. 39 windows. Estimated cost: $11,232

Project 17: E. 4th Avenue

59 Units – Affordable Housing located at 3275 East 4th Avenue and 700 East 4th Avenue, Hialeah, Florida. 103 windows. Estimated cost: $29,644

The Humane Society of Greater Miami

Many citizens of the area refuse to evacuate to shelters unless they know their pets are safe. The Humane Society's hazard mitigation projects involve the adaptation of their animal shelters to accommodate the human workers who must stay and care for the animals during a hurricane or other disaster event. This will also provide shelter for household pets during an evacuation that will encourage our citizens to seek the evacuation centers.

Jackson Health System

Project 1: Ryder Trauma Center Fortification

To fortify, strengthen and harden the overall structure, power and water supply of RTC in order to ensure the ability to provide continuity of operations at Miami-Dade County's only level 1 Trauma/Burn Center. This includes structural reinforcement to withstand a category 5 hurricane. To accomplish these tasks will require a floor by floor over haul and system by system upgrade. Harden structure through the installation of a fortified skin and explosion / wind resistant glass windows. Provide dedicated generator to carry normal and critical loads. Generator will have to be sized to carry total load of building including surgical, x-ray and related components. Estimated cost: $12,000,000

Project 2: Roof Hardening

Fortify and strengthen the roofs of the following main campus buildings: East Tower, North Wing, Rehabilitation, Central, South Wing, ACC East, ACC West, Annex, Institute, Jackson Towers. Estimated cost: TBD

Project 3: Control System Upgrade

Upgrade the main campus control system to accurately monitor humidity and exhaust. Estimated cost: TBD

Project 4: Enclose oxygen tank farm

Redesign oxygen tank farm with higher barrier wall on 4 sides to protect from high winds and airborne debris. Estimated cost: TBD

Project 5: Secure Critical Equipment

Fortify and tie down all equipment on all roof tops and at the Energy Center.

Estimated Cost: $250,000

Project 6: Flood proof important operational areas

Harden vulnerable areas such as the DTC Tunnel, ET basement & PPW basement. Estimated Cost: $3,000,000

Project 7: Relocate critical equipment

Move critical equipment such as oil switch, gear replacements & medical air compressors to reduce the risk of flood/storm damage. Estimated Cost: $1,000,000

Project 8: Harden Jackson North Hospital (Parkway)

Install hurricane shutters, harden roof and tie down critical equipment. Estimated cost: TBD

Project 9: Community Health Centers

Install and/or upgrade hurricane shutters at the following JHS community and Primary Care Center locations: Jackson North Community Mental Health Center, JNCMHC Crisis Intervention, Serenity House, Tranquility House, Social Rehabilitation, Jefferson Reaves, Sr. Health Center, North Dade Health Center, Jackson North Specialty & Diagnostic Center, North Miami Health Center, Dr. Rafael A. Penalver Clinic, Rosie Lee Wesley Health Center and the Prevention, Education & Treatment (P.E.T.) Center. Estimated cost: TBD

Johnson & Wales University

This private university has been approved at the state level for a Hazard Mitigation Grant Program grant to harden a portion of their classroom building that includes the library to serve as an evacuation center for boarding students. The University wishes to expand the hardening program to include the remainder of the campus buildings. This would include shuttering, reinforcement for doors and roof systems and relocation of vital equipment.

Mercy Hospital

Project 1: Replace Windows with Impact-Resistant/Pressure-Rated Units

The Carroll, Huntley and Surgical Pavilion buildings constitute the sheltering-in-place core of the Mercy Hospital. All windows in these buildings are protected with shutters, which are neither wind nor water tight. As a result these buildings remain susceptible to breaching of the building envelope during hurricanes. Some windows were broken by wind pressure during the 2004 and 2005 hurricane seasons, while other allowed water penetration. This resulted in

damage to the interior and to mold and mildew problems, which are critical for a health-care environment. Because the windows in the Carroll and Huntley buildings are the original operable units they do not meet current building codes for the High Velocity Hurricane Zone (Florida Building Code) the potential for damage in the future is considered high. Also the cost of labor and equipment involved in deploying shutters is response to a hurricane warning, and in reopening the shutters after the event has proven rather costly to the hospital over the past couple of years. Mercy Hospital proposes to replace all windows in the Carroll, Huntley and Surgical Pavilion buildings with fixed-glass (non-operable) impact-resistant units that meet the wind velocity-pressure rating for the location and elevation. Estimated cost: $3,000,000.

Project 2: Enhance Emergency Power Capability

Mercy Hospital has relocated its emergency power generators to an elevation above the impact of the worst-case storm surge projected for this location. Hurricane impacts during recent hurricane seasons have demonstrated the reliability of utility power supply restoration is such that the hospital needs to plan for self-sustainability for a period of at least 168 hours if not longer. Also, Mercy Hospital functions as a special needs shelter for Miami-Dade County and even at a reduce-patient census it must plan for hundreds of patients and staff to shelter-in-place, which requires the availability of air conditioning to reduce health hazards. Mercy Hospital proposes adding equipment to allow emergency power generators to operate on a mix on diesel and natural gas to increase the time of operation. An additional fuel tank will be installed as part of this retrofit. Estimated cost $500,000.

Project 3: Harden Carroll Building Envelope

This eight-story building is one of the main patient facilities at Mercy Hospital. The building consists of a reinforced concrete structure and unreinforced-masonry exterior walls. Despite the fact that this facility has been subjected to the impact of sustained winds that may have reached 115 mph and higher gusts during recent years without significant damage to its building envelope, and that masonry because of its mass in general can show strengths beyond expected values, there is concern that a major hurricane may damage the exterior walls even to the point of allowing water penetration of to failure. Mercy Hospital proposes to retrofit the exterior walls by adding reinforcement to enhance their strength and to improve their connections with the main structure to a design criteria of 146 mph 3 second gusts for exposure category C and critical facility occupancy. In addition existing exterior doors and other openings that are unprotected against impact of wind and flying debris will be protected.
Estimated cost: $980,000.

Project 4: Storm Surge Mitigation

Storm surge and resulting hydrodynamic pressure and the impact of floating debris may cause large amounts of damage to Mercy Hospital during hurricanes. A 9.5 ft. high-water mark measured by the U.S. Army Corps of Engineers was evidence of surge from hurricane Andrew that caused considerable damage to the pharmacy, administration and other areas of Mercy Hospital. SLOSH model projections of worst-case 14.5 ft surge at this location will cause severe

damage to buildings with ground floor elevations ranging from 7.01 ft to 8.61 ft in most cases. Mitigation measures, including a surge deflector installed atop the seawall bulkhead and back-flow gates at the storm drain-pipe openings, will dampen the energy of the surge, deflect the impact of floating debris and prevent surge penetration through the storm drainage system.
Estimated cost: $460,000

Project 5: Cooling Tower Protection

Cooling towers may be damaged by flying debris falling through the exhaust opening during hurricanes. Direct damage to the cooling towers has the potential for causing indirect and consequential damage to the entire mechanical system, including the chillers. Evidence of this is supported by empirical data from past hurricanes. Mercy Hospital will install debris barriers consisting of dome-shaped stainless steel structure and screening, outfitted with a hinged lockable gate for maintenance access, to prevent debris from falling into the cooling towers.
Estimated cost: $ 50,000

Project 6: Protection of Crawl Spaces

Crawl spaces exist at four locations of the Mercy Hospital facility. These spaces are about 4 ft high and allow access to pipes and other utilities installed under buildings for maintenance purposes. These spaces flood from storm surge and rain. Such flooding has lead to corrosion problems with the hangers and other anchoring devices as well as some of the utilities. Mercy Hospital proposes to enclose these crawl spaces with flood resistant walls outfitted with permanently mounted access flood gates; also to replace all anchors and hangers with corrosion resistant units (i.e. stainless, brass or fiberglass). Estimated cost: $60,000.

University of Miami

The University of Miami is private non-profit comprising of five campuses, involving approximately 173 separate buildings used for teaching, research, student housing, and recreation and having an annual economic impact on the community in excess of $2.3 billion. The university has served as one of the six funded pilot participants on FEMA's Disaster Resistant Universities Initiative, part of Project Impact.

Project 1: Bascom Palmer Eye Institute Wind Protection

This project involves hurricane resistant wind retrofit measures to include wind resistant glass windows, shutters, and anchoring of equipment. Estimated cost: $3,300,000

Project 2: New UM Medical Practice Building Curtain Wall Code-Plus Upgrade

To strengthen the overall curtain wall system of this new 300 bed UM Medical Practice Building from a current code wind protection of 146 mph wind load to 185 mph wind load with a high missile impact curtain wall and NOA testing. Estimated cost: $3,950,000.

Project 3: New UM Medical Practice Building Architectural Precast Code-Plus Upgrade

To strengthen the structural connections of the architectural precast panels of the this new 300 bed UM Medical Practice Building from a current code wind protection of 146 mph wind load to 185 mph wind load with NOA testing. Estimated cost: $380,000.

Project 4: New UM Medical Practice Building MEP Systems Code-Plus Upgrade

To fortify the overall mechanical, electrical and plumbing systems from current code requirements to code plus protection by providing dedicated generators with a 5 days of fuel storage for chiller and steam boiler production, 25,000 gallons of domestic water storage, waste/sanitary water holding tanks for the operation of the New Medical Practice Building's inpatient care suites and other related building components. Estimated cost: $3,500,000

Project 5: New UM Medical Practice Building Oxygen Bulk Storage Code-Plus Upgrade

Strengthen the oxygen bulk storage facility enclosure from a current code wind protection of 146 mph wind load to 185 mph wind load with NOA testing. Estimated cost: $250,000.

Project 6: New UM Medical Practice Building Mechanical Louver Code-Plus Upgrade

Strengthen the mechanical louvers from a current code wind protection of 146 mph wind load to 185 mph wind load with NOA testing. Estimated cost: $55,000.

Project 7: New UM Medical Practice Structural Frame Code-Plus Upgrade

Fortify the foundation and structural frame of the New Medical Practice Building to withstand the forces of 185 mph 3 second wind gusts. Estimated cost: $1,500,000.

Project 8: New UM Medical Practice Doors and Entries Code-Plus Upgrade

Strengthen the exterior doors and building entries from a current code wind protection of 146 mph wind load to 185 mph wind load with NOA testing. This strengthening would include lower gauge metal doors, thicker glazing, additional metal framing, and heavy duty hardware and operators. Estimated cost: $55,000.

Project 9: New UM Medical Practice Roof Assembly Code-Plus Upgrade

Strengthen the roofing assembly from a current code wind protection of 146 mph wind load to 185 mph wind load with NOA testing. Estimated cost: $170,000.

Project 10: Business School Building Code Plus Wind Protection

To strengthen the overall wind protection of the new Business School Building which will be used to shelter off-campus University of Miami students during an event, thus freeing

public shelter space, from current code protection of 146mph to 185 mph with explosion/wind resistant glass windows. Estimated cost: $4,434,000.

Project 11: Business School Building Code Plus Building Fortification

To strengthen and harden the overall building structure from current code protection to structural reinforcement protection to withstand a Category 5 hurricane.
Estimated cost: $1,400,000

Project 12: Business School Building Code Plus Power and Water

To fortify the overall power and water supply from current code requirements to code plus protection by providing a dedicated generator and chiller to carry normal and critical loads of entire building. Estimated cost: $750,000

Project 13: Smathers Wellness Center Wind Retrofit

To strengthen the overall wind protection of the new Smathers Wellness Center which will be used to shelter off-campus University of Miami students during an event, thus freeing public shelter space, and then becoming the critical operations center for the university after an event, from current code protection of 146mph to 185 mph with explosion/wind resistant glass windows. Estimated cost: $4,500,000.

Project 14: Smathers Wellness Center Power and Water Fortification

To fortify the overall power and water supply of the new Smathers Wellness Center which will be used to shelter off-campus University of Miami students during an event, thus freeing public shelter space, and then becoming the critical operations center for the University after an event, from current code requirements to code plus protection by providing a dedicated generator and chiller to carry normal and critical loads of entire building. Estimated cost: $1,000,000

Project 15 Hardening of Medical Campus Power and Chiller Plant to Code Plus

The new University Medical Campus power and chiller plant will provide power and Air conditioning to critical research buildings, which include freezer farms with research specimens. The project is to harden the building to code plus protection and upgrade the chillers to ensure continuity of operations for these critical research buildings. Estimated cost: $2,000,000

Project 16: Flood Protection and Code Plus Protection for the Rosenstiel Medical Science Building Central Steam Plant.

This project involves the expansion and upgrade to the campus central steam plant to support the new Interdisciplinary Wet Lab building and the New Medical Practice Building. This will fortify the Central Steam plant from flooding and increase the redundancy serving all of the research and animal facilities as well self generation of building power for the facility.

Estimated cost: $1,750,000.

Project 17: Wind Retrofit, Flood Protection, & Power Upgrade for Eaton Residential Hall

Eaton Hall provides shelter for approximately 300 on campus students during an event that would otherwise have to be evacuated. The university plans to provide wind resistant glass, flood gates, and upgrade emergency power for critical building components.
Estimated cost: $2,000,000

Project 18: Wind Retrofit and Flood Protection for Mahoney-Pearson Residential Halls

Mahoney-Pearson Halls provide shelter for approximately 500 on campus students during an event that would otherwise have to be evacuated. The university plans to provide wind resistant glass and flood protection for the building. Estimated cost: $2,500,000

Project 19: Wind Retrofit and Flood Protection for Stanford Towers

Stanford Tower provides shelter for approximately 200 on campus students during an event that would otherwise have to be evacuated. The university plans to provide wind resistant glass, anchor equipment, and upgrade emergency power for critical building components.
Estimated cost: $1,700,000

Project 20: Medical Campus Fuel Tank

This project is for the installation of an Aboveground Fuel Storage Tank to provide uninterruptible fuel supply for emergency generator power for critical facilities throughout the Medical Campus and fuel for essential and emergency personnel. Estimated cost: $120,000

Project 21: Wind Retrofit and Flood Protection for Sewell Building

This project involves hurricane resistant wind retrofit measures for wind protection, and anchoring of equipment and upgrade roof. Estimated cost: $500,000

Project 22: Retrofit Marine Campus Auditorium to Serve as the Emergency Command Center for Marine Campus

Space will be pre-wired for fifty work stations, and configured to house staff/faculty & students displaced from other buildings. New restrooms and showers will be added. The work stations will allow students and faculty to continue their research and work and serve as the Emergency Command Center in case of a major disaster/hurricane. This center could also be a backup location for the school administration to manage the school's business in case we lose the administration building. The Emergency Center can also be used to house one of the school's department's or divisions that loses its space due to fire, hurricane, etc. The Auditorium features a bunker like construction - no windows and very strong perimeter wall. Since this space is not

normally occupied, it can easily serve an emergency function without displacing anyone. The space already has full backup power generator service. Estimated cost: $750,000

Project 23: Wind Retrofit and Flood Protection for McArthur Annex

This project involves hurricane resistant wind retrofit measures for wind protection, and anchoring of equipment. Estimated cost: $500,000

Project 24: Wind Retrofit and Flood Protection for Ferre Building

This project involves hurricane resistant wind retrofit measures for wind protection, and anchoring of equipment. Estimated cost: $500,000

Project 25: Wind Retrofit and Flood Protection for Gables One Building

This project involves hurricane resistant wind retrofit measures to include wind resistant glass windows, shutters, and anchoring of equipment. Estimated cost: $3,300,000

Project 26: Wind Retrofit and Flood Protection for Panhellenic Building

This project involves hurricane resistant wind retrofit measures for wind protection, and anchoring of equipment. Estimated cost: $500,000

Project 27: Wind Retrofit and Flood Protection for Law Buildings C and E

This project involves hurricane resistant wind retrofit measures for wind protection, and anchoring of equipment. Estimated cost: $500,000

Project 28: Wind Retrofit and Flood Protection for Fillmore Building

This project involves hurricane resistant wind retrofit measures for wind protection, and anchoring of equipment. Estimated cost: $500,000

Project 29: Wind Retrofit and Flood Protection for Volpe Building

This project involves hurricane resistant wind retrofit measures for wind protection, and anchoring of equipment. Estimated cost: $500,000

Project 30: Wind Retrofit and Flood Protection for Weeks building

This project involves hurricane resistant wind retrofit measures for wind protection, and anchoring of equipment. Estimated cost: $500,000

Project 31: Wind Retrofit and Flood Protection for Architecture Buildings 48 and 49

This project involves hurricane resistant wind retrofit measures for wind protection, and anchoring of equipment. Estimated cost: $900,000

Project 32: Upgrade Emergency Power for Max Orovitz Building

This project involves the upgrading of the emergency power supply to handle critical operations during and after an event. Estimated cost: $300,000

Project 33: Wind Retrofit Protection for Koubek Auditorium

This project involves hurricane resistant wind retrofit measures for wind protection in the form of accordion shutters for all openings of the Auditorium. Estimated cost: $200,000

Project 34: Wind Retrofit Protection for Koubek Center Mansion

This project involves the use of hurricane resistant glass windows for wind protection of all building openings. The Mansion is a historic building and cannot have permanent shutters as wind protection. Estimated cost: $300,000

Miami Bridge Youth and Family Services, Inc.

Project: Windstorm Protection

Miami Bridge is a not-for profit agency incorporated in 1985. Miami Bridge operates 2 emergency youth shelters that are licensed by the Florida Department of Children and Families. One shelter houses 28 youth and is located at 2810 NW South River Drive, Miami, Florida 33125. The second shelter houses 20 youth and is located at 326 NW Third Avenue, Homestead, Florida 33030. Each shelter facility is located on a campus that also contains two additional buildings. One building is utilized as an educational facility and the other building is utilized to house the organization's family crisis intervention social service support program. Miami Bridge requests funding to purchase and install hurricane shutters and other building protection upgrades. This will enable the 48 emergency youth shelter residents and 11 supervisory staff to remain in the Miami Bridge facility and not evacuate to a local county hurricane shelters. Total: 6 buildings. Estimated cost: TBD

Miami Beach Housing Authority

Project 1: Windstorm Protection for Rebecca Towers South

200 Units – Public Housing located at 150 Alton Road, Miami Beach. 686 windows that need hurricane impact glass. Accordion shutters can be utilized on the first floor for doors and storefronts. Estimated cost: $755,640

Project 2: Windstorm Protection for Rebecca Towers North

200 Units – Section 8 New Construction located at 150 Alton Road, Miami Beach. 686 windows that need hurricane impact glass. Accordion shutters can be utilized on the first floor for doors and storefronts. Estimated cost: $755,640

Project 5: Shutter 211 Collins

16 Units – Affordable Housing located at 211 Collins Avenue, Miami Beach. 98 windows that need hurricane impact glass. Accordion shutters can be utilized on the first floor for doors and storefronts. Estimated cost: $150,000

Replace Generator, Rebecca Towers South

200 Units – Public Housing located at 150 Alton Road, Miami Beach. Replacement of a 30 year old, 115 kilowatt, 400 amp, 1800 rpm generator to run one elevator during a power outage. It also provides emergency lighting and the fire system. Estimated cost: $100,000

Project 5: Replace Generator, Rebecca Towers North

200 Units – Section 8 New Construction located at 200 Alton Road, Miami Beach. Replacement of a 30 year old, 115 kilowatt, 400 amp, 1800 rpm generator to run one elevator during a power outage. It also provides emergency lighting and the fire system. Estimated cost: $100,000

Miami Children's Hospital

Project 1: Hardening & Elevation – Variety Central Building

The Variety Central Building contains multiple critical functions of the institution, including Dietary and the in-patient psychiatric ward. The electrical panel and emergency back up power for the building are in need of elevation and hardening to reduce the risk of water damage during hurricanes and other extreme weather events. Estimated Cost: $1,000,000

Project 2: Hardening & Elevation – Ambulatory Care Building

The Ambulatory Care Building is a predominantly outpatient facility, though critical services such as cardiology and neurology are present in the building. The electrical panel and emergency back up power for the building are in need of elevation and hardening to reduce the risk of water damage during hurricanes and other extreme weather events.
Estimated Cost: $1,000,000

Project 3: Modify and Upgrade Storm Water System

The main campus has on-going repetitive damage issues resulting from storm water flooding. To mitigate the potential for future damage to facilities and equipment several options

are under review. The plan is to supplement existing systems with new exfiltration trenches in accordance with DERM and local requirements. In addition to the trenches, plans for open space areas – such as parking lots and landscaped areas – include a below grade retention/detention system to assist with storage capacity until storm water can be dispersed, potentially to an out-flow to a nearby waterway. Estimated Cost: $1,000,000

Project 4: Hardening & Elevation - South Dade Campus

The South Dade Campus has an electrical panel and emergency back up power system for the building are in need of elevation & hardening to reduce the risk of water damage during hurricanes and other extreme weather events. Estimated Cost: $500,000

Project 5: Essential Services Annex Structural Reinforcements

The Essential Services Annex is the central warehouse for the main campus and contains critical support services and functions for the institution. To improve the structural strength of the building tested reinforcements such as lateral bracing and roof clips need to be installed.
Estimated cost: $500,000

Project 6: Hurricane Protection for the Northeast Building

The Northeast Building houses the Hematology/Oncology Wing, CICU and in-patient rooms with approximately 22,000 square feet per floor on three floors with a total square footage of about 70,000. While constructed of concrete block, the building was built before current code requirements and is not reinforced with adequate steel rebar. Should the hospital sustain a direct or near direct hurricane, the structure and valuable contents would be at risk. The intent of this project is to increase the exterior skin to a higher hurricane protection level.
Estimated cost: $3,000,000.

Project 7: Hurricane Protection for the 4th Floor Mechanical Room

The air-handling units for the inpatient unit are all located inside the 4th floor penthouse mechanical room. While the rest of the hospital has upgraded hurricane protection, the 4th floor mechanical room is encased in the original EIFS skin. Should the hospital sustain a direct or near direct hit, the mechanical systems which serve the facility would be at risk. The intent of this project is to increase the exterior skin to a higher hurricane protection level.
Estimated cost: $1,200,000.

Project 8: Harden Research Building Exterior

The Research Building as the name implies serves as the center of the hospital's research initiatives and includes administrative offices for the senior management of the institution. It is constructed of EIFS building system which in the event of a high category hurricane would put the building at risk for damages. To prevent this occurrence, the intent of this project would be to harden the building's exterior. Estimated cost: $3,000,000.

Project 9: Harden the Variety Central Building

The Variety Central Building is part of the original hospital structure that serves as an in-patient care facility. At present, its roof system is antiquated and vulnerable to damage from high winds. In addition, the shutter system in place does not meet current impact standards and should be updated. Further, the building has a penthouse structure which houses the primary data center and technology infrastructure for the hospital. This penthouse has exterior facing door openings that suffer repetitive damage from water seepage. The project outlined will harden the roof, shutter system and technology penthouse. Estimated cost: $937,500

Project 10: Harden the Variety Northeast Building

The Variety Northeast Building is part of the original hospital structure. At present it houses the pediatric care clinic, psychiatric in patient ward and medical offices. The roof system is old and in need of strengthening. The shutter system was installed prior to current building code and is not sufficiently impact resistant. Hardening both the roof and shutter system would dramatically strengthen the building and hedge against the potential for future damages.
Estimated cost: $ 1,192,345.

Project 11: Harden the Variety Northwest Building

The Variety Northwest Building is part of the original hospital structure. It currently houses biomedical services, intern housing and administrative offices. The building is in need of a hardened roof and shutter system, since both were installed prior to current building code and are not sufficiently impact resistant. Estimated cost: $882,600

Project 12: Strengthen the Patient Bed Tower Construction to Code Plus

A new state-of-the-art Patient Bed Tower is currently in the design phase and is anticipated to be built in the coming years. The intent is to construct the facility above current Florida Building Code to ensure maximum protection in the face of extreme weather occurrences. The project will represent the difference between constructing the facility to surpass current building code versus building it to comply with code. Estimated cost: $1,990,500.

Project 13: Strengthen the Central Energy Plant Construction to Code Plus

A new state-of-the-art Energy Center is currently in the design phase and is anticipated to be built in the coming years. The intent is to construct the facility above current Florida Building Code to ensure maximum protection in the face of extreme weather occurrences. The project will represent the difference between constructing the facility to surpass current building code versus building it to comply with code. Estimated cost: $468,300.

Project 14: Hurricane Protection for the Oxygen Tank Farm

The oxygen tank farm at Miami Children's Hospital includes a large vertical oxygen storage tank as well as evaporators required to supply oxygen to the inpatient facility. This system is exposed to the environment, and to other possible hazards, and is very vulnerable to high wind conditions and to wind-driven projectiles. The intent of this project is to provide encapsulation of the tanks and related equipment to provide storm damage protection and insure critical access to the oxygen supply during and after storm events. Estimated cost: $203,200.

Project 15: Harden the Essential Services Annex

The warehouse facility is a 20,000 sq. ft. building which supports biomedical equipment maintenance, environmental services, purchasing, records storage, and storage of clinical supplies. Incremental clinical inventory, and water and food acquired for emergency storm use (the Hospital also serves as a public shelter), are also stored in the building. Hardening of the overhead and exterior doors and windows will provide needed insurance against failure or penetration during storm events. Estimated cost: $176,400.

Project 16: Harden Devonshire Apartments (Patient Family Facilities)

The hospital maintains Devonshire, a 20 unit apartment complex adjacent to the main campus to house families of patients in critical care at the Hospital. This allows families to be able to frequently visit their children and also provides housing for Hospital staff. Hurricane shutters would provide tremendously improved protection in the face of extreme weather events. Estimated cost: $ 156,000.

Miami Christian School

Provide hurricane window protection throughout the campus. Estimated cost: $200,000. **Note:** Miami Christian School has successfully mitigated all campus buildings for windstorm protection. Congratulations from the Miami-Dade Local Mitigation Strategy Working Group.

Miami Dade College

Project 1: Entrepreneurial Education Center Building 1000 Wind Mitigation

Installation of hurricane shutters/window screen protection on the two floors of the Entreprenurial Education Center Building 1000. The Miami Dade College Entreprenurial Education Center Classroom Building has many large glass windows and doors that are currently unprotected. MDC will protect the glass windows and doors in vulnerable areas around the building. The building houses instructional spaces, food services, and student services. The main electrical systems, chiller plant, and generator are also housed in this building. If windstorm damage occurs, vital infrastructure will suffer, and the damage will cause a shutdown of the campus. Installation of windstorm damage protection will mitigate hurricane and tornado damage and ensure that the campus infrastructure is able to weather a disaster.
Estimated cost: $114,400

Project 2: Medical Center Campus Building 1000 Wind Mitigation

Installation of hurricane shutters/window screen protection on the Medical Center Campus Building 1000. The Miami Dade College Medical Center Campus Building 1000 has many large glass windows and doors that are currently unprotected. MDC will protect the glass windows and doors in vulnerable areas around the building. The building houses instructional spaces, administrative offices, and student services. If windstorm damage occurs, vital infrastructure will suffer, and the damage will cause a shutdown of the campus. Installation of windstorm damage protection will mitigate hurricane and tornado damage and ensure that the campus infrastructure is able to weather a disaster. Estimated cost: $200,000

Project 3: Medical Center Campus Building 2000 Wind Mitigation

Installation of hurricane shutters/window screen protection on the Medical Center Campus Building 2000.

The Miami Dade College Medical Center Campus Building 2000 has many large glass windows and doors that are currently unprotected. MDC will protect the glass windows and doors in vulnerable areas around the building. The building houses instructional spaces, administrative offices, and student services. If windstorm damage occurs, vital infrastructure will suffer, and the damage will cause a shutdown of the campus. Installation of windstorm damage protection will mitigate hurricane and tornado damage and ensure that the campus infrastructure is able to weather a disaster. Estimated cost: $263,000

Project 4: Hialeah Campus Building 1000 (Classroom Building) Wind Mitigation

Installation of hurricane shutters/window screen protection on the Hialeah Campus Building 1000. The Miami Dade College Hialeah Campus is located in a Hialeah neiborhood. The Hialeah Campus Classroom Building has many large glass windows and doors that are currently unprotected. MDC will protect the glass windows and doors in vulnerable areas around the building. The building houses instructional spaces, food services, and student services. The main electrical systems, chiller plant, and generator are also housed in this building. If windstorm damage occurs, vital infrastructure will suffer, and the damage will cause a shutdown of the campus. Installation of windstorm damage protection will mitigate hurricane and tornado damage and ensure that the campus infrastructure is able to weather a disaster.
Estimated cost: $250,000

Project 5: Hialeah Campus Building 2000 (Support Building) Wind Mitigation

Installation of hurricane shutters/window screen protection on the Hialeah Campus Building 2000. The Miami Dade College Hialeah Campus is located in a Hialeah neighborhood. The Hialeah Campus Support Building has many large glass windows and doors that are currently unprotected. MDC will protect the glass windows and doors in vulnerable areas around the building. The building houses all administrsative spaces, the main electrical systems, and air

conditioning systems. If windstorm damage occurs, vital infrastructure will suffer, and the damage will cause a shutdown of the campus. Installation of windstorm damage protection will mitigate hurricane and tornado damage and ensure that the campus infrastructure is able to weather a disaster. Estimated cost: $41,000

Project 6: North Campus Building 1000 Wind Mitigation

Installation of hurricane shutters/window screen protection on the North Campus Building 1000. The Miami Dade College North Campus is located in the North Miami neighborhood. The North Campus Building 1000 has many large openings and doors that are currently unprotected. MDC will protect the openings and doors in vulnerable areas on the north and south sides on all three floors (breezeway area). The building houses the campus administrative offices and support services. The main electrical systems, chiller plant, and generator are also housed in this area. If windstorm damage occurs, vital infrastructure will suffer, and the damage will cause a shutdown of the campus. Installation of windstorm damage protection will mitigate hurricane and tornado damage and ensure that the center infrastructure is able to weather a disaster. Estimated cost: $374,200

Project 7: Wolfson Campus Building 1000 Wind Mitigation

The District and campus administrative offices, support services and instructional rooms are housed in the building. The main electrical systems and generator are also located in the building. The Wolfson maintenance department, work order system and storage are in the basement of this building. District and campus administrative offices are housed in this building. If windstorm damage occurs, vital infrastructure will suffer causing a shutdown of most of Miami Dade College Wolfson Campus. Installing windstorm damage protection will mitigate damage and facilitate recovery. The building is the hub of the instructional and administrative activities for this center and other satellite centers in the area. Windstorm mitigation of this facility will assure quicker recovery of services provided. Install protective hurricane (permanent type) screens on windows or impact resistant glass and supporting structure or other hurricane protection as designed and replace fourth floor sliding glass doors with impact resistance glass and structure or other hurricane protection that will protect against wind and flying debris damage. Design, specify and install impact resistant sliding glass doors or other hurricane protection for Miami Dade College Wolfson Campus Building 1000 windows and fourth floor sliding glass doors. Estimated cost: $400,000

Project 8: Wolfson Campus Building 2000 Wind Mitigation

Instructional spaces, offices, and food service are housed in the building. Windstorm mitigation of this building will assure quicker recovery of services provided. Install protective hurricane (permanent type) screens on windows or impact resistant glass and supporting structure or other hurricane protection as designed. Design, specify and install impact resistant hurricane screens or impact resistant glass and supporting structure or other hurricane protection for Miami Dade College Wolfson Campus Building 2000. Estimated cost: $200,000

Project 9: West Campus Administrative and Classroom Building Wind Mitigation

Administrative offices, instructional spaces, offices, and food service are housed in the building. The building is the hub of the instructional and administrative activities for this campus in the area. Windstorm mitigation of this facility will assure quicker recovery of services provided. Install protective hurricane (permanent type) screens or other hurricane protection on windows. Design, specify and install impact resistant hurricane screens or other hurricane protection for Miami Dade College West Campus. Estimated cost: $75,000

Project 10: Wolfson Campus Building 1000 Flood Mitigation

The basement of building 1000 is below street level and is subject to flooding. Located in the basement is the main (central) chiller equipment for buildings 1000, 2000, 3000, and 4000. The main electrical systems and generator are also located in the basement. The Wolfson maintenance department, work order system and storage are in this basement. District and Campus administrative offices are housed in this building. If flooding occurs in this basement, vital infrastructure will suffer causing a shutdown of most of Miami Dade College Wolfson Campus. Install the backup pump to relieve the basement of flooding and damage to the equipment. In the case of a major flooding event, this pump will facilitate recovery of this campus and mitigate associated costs. Design, specify and install a water pump at Miami Dade College Wolfson Campus Building 1000 basement. The job will include all necessary equipment, electrical, and mechanical needs. Estimated cost: $150,000

Project 11: Wolfson Campus Building 5000 (NWSA) Flood Mitigation

The basement of building 5000 is below street level. Located in the basement are instructional rooms, mechanical equipment and storage. Install a backup pump to relieve the basement of water and damage to equipment. In the case of a major flooding event, this pump will facilitate recovery of this building and mitigate associated costs. Design, specify and install a water pump at Miami Dade College Wolfson Campus Building 5000 basement. The job will include all necessary equipment, electrical, and mechanical needs. Estimated cost: $135,000

Miami-Dade County Public Schools

Project 1: Harden Schools as Evacuation Shelters

It is the intention of Miami-Dade County Public Schools to install shutters on all unshuttered Red Cross-designated hurricane evacuation centers by the opening of the 2004 hurricane season. This is the primary objective within our shelter program. Of nearly equal import is the protection of the remaining structures that comprise the administrative hub located at N.E. 2nd Avenue between 14 and 16 streets. The district would also like to complete shutter installation on all school buildings when funds become available. The current facilities under consideration are:

1. Arcola Lake Elementary

2. Arvida Middle (on Red Cross Evacuation Shelter list) Original Facility
3. Bob Graham Educational Center
4. Campbell Drive Middle, Original Facility Addition
5. G. W. Carver Middle Learning Center – Building 12 (A-0706)
6. Coral Reef Senior
7. Dorothy M. Wallace COPE Center Original Facility – Building 01
8. Kinloch Park Elementary
9. Kinloch Park Middle
10. Dr. Michael M. Krop Senior
11. Nautilus Middle
12. Ponce De Leon Middle – Middle Learning Center – Building 17
13. Richmond Heights Middle – Original Facility – Building 1 & 3
    Addition to original facility (A-0399)
    Addition – Building 02 (A-0710)
14. Shenandoah Elementary Original Facility
15. Shenandoah Middle – Middle Learning Center – Building 02
16. Maintenance & Operations Center, 12525 NW 28th Avenue, Opa-locka, 33167

Project 2: Flood Proof Lindsay Hopkins Technical Education Center

Stormwater runoff from all the building roofs is collected by a series of rainwater leaders and discharged to two soakage pits. The roof runoff from the south half of Building D flows onto the existing sidewalk and is discharged via overland flow to a series of yard drains located between Building D and the parking garage. These yard drains are interconnected with the parking garage drainage system via a series of 12-inch polyvinyl chloride (PVC) pipes that connect to a 12-inch PVC equalizer pipe at the South end of the site. The parking garage drainage system is comprised of a series of area drains that discharge the collected runoff via a series of roof drains to a 15-inch corrugated aluminum pipe (CAP). Stormwater runoff at the east and west ends of the Technical Education Center (TEC) are collected by grass swales and discharged to two soakage pits. This site does not have a positive outfall system. Therefore, all runoff is collected and retained on site. The collected runoff is dissipated from the site via exfiltration and evaporation. Hydrologic/hydraulic modeling of the existing TEC drainage system shows that there is a significant amount of flooding that would be anticipated during a 100-year, 3-day design storm event. These results are substantiated by visual observations during similar storm events. Drainage systems are typically designed to avoid flooding of building ground floors during such a storm event. It is recommended that the attached cost proposal be considered because it is the only alternative evaluated that will prevent flooding of the building during a 100-year, 3-day storm event. This alternative will eliminate the costs associated with long term flooding of the existing buildings and also eliminate the need for constructing French drain systems adjacent to existing buildings, which can create the potential of foundation undermining during construction. Estimated cost: $449,000

Project 3: Add Roof Tie-downs, Window and Door Protection, Flood Barriers

Install roof tie-downs, add window and door protect and install flood barriers on the following buildings owned by the Miami-Dade County Public Schools: Cost TBD

1. Stores and Mail Distribution Warehouse: 7001 S.W. 4th Street, Miami. FL 33144
2. Main Transportation Center: 15401 S. W. 117 Ave., Miami FL 33177.
3. Northeast Transportation Center: 5901 N.W. 27 Ave., Miami, FL 33142.
4. South Transportation Center: 660 S.W. 3rd Ave., Florida City, FL 33034.
5. John Schee Transportation Center: 2755 N. W. 122 St., Miami FL 33167.
6. Central East Transportation: 7011 S.W. 4th Street, Miami, FL 33144.
7. Food & Nutrition Administration Building: 7042 West Flagler, Miami, FL 33144.

Project 4: Windstorm Protect for the Ana Brener Myers Building

This building houses the public access radio and T.V. stations. We want to 1) protect the windows with storm shields 2) replace the door assemblies with product-approved doors and 3) develop an engineered system for tying down satellite equipment on the roof as several disappeared during Wilma. Estimated cost: $700,000.

Project 5: Windstorm Protection for School Board Administration Complex

This building houses school district administrative offices and records. The application concerns storm shield applications to the windows and impact-resistant door assemblies. Destruction of this building would severely hamper the district's ability to recover from a disaster. Estimated cost: $150,000

Miami Lighthouse for the Blind

Project: Install Window Protection

Install window protect for older section of the main facility – approximately 60 windows. Estimated cost $160,000

Miami Museum of Science & Space Transit Planetarium

Project 1: Surge and Lightening Protection

To mitigate damage in a storm to the computers, data warehouse and local area network of the museum, the three phase motor systems of the HVAC system and crucial environmental and refrigeration systems to maintain our living and refrigerated research collections, a surge and lightening protection system is required. The facility has been struck by an electrical discharge three times in the last five years, further indicating the need for the protection system.
Estimated cost: $60,000.

Project 2: Backup Generator for HVAC and Collections Protection

The Miami Museum of Science houses the largest natural history collection in South Florida, a large living collection including birds of prey, a refrigerated research collection, as well as collections from the Smithsonian Institution. It is essential that the environmental systems remain operational, with uninterrupted electrical service, during and after a disaster event. A diesel generator and fuel sufficient to provide 72 hours of continuous operations would be provided to maintain these functions during power loss periods. Estimated cost: $125,000.

Project 3: Portable Defibrillator

With over 300,000 residents and visitors to the Museum of Science facility, a portable defibrillator would add an additional safety factor to the Museum operations. Also it would provide added protection to the volunteers and staff in the event of disaster and injuries incurred in the recovery. Staff, presently trained in CPR and First Aid by the Red Cross, would also need to complete Red Cross training in the use of the defibrillator. Estimated cost: $10,000.

Mount Sinai Medical Center & Miami Heart Institute

Project 1: Harden deHirsch Meyer Building Envelope

Install protective devices for openings in the deHirsch Meyer Building - Install removable bracing on all doors opening unto the roof. Reinforce method of attachment for metal cap on parapet around roof. Install a wind-rated roof system. (MSMC - Patient Care Tower)
Estimated cost**:** $5,650,000

Project 2: Harden Greene Building Envelope

Harden exterior walls by replacing or encapsulating them with hurricane-rated, both for large missile impact and for wind pressure, materials. Install protective devices for openings in the Greene Building - hurricane rated glass windows and new doors. Install a wind-rated roof system. (MSMC - Critical Care Tower) Estimated cost: $6,000,000

Project 3: Harden Blum Building Envelope and Roof

Install protective devices for openings in the Blum Building - hurricane rated windows and doors. Install a hurricane protective/wind-rated roof system. Increase roof drainage capacity. (MSMC - Critical Care Tower) Estimated cost: $2,300,000

Project 4: Harden Orovitz Emergency Room

Install protective devices for openings in the Orovitz Emergency Room Building - hurricane rated windows and doors. Install a hurricane protective / wind-rated roof system. (MSMC – Emergency Room) Estimated cost: $1,300,000

Project 5: Harden Warner Building Envelope

Install protective devices for openings in the Warner Building – hurricane rated windows and doors. Install hurricane protective/wind-rated roof system. (MSMC – Patient Care Tower. Estimated Cost: $2,170,000.

Project 6: Harden Ambulatory Surgery Building

Install protective devices for openings in Ambulatory Surgery Building – hurricane windows and new doors with shutters and hurricane protective/wind-rated roof system. (MSMC) Estimated cost: $2,000,000

Project 7: Protect Oxygen Supply

Ensuring a continuous supply of oxygen is critical to the effective functioning of Mt. Sinai Medical Center. The existing oxygen farm is vulnerable to the impact of wind, flying debris, storm surge and the impact of floating debris, hence subject to potential damage during hurricanes that may result in the interruption of oxygen supply. Install protective perimeter barrier to deflect the impact of flying and/or floating debris and wind. Replace main vertical tank with a horizontally mounted tank. Estimated cost: $250,000.

Project 8: Harden Energy Center Envelope and Roof

Building is already outfitted with hurricane shutters for all windows. Install removable bracing on all exterior doors. Replace roof with wind-rated cover. Install protective screening on the exhaust opening of all cooling towers to prevent flying debris from falling into the tower. Estimated cost: $ 750,000.

Project 9: Bracing for Roll-up Doors

Empirical evidence from hurricane events throughout the state has shown metal roll-up doors to be highly susceptible to damage from wind pressure. Install removable bracing devices for roll-up doors at loading dock, the boiler room, environmental and other locations throughout the campus. Estimated cost: $30,000.

Project 10: Protect In-Place Emergency Power Equipment

Relocate the two generators supplying emergency power to the deHirsch Meyer and Blum Buildings. Build a hurricane rated enclosure on the roof of the Energy Building to protect the generators. (MSMC) Estimated cost: $550,000.

Project 11: Harden Ascher Building Envelope

Install protective devices for openings in the Ascher Building - hurricane rated windows and doors. Remove gravel-ballasted roof and replace with wind-rated elastomeric membrane or

similar roof. Increase roof drainage capacity. (MSMC - Business Office)
Estimated cost: $620,000

Project 12: Enhance In-Place Rapid Emergency Response Communications

Install a house wide paging system. (MSMC) Estimated cost: $480,000

Project 13: Relocate Operating Rooms

Relocate entire operating room, its contents, equipment and critical functions from ground floor to above 500-year flood levels. (MSMC) Estimated cost: $16,500,000

Project 14: Protect In-Place Critical Cardiac Services

Relocate two cath labs on second floor of new building with OR **(**MSMC)
Estimated cost: $2,000,000

Project 15: Harden Lowenstein Building Envelope

Install protective devices for openings in the Lowenstein Building (nurse residence)- hurricane rated windows and doors. Replace roof with wind-rated elastomeric membrane or similar roof and increase drainage capacity of roof. (MSMC) Estimated cost: $815,000

Project 16: Harden Child Care Building

Install protective devices for openings in the Child Care Building - hurricane rated windows and doors (MSMC) Estimated cost: $125,000

Project 17: Protect/anchor Exterior Movable Equipment

The operation of the hospital requires the placement of dumpsters, other type of containers and similar movable devices at various locations throughout the campus on a routine basis. Install ground mounted points of attachment for anchor said movable devices during hurricanes. Provide textile (i.e. "ArmorScreen™" or industrial netting) cover for these devices. This will prevent the displacement of said devices by wind or storm surge and will also prevent the contents from becoming flying debris. Estimated cost: $18,000.

Project 18: Mitigate the Impact of Storm Surge

Hydrodynamic pressure and floating debris from storm surge have the potential for causing damage throughout the Mt. Sinai Medical Center Campus. The NOAA SLOSH model projects a worst-case surge of 7.8 ft at this location exclusive of wave action. Install a surge deflector on top of the existing seawall to dampen the energy of the surge and stop floating debris. Install backflow gates at the storm drainage openings. Estimated cost: $350,000.

Project 19: Reinforce Exterior Poles/Masts Anchoring

Harden base foundation and method of anchoring light poles, and other similar facilities throughout the campus to prevent damage from wind loads and/or storm surge impact. Estimated cost: $30,000.

Project 20: Harden Miami Heart Institute

Install protective devices for openings in the MHI Buildings - hurricane windows and new doors with shutters. (MHI -Healthcare with Critical Care) Estimated cost: $4,500,000

Project 21: Enhance In-Place Emergency Generation Capabilities in 9 Buildings

Increase the size of the generators supplying emergency power to deHirsch Meyer, Blum, Greene, Ambulatory, Ascher, Lowenstein, Radiology, MRI, Warner, Research, MSOP, and Parking Garage. (MSMC) Estimated Cost: $4,500,000

Quality Response Solutions, Inc.

Project: Develop High Rise Safety Program

QRS will develop a comprehensive emergency awareness program for hi-rise communities of Miami-Dade County. The program will include strategies for a multitude of hazardous situations that a hi-rise community may encounter. This program will include a multi-hazard preparedness approach to include fire safety, sheltering-in-place requirements, weather related evacuation decisions, special needs resident considerations among several other related topics. The program will address building safety and regulations, proper staff training, and capabilities of the local emergency response agencies. Also factors like building structure, staff size, building location, tenant demographics, and local building laws and regulations will be taking into account during the creation of this program. Estimated cost $30,000

St. Lawrence School

Project: Harden School Buildings

Our proposal is to protect two buildings. One buildings houses grades 1st through 8th plus the offices and a teachers' lounge. The other building houses the kindergarten and various offices [counseling etc.] as well as other functions. Both these buildings are built of reinforced masonry and have two stories. Building "A" has a total area of 17,900 square feet while Building "B" has a total enclosed area of 4,600 square feet. There are a total of 128 openings, between windows and doors that we propose to protect by way on accordion shutters to be closed in case of hurricanes. In the case of the 1st-8th grades building we will need to install a steel structure to support the shutters. The main reasons we propose accordion shutters are: (a) there is no storage space for removable panels, (b) the maintenance staff for the whole campus consist of only two

employees, and (c) many of the openings are on the second floors with no access to carry and install removable panels. Estimated cost: $135,500

St. Thomas University

St. Thomas University proposes three projects which will together provide safe shelter for its resident students during and after a storm. It proposes to make two dormitories and the cafeteria building hurricane-proof by installing shutters. With the additional purchase of two generators, the university will be able to provide shelter and food for all resident students and staff during and after the storm, until the power is reconnected. This mitigation project will free up at least 215 spaces in community shelters in the North Miami-Dade area during the storm and free up more than 100 hotel rooms after the storm.

Project 1: Cascia Dormitory

This building houses 115 residential students. The structure is sound, has a new roof installed in 2002, and only needs shutters to make it hurricane proof. Most student residents are from out-of-state or from overseas, and have no immediate family in the area. Until now, their only option once a hurricane warning is issued is to go to a local shelter. Once the building is hurricane-proof, they can stay on campus. This will eliminate the need for them to drive to and from the shelter during the warning and in the aftermath of a storm and, in addition, free up space in the shelter for local residents. There are sufficient bathrooms to accommodate them (four bathrooms that accommodate 25 students each). To provide shelter for the students during and after the storm until power is reconnected, the only additional cost would be for a generator. This mitigation project will free up at least 115 spaces in community shelters in the North Miami-Dade area during the storm and free up more than 50 hotel rooms after the storm.
Estimated cost: $212,500

Project 2: Donnellon Dormitory

This building houses 100 residential students. The structure is sound, has a roof in good condition, installed less than ten years ago and still under warranty. The building only needs shutters to make it hurricane proof. Most student residents are from out-of-state or from overseas, and have no immediate family in the area. Until now, their only option once a hurricane warning is issued is to go to a local shelter. Once the building is hurricane-proof, they can stay on campus. This will eliminate the need for them to drive to and from the shelter during the warning and in the aftermath of a storm and, in addition, free up space in the shelter for local residents. There are sufficient bathrooms to accommodate them (four bathrooms that accommodate 25 students each). To provide shelter for the students during and after the storm until power is reconnected, the only additional cost would be for a generator. This mitigation project will free up at least 100 spaces in community shelters in the North Miami-Dade area during the storm and free up more than 50 hotel rooms after the storm. Estimated cost: $206,000

3: Storm Shutters for Cafeteria Building

Carol Hall contains the cafeteria, the bookstore, and the Bobcat Hall of Fame meeting room. The cafeteria comprises food storage, cooking and serving facilities for the entire campus (2,500 students and 350 faculty and staff). After a storm, the cafeteria can provide food for all students and staff who have remained on campus, plus the employees performing clean-up and restoration work. The Bobcat Hall of Fame will serve an important role as an additional space to shelter students during and after the storm. A generator will enable the cafeteria to continue providing its services to all students and staff remaining on campus after the storm until power is restored, as well as provide light and air conditioning for the Bobcat Hall of Fame as additional shelter and meeting space. Estimated cost: $113,000

South Florida Regional Planning Council

Project 1: South Florida Regional Hurricane Evacuation Study Update

The SFRPC intends to update the 1996 regional study by utilizing current data regarding housing units, roadway capacity and new evacuation area boundaries. The current plan is useful for local governments to assess the impacts on hurricane evacuation clearance times of individual development decisions prior to approval. The SFRPC and Florida Department of Community Affairs has used numbers from the existing study to determine whether some changes to land use designations in local government comprehensive plans are appropriate. The Broward County Planning Council has already adopted regulations requiring the information the new study would provide. Mitigation value: assist in the reduction of development decisions that increase residential dwelling units in coastal high hazard areas.
Estimated cost: $50,000 grant, $50,000 SFRPC match.

Project 2: Disaster Resistant Economic Activity for Mitigation (DREAM) Teams

The SFRPC intends to partner with county emergency management agencies, the Florida Insurance Commissioner's office, and chambers of commerce to organize small businesses to develop business emergency preparedness and mitigation plans, form mutual support networks, and negotiate group rates for business insurance and shutter installation, among other activities. Mitigation value: reduce damage to local businesses from emergencies, protect jobs and regional economy from disasters, reduce time and costs for regional physical and economic recovery. Estimated cost: $75,000 grant, $75,000 SFRPC match.

Project 3: South Miami-Dade Watershed Study

The SFRPC is managing a long-term, large-scale land use and water management study for the south half of Miami-Dade County. Project partners include Miami-Dade County Planning and Zoning Department and the South Florida Water Management District. Other assistance and participation is provided by Florida Department of Environmental Protection and Miami-Dade County Department of Environmental Resources Management. Approximately $2,000,000 is funded, but project requires an additional approximately $1,500,000.00. Project

scope of work and notice to consultants are nearing completion. Mitigation value: Hazard mitigation component to direct future development away from vulnerable areas such as storm surge areas and floodways, reduce potential flooding from cumulative new development by identifying mitigation measures in advance, and identify appropriate locations for critical facilities to serve projected population growth in area. Estimated cost: $250,000 grant, $250,000 SFRPC match.

South Florida Water Management District

Project 1: C-2 Canal Conveyance Improvements

The C-2 basin has an area of approximately 53 square miles and is located in eastern Miami-Dade County. The C-2 is also known as the Snapper Creek Canal.

The C-2 canal is the only project canal in the C-2 basin. It has three functions: 1) to provide drainage and flood protection for the basin; 2) to supply water to the C-2 and the C-100 basins for irrigation, and 3) to maintain a groundwater table elevation near the lower reach of the C-2 adequate to prevent saltwater intrusion into local groundwater. During periods of low natural flow, water is supplied to the basin from the C-4, and water supply is made to the C-100 basin from C-2 by way of C-100C and S-121.

The SFWMD is proposing conveyance improvements of a 7 mile reach of the C-2 canal from where S-121 connects with the C-2 Canal and the intersection of C-2 and C-4 canals. Dredging of shoals in this reach will lower the surface water elevation in the C-2 canal thus providing enhanced flood protection for both the C-2 and C-4 basins.
Estimated cost: $2,480,000

Project 2: C-5 Canal Conveyance Improvements

The C-5 basin has an area of approximately 2.3 square miles and is located in eastern Miami-Dade County. The C-5 is also known as the Comfort Canal.

The C-5 canal is the only project canal in the C-5 basin. It provides drainage and flood protection for the basin. C-5 begins as a bifurcation of C-4 at Blue Lagoon northwest of Coral Gables. Flow in the canal is to the east to the canal's confluence with the C-6, three quarters of a mile downstream of S-26.

There are two project control structures in the C-5 basin: S-25A and S-25. S-25A is a gated culvert located in the C-5 east of Blue Lagoon and under NW 45th Avenue. S-25A is a divide structure between the C-4 and C-5 basins. It is normally closed. If the quality of water in C-5 becomes poor during periods of low natural flow, S-25A may be opened as necessary to dilute the poor water quality and to flush out the canal.

The SFWMD is proposing conveyance improvements of a 1-mile reach of the C-5 canal between structures S-25A and S-25. Dredging of shoals in this reach will lower the surface wa-

ter elevation in the C-5 canal thus providing enhanced flood protection for both the C-5 and C-4 basins. Estimated cost: $1,060,000

Project 3: Forward Pumping at S-27 on the C-7 Canal

The cities of Hialeah, Miami Shores and El Portal are subject to flooding following periods of above average rainfall. The C-7 canal that drains the area is unable to convey the excess water thus resulting in flooding. An estimated population of 750, 917 reside in the affected basin. The SFWMD has proposed the following improvement that will enhance the conveyance through the C-7 Canal: The construction of an up to 600 CFS pump station in the vicinity of S-27 water control structure. The pump station will allow for forward pumping under high tide conditions and increase the discharge capacity of S-27 under low tide condition. The current discharge capacity of the water control structure is 2800 cfs. The pump station will include 3-54" pumps with their intakes located just upstream of S-27. The pumped water will be conveyed through a box culvert downstream. The discharge downstream will be enabled through a discharge bay. All construction activities may not be confined within district right-of-way. Land acquisition may be required to obtain approximately 1 acre of land for construction of the pump station on the west side of the C-7 canal. The approximate cost of $400,000 is for land acquisition. The estimated cost of the pump station is $4.0 million. An additional $200,000 is being requested for architectural and engineering services. Estimated cost: $4,600,000

Project 4: G-93 Structure Improvements

The G-93 structure is located on the C-3 Canal (Coral Gables Canal), which is owned and maintained by Miami-Dade County. The structure is operated and maintained by the SFWMD. It is a gated spillway and the gate is manually operated. This structure maintains optimum upstream water control stages; it passes the design flood flows, resulting from a 10 year storm (about 40% of the Standard Project Flood), plus a small discharge from the C-4 basin, without exceeding the upstream flood design stage and restricts downstream flood stages and discharge velocities to non-damaging levels; and it prevents saline intrusion during periods of high flood tides. The SFWMD is proposing to convert this structure to an automated one with manatee protection. This allows the district to operate the structure under extreme storm conditions from a remote site instead of sending staff from the Miami Field Station to operate the structure manually. The advantage of having a remotely operated structure is the SFWMD can react quickly to flooding conditions in urban areas. Estimated cost: $150,000

Project 5: Raise Bank Elevation on C-4

The work for the project from the Palmetto Expressway to SW 87th Ave consists of constructing a 5,250 linear feet of concrete wall to raise the top of the embankment to an acceptable elevation of +8.0 ft with limited impact on semi-permanent and permanent encroachments or adjacent properties. Estimated cost: $2,000,000

Project 6: Forward Pumping at S-28 on the C-8 Canal

Areas in the C-8 Basin are subject to periodic flooding following above average rainfall events. The C-8 Canal that drains the area is unable to convey the excess water, thus resulting in flooding conditions. The SFWMD is proposing to construct a pump station in the vicinity of the S-28 water control structure. The pump station will allow for forward pumping under high tide conditions and will increase the discharge capacity of S-28 under low tide conditions. This cost estimate includes, but is not limited to, potential land acquisition needs, A/E design services and construction. Estimated cost: $5,000,000

Project 7: Forward Pumping at S-29 on the C-9 Canal

Areas in the C-9 Basin are subject to periodic flooding following above average rainfall events. The C-9 Canal that drains the area is unable to convey the excess water, thus resulting in flooding conditions. The SFWMD is proposing to construct a pump station in the vicinity of the S-29 water control structure. The pump station will allow for forward pumping under high tide conditions and will increase the discharge capacity of S-29 under low tide conditions. This cost estimate includes, but is not limited to potential land acquisition needs, A/E design services and construction. Estimated cost: $5,000,000

Project 8: Install Berm on C-1 Canal South of SW 168th Street

Install 1,200 linear feet of berm south from SW 168th Street to approximately SW 171st Terrace along the east bank of the C-1N canal with a minimum elevation of 8.42 feet NGVD to protect against a 10-year storm event. Estimated cost: $46,500

Project 9: Install Berm on C-1 Canal West of SW 122nd Avenue

Install 1,500 linear feet of containment berm west from SW 122nd Avenue to SW 123rd Place along the north bank of the C-1N canal with a minimum elevation of 6.8 feet NGVD to protect against a 10-year storm event. Estimated cost: $51,600

Project 10: Install Berm on C-1 Canal East of SW 155nd Avenue

Install 6,000 linear feet of containment berm east and south from SW 155nd Avenue to SW 152 Street along the south bank of the C-1W canal with a minimum elevation of 9.0 feet NGVD to protect against a 10-year storm event. Estimated cost: $172,000

Project 10: Install Berm on C-1 Canal South of SW 167th Street

Install 2,150 linear feet of containment berm east and south from SW 137nd Avenue to SW 184th Street along the east bank of the C1 canal with a minimum elevation of 8.6 feet NGVD to protect against a 10-year storm event and install 4,000 linear feet of containment berm east and south from SW 167thnd Street to SW 137th Avenue along the west bank of the C1 canal with a minimum elevation of 8.6 feet NGVD to protect against a 10-year storm event.

Estimated cost: $137,000.

Project 11: Conveyance Improvements on theC-1 Canal

Complete conveyance improvements on the C-1 canal from Old Cutler Road Bridge south to the S-21 structure located at approximately SW 87th Avenue.
Estimated cost: $2,200,000

Project 12: Berm on C-1 Canal

This project would raise the berm along the C1 Canal, for approximately 1200 linear feet, from SW 168 Street, to SW 171 Terrace, on the east bank of the Canal. Residents in this area would enjoy a greater level of flood protection by berming this area, thereby reducing flood losses and repetitive loss claims. Estimated cost: $47,000

Project 13: Containment Berm on the C-1-N

This project would construct a berm of 1,500 linear feet to improve the level of flood protection for residents in this immediate area. The area is SW 122 Avenue, to SW 123 Place, along the north bank of the C-1-N Canal. Estimated cost: $52,000

Project 14: Containment Berm on the C-1-W

This project would add a berm of 6,000 linear feet from SW 155 Avenue to SW 152 Street, along the south bank of the C-1-W Canal. Estimated cost: $172,000

Project 15: Containment Berm on the C-1-S

This project would add flood protection for residents by adding a berm of 2,150 linear feet, along the east side of the canal, from SW 137 Avenue, to SW 184 Street. Adding this berm would reduce flood losses for residents, and would reduce repetitive losses in the area.
Estimated cost: $137,000

Project 16: Canal Conveyance Improvements, South Portion of the C-1 Canal

This project would assist in controlling canal stages during extreme rain events, and improving capacity of the C1 Canal. The scope of improvements would be from the Old Cutler Road Bridge to the S21 structure located at approximately SW 87 Avenue.
Estimated cost: $2,197,000

Project 17: Reduce Water Levels Throughout the C-1 Basin

This project will assist in controlling canal stages during extreme rain events throughout the C1 basin, by reducing head losses and improving canal conveyance. This project would

cover the area of 700 feet north of the Caribbean Blvd Bridge to the intersection with the C1 Canal. Estimated cost: $1,414,000

Project 18: Raising canal banks on the C-102

This project raises all canal banks that overtop the banks during the 10-year storm. A berm would be placed along the right-of-way for 66,500 linear feet. This would eliminate all bank overtopping, arterial street flooding and local flooding for the ten-year storm. These improvements would reduce flood loss and repetitive losses in this area. Estimated cost: $742,000

Project 19: Improvements to a Stretch of C-102 Canal

This project will construct 9,600 linear feet of conveyance improvements to the C102 Canal, from SW Florida Avenue to SW 107 Avenue. This project will mitigate flooding from the 100-year storm, thereby providing flood protection exceeding the County standard.
Estimated cost: $4,801,000

Project 20: Raising Canal Banks on Segments of the C-102

This project will raise canal banks along several stretches of the C102 Canal. Three separate sub-basin areas will be raised to provide a level of service where the 100-year event will only flood canal rights-of-way. This extra protection should reduce dramatically flood losses for residents in this area. Estimated cost: $355,000

Project 21: Improve Canal Restriction along C-102N

This project will mitigate a restriction found in the C102N from 700 feet north of SW 821 to SW 312 Street. Conveyance improvements will widen the canal bank in this area. This will improve canal capacity for the area and adjacent basins. The resulting increase in capacity will reduce flood losses in this area. Estimated cost: $1,642,000

Project 22: Improvements on the C-103 Canal

This project proposes to construct a series of improvements on the C-103 Canal. This project would improve canal conveyance of two stretches of the canal, and mitigate a restriction caused by structure S167, by widening and deepening the existing structure opening.
Estimated cost: $2,000,000

Project 23: Install Forward Pump on the C-1

This project will relieve pressure from major storm events that occur when heavy rainfall occurs at the same time as high tide conditions. The project allows for water to be discharged to tide, when salinity control structures are closed, or tide prevents or restricts flow east.
Estimated cost: $3,000,000 (Approximate)

Project 24: Capacity Improvements of S-148 Structure

This project would increase the ability of the S-148 structure to allow flow of water to the east, to provide additional flood relief and prevent overtopping of banks in the C-1 Basin in times of major rain events. The project would consist of constructing additional pumps, and/or enlarging the gate itself. Estimated cost: TBD

Project 25: Replace Caribbean Boulevard Bridge

Replace the undersized Caribbean Boulevard Bridge over the C-1N Canal to promote the same conveyance capacity as the proposed 60-foot wide canal cross section depicted in Project 11 above. Estimated cost: $1,400,000

Project 26: Construction of Wetland Storage Area

This project will construct a wetlands storage area in a sub-basin of the C-102 Canal. During extreme storm events, runoff would enter the wetlands through a control gate and weirs, then discharge using a smaller 24-inch pipe. Maximizing wetland storage will allow fro greater capacity along this stretch of the C-102, thereby providing greater flood protection for resident in this area. Estimated cost: $22,000,000

Part III – Funding

Potential Funding Sources

State and federal agencies provide funds for a variety of local programs that may be used to support development of the Local Mitigation Strategy. The following is a list and description of just a few of the programs available. This list is not exhaustive, and therefore much more effort needs to be put in to examine all of the opportunities that exist. Certainly each community should be able to take advantage of at least some of the programs offered.

Florida Division of Emergency Management

Emergency Management Preparedness and Assistance Trust Fund (EMPA)

Through the Emergency Management Competitive Grant Program provides grants to state or regional agencies, local governments and private not-for-profit organizations to implement projects that will further state and local emergency management objectives. A similar program, the Municipal Competitive Grant Program provides grants to legally constituted municipalities with an authorized, established and maintained emergency management program and that have also signed the Statewide Mutual Aid Agreement

Residential Construction Mitigation Program (RCMP)

This Department of Community Affairs (DCA) program provides technical and financial resources to homeowners for hurricane retrofitting. A certified inspector using DCA's Wind Resistance Checklist may perform a structural inspection of the home. Information is assessed and a mitigation report is prepared that outlines the hurricane hazard risk, identifies retrofit options and packages, assesses costs and benefits, and provides retrofitting recommendations and estimated costs. If homeowners are recommended for the program, they are eligible for a forgivable loan to complete the retrofitting recommendations.

Florida Warning and Information Network

This – FWIN – is a state-sponsored program to harden existing facilities against disasters events. The program contains some new elements and may be applicable to needs identified by participating municipalities.

Note: The Florida Division of Emergency Management, which is part of the Florida governor's office, also administers many of the grants awarded by and listed in this document under the Federal Emergency Management Agency (FEMA).

Florida Department of Environmental Protection

Revolving Fund Loan Program for Waste Water Treatment
(Includes Stormwater Facilities)

Provides funding to assist in the financing of publicly owned waster water and stormwater treatment collection, transmission, disposal, and reclamation, re-use facilities as well as infiltration/inflow correction. Project loans are for up to 20 years at interest rates that are over 60% below market rate.

Pollution Control Bond Program

This program provides loans to local governments for construction of stormwater, water and wastewater facilities. Special districts are eligible as well as municipalities and county governments. Available funding is up to $300 million a year and the source of the funds are bonds sold by the state. Plans and specifications of proposed facilities are required. The loan interest rate is a pass through rate.

Florida Fish & Game Conservation Commission

Environment Education

Projects are to educate adult Floridians about population growth, habitat loss, coastal and fresh water ecosystems.

Florida Inland Navigation District

Waterway Assistance Program & Cooperative Assistance Program

Waterway related projects must be located on natural, navigable waterways within the district. Eligible waterway related projects include navigation channel dredging, channel markers, navigation signs or buoys, boat ramps, docking facilities, fishing & viewing piers, waterfront boardwalks, inlet management, environmental education, law enforcement equipment, boating safety programs, beach re-nourishment, dredge material management, environmental mitigation, and shoreline stabilization.

Federal Emergency Management Agency (FEMA)

National Flood Insurance Program (NFIP)

The program is based on an agreement between local communities and the federal government. Federal flood insurance is available within the community if the community implements floodplain management measures to reduce future flood risks. The program is administered in Florida by the Department of Community Affairs (DCA). DCA also assists local governments in joining the Community Rating System program that may result in reduced annual flood insurance premiums.

Flood Mitigation Assistance Program (FMA)

FMA is a federal program administered by DCA. Florida initiated it in 1997 in coordination with FEMA. Its goal is to fund cost-effective measures that reduce or eliminate the long-term risk of flood damage to property insurable under NFIP. Program components include both planning grants and project grants. Planning grants assist state agencies and local governments in developing or updating flood mitigation plans that assess risk and propose possible mitigation actions. Project grants assist state agencies and local governments in implementing flood mitigation projects that will reduce risk of flood damage to repetitive loss properties identified in a flood mitigation plan. This program is administered through the state Division of Emergency Management.

Hazard Mitigation Grant Program (HMGP)

The HMGP provides funds to states, municipalities and certain private non-profit organizations for implementing long-term hazard mitigation measures following a major disaster declaration. Federal funds provide 75% of the cost of elevation projects, land acquisition, relocation of structures, or retrofitting of facilities. Funding for HMGP is generated as a percent of the total cost to the federal government of a declared disaster event. This program is administered through the state Division of Emergency Management.

Pre-Disaster Mitigation Program (PDM)

The PDM program provides an approximate total of $150,000,000 dollars (or other amount as appropriated by Congress) annually on a nationally competitive basis to put mitigation initiatives in place prior to a disaster event. Each project may receive 75% of project cost as the federal share not to exceed $3,000,000 for the federal share. This program is administered through the state Division of Emergency Management.

Repetitive Flood Claims Program

This program is design to reduce losses from severe flooding and priority is given to acquisition of NFIP repetitive loss properties. Up to $10 million is available annually. There

is no funding match required. This program is administered through the state Division of Emergency Management.

Mitigation Assistance

The Mitigation Assistance program provides financial and technical assistance to states and territories, and their local governments, to create and maintain comprehensive state hazard mitigation capability. States and territories at risk to storm surge and hurricane force winds from tropical storms are eligible. A pre-application, formal application and compliance with the state work plan is required.

Disaster Preparedness Improvement Grant (DPIG)

Assist states in developing and improving state and local plans, programs, and capabilities for disaster preparedness and mitigation. Provides for grants not to exceed 50% of the cost of improving, maintaining and updating these plans (not to exceed $50,000 per year to any state).

Community Assistance Program (CAP) – State Support Services Element

CAP provides funding to meet negotiated objectives for reducing flood hazards in NFIP communities. The program is intended to identify, prevent, and resolve floodplain management issues in participating communities before they require compliance action by FEMA. Available CAP funding is provided on a 75% federal maximum and 25% minimum state cost sharing basis through the annual FEMA-State Performance Partnership Agreement or Cooperative Agreement.

Fannie Mae Pilot Loan Program

FEMA and DCA jointly sponsor this program. It makes consumer installment loans available to Florida homeowners to make specific disaster prevention home improvements such as the installation of storm shutters or the construction of a safe room. All single-family homeowners in Florida are eligible for these loans. Homeowners may borrow up to $15,000 over a ten year repayment term.

Information on FEMA grant programs in available at www.fema.gov/government/grant.

Federal Highway Administration (FHWA)

Transportation Enhancements

Surface Transportation Program (STP) under the Transportation Efficiency Act for the 21st Century (TEA-21)/Transportation Enhancements 10% of the Surface Transportation Program Budget used for enhancements, projects generally selected competitively on a statewide basis

Federal Transit Administration (FTA)

Section 5309 Capital Funds

Section 5309 (formerly Section 3) capital funds are available for fixed guideways (new starts, extensions, and rehabilitation), bus procurements, and acquisition or rehabilitation of major facilities. Section 5309 is designated as part of the congressional appropriations process to FTA grantees.

Section 5307 Urban Formula/Transportation Enhancements

Section 5307 (formerly Section 9) Urban Formula Grants are designated for transit capital and operating assistance in urbanized areas. Any transit-related capital or operating expense is eligible for federal funding, requiring a 20% local capital match and up to 50% operating match. Each year, 1% of the Section 5307 appropriation is set aside for transit-related transportation enhancements.

Section 5311f (formerly Section 18i) Inter-city Bus Program

Under Section 5311(f), each state is required to spend fifteen percent of its annual Section 5311 apportionment "to carry out a program to develop and support Inter-city bus transportation." Use of Section 5311(f) funds for capital projects in urbanized areas is limited to those aspects of the project, which can be identified as directly benefiting and supporting service to and from non-urbanized areas.

Livable Communities Initiative

Nationally competitive program, generally $1 million in federal support requiring 20% local match.

Welfare-to-Work Initiative

Capital/vehicle grant program, contingent on receipt of nationally-competitive Welfare-to-Work funds from the Department of Labor

U.S. Army Corps of Engineers (USACE)

Beach Erosion Control Projects

The program is administered by the U.S. Army Corps of Engineers (USACE) and is intended to control public beach and shore erosion. Reconnaissance studies are federally funded, and the costs of feasibility studies are shared 50/50 with the local sponsor. Projects are designed and constructed by USACE. Federal participation cannot exceed $2 million.

Aquatic Ecosystem Restoration

Section 206 of the Water Resources Development Act of 1996 provides a 65% federal match for construction of projects designed to carry out aquatic restoration that will improve the quality of the environment, are in the public interest, and are cost-effective. The program focuses on designing and implementing engineering solutions that restore degraded ecosystems to a more natural condition. Project application may be made at any time and is limited to $5,000,000 in federal participation and are awarded to state, tribal, and local governments. Projects include restoration of canals, wetlands, and floodplains, including wildlife habitat.

Flood Plain Management Services

Section 206 of the 1960 Flood Control Act provides USACE services in planning and technical services without charge to state, tribal, and local governments without charge for studies, including hurricane evacuation studies, comprehensive flood plain management studies, flood damage reduction studies, urbanization impact studies, stormwater management studies, and inventories of flood-prone structures.

Planning Assistance to States

Section 22 of the Water Resources Development Act (WRDA) of 1974 allows the USACE to assist state, tribal, and local governments in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land resources with up to 50% federal match. Technical and planning assistance may include wetlands evaluation studies, flood damage reduction studies, flood plain management studies, and water quality/quantity studies.

Project Modifications for Improvement of the Environment

Section 1135 of the Water Resources Development Act of 1986 provides for ecosystem restoration by modifying the structures and/or operations of water resources projects constructed by the USACE, or by restoring areas where a USACE project contributed to the degradation of the area. Local funding is required to leverage an unspecified federal match.

Emergency Bank Protection

This program provides bank protection of highways, highway bridges, essential public works, churches, hospitals, schools, and other nonprofit public services endangered by flood-caused erosion. State or local government officials should consult the nearest district engineer regarding specific problems and the possibility of remedial action under this program. An environmental assessment is required. In most cases project studies will be at Federal expense. Cost sharing is required for project, but federal participation cannot exceed $500,000.

U.S. Department of Agriculture (USDA)

Emergency Watershed Protection Program (EWP)

The Natural Resources Conservation Service provides technical and financial assistance to local sponsors for the relief of imminent hazard and reduction of the threat to life and property in watersheds damaged by severe natural events that are either local or national in nature (national disaster area declaration is not required). Emergency work includes establishing quick vegetative cover on denuded land, sloping steep land, and eroding banks; opening dangerously restricted channels; repairing diversions and levees; and other emergency work. The act also authorizes the purchase of rural and agricultural floodplain easements designed to retire land from frequent flooding to preclude federal disaster payments, retire land to allow levee setbacks, or limit the use of the land.

Watershed Surveys and Planning

Watershed surveys and planning studies are for appraising water and related land resources and formulating alternative plans for conservation use and development. Studies are of limited scope and short duration, designed to provide specific information needed for planning purposes related to non-traditional flood recovery and floodplain management strategies, including land treatment measures, nonstructural measures, and structural measures.

Small Watershed Program (PL-566 Operations Phase)

The objective of this program is to provide technical and financial assistance in carrying out works of improvement to protect, develop, and utilize the land and water resources in small watersheds. Funding is available to any state agency, county or groups of counties, municipality, town or township, soil and water conservation district, flood prevention or flood control district, Indian tribe or tribal organization, or any other nonprofit agency with authority under state law to carry out, maintain, and operate watershed works of improvement may apply for assistance. Program funds may pay for up to 100% of flood prevention costs and requires preparation of an approved watershed plan.

Rural Utilities Service Water and Waste Disposal Program

RUS provides grants and loans to rural communities with fewer than 10,000 people for wastewater, drinking water, solid waste, and storm drainage projects. File requests any time of year at any rural development office in the county, district or state.

U.S. Department of Commerce (DOC)

Coastal Zone Management (CZM) Program

The Coastal Zone Management Program assists state, tribal, and local entities through a 50% federal match in planning and implementing sustainable management of coastal zones.

Section 306 Grants are used to administer CZM programs at the state level and for coastal hazard mitigation strategies, including the development of local hazard mitigation plans, outreach and education activities, monitoring programs, and projects to enhance program management. Section 308 Grants, The Coastal Zone Management Fund, provides emergency grants to address a wide range of unforeseen or disaster-related circumstances. Section 309 Grants are competitive funds designed to enhance state programs, including planning and land regulation activities, enhancing natural features, and preventative measures.

NOAA Coastal Service Center

Go to this site via the Internet http://www.csc.noaa.gov/text/grant.html for many funding sources. This service will provide you with links to a variety of agencies and organizations that post information about grant funding for coastal and natural resource management related projects.

Economic Development Administration (EDA) Business Recovery Loans
EDA Public Works & Infrastructure Development Grants

This program is designed to promote long-term economic development and assist in the construction of public works and development facilities needed to initiate and support the creation or retention of permanent jobs in the private sector in areas experiencing substantial economic distress. Project proposals must be located within an economically distressed EDA designated area and be in conformance with an Overall Economic Development Program (OEDP) for the eligible area. Projects must also contribute to long-term economic development of the area by creating or retaining permanent jobs and raising income levels. Examples of projects include 1) Infrastructure for industrial park development; 2) port development and expansion; 3) infrastructure necessary for economic development (e.g. water/sewer facilities); 4) renovation and recycling of old industrial buildings; 5) construction of vocational-technical facilities and skill centers; and 6) construction of incubator facilities. Project costs range widely, with an average of over $850,000 and federal funding generally allocated to cover 50% of project costs (80% funding may be granted in special cases).

U.S. Environmental Protection Agency (EPA)

Clean Water Act Section 319 Grants

Formula funds are awarded to states (state agencies) to implement certain non-point source programs pursuant to Section 319(h) of the Clean Water Act, including wetland restoration. Federal participation is limited to 60%, and an EPA-approved State non-point source management program is required.

Brownfields Economic Redevelopment Grants

EPA's Brownfields Economic Redevelopment Initiative is designed to empower states, communities, and other stakeholders in economic redevelopment to work together in a timely

manner to prevent, assess, safely clean up, and sustainable reuse Brownfields. A "Brownfield" is a site, or portion thereof, that has actual or perceived contamination and an active potential for redevelopment or reuse. EPA's Brownfields Initiative strategies include funding pilot programs and other research efforts, clarifying liability issues, entering into partnerships, conducting outreach activities, developing job training programs, and addressing environmental justice concerns. Projects are funded for two years at a total of $200,000 per project.

Sustainable Development Challenge Grant (SDCG)

The U.S. Environmental Protection Agency developed this competitive grant program in FY 1996 to encourage people, organizations, business, and governments to work together in their communities to improve their environment while supporting a healthy economy and a sense of community well being. The program focuses on improving the quality of human life while living within the carrying capacity of supporting ecosystems. Sustainable development is placing equal and integrated emphasis on the three legs of the "sustainability stool"- economic prosperity, environmental quality, and community well-being. Understanding the relationships among economic, environmental and a community's social and cultural systems means that community problem-solving in a sustainable development context will consider, enhance, and mutually reinforce each of these systems. Following the sustainable development approach is an opportunity to lift barriers to create synergistic activity between and among these systems. Grants are available for up to $200,000 and require a 20% non-federal match.

U.S. Department of Housing and Urban Development (HUD)

Community Development Block Grant (CDBG) Small Cities Program

The program provides funding to cities with a population of less that 50,000 and counties with a population of less than 200,000 in unincorporated areas. Funds are available to improve local housing, streets, utilities, and public facilities. Disaster Recovery Initiative (DRI) funds are provided for disaster relief, long-term recovery, and mitigation activities in areas affected by a presidential disaster declaration. The state must submit a detailed Action Plan for Disaster Recovery indicating how DRI funds will be used.

Community Development Block Grant (CDBG) Entitlement Communities Program

The CDBG entitlement program annually allocates funds to metropolitan cities and urban counties to develop viable urban communities through decent housing, a suitable living environment, and by expanding economic activities, principally for low- and moderate-income persons. Funds require no local match and are allocated through a formula program.

Community Development Block Grant (CDBG) State-Administered Program

The CDBG entitlement program annually allocates funds to designated state agencies for application to non-entitlement areas. The program is designed to develop viable urban communities through decent housing, a suitable living environment, and by expanding eco-

nomic activities, principally for low- and moderate-income persons. Funds require no local match and are allocated through a formula program.

Note: CDBG grants many times lose their federal identity when administered through a state government. When this occurs the CDBG may be used as match to a FEMA grant. Your state grant manager can advise when this condition exists.

HOME Investment Partnerships Program

Formula grants provide up to 75% federal assistance to states, local governments, and urban counties for permanent and transitional housing for low-income persons. HOME funds can assist renters, new homebuyers, and existing homeowners with acquisition, new construction, rehabilitation, and tenant-based rental assistance.

Section 108 Loan Guarantee Program

HUD offers CDBG recipients guaranteed loan funds to acquire real property, relocate homeowners and businesses, rehabilitate publicly owned real property (including infrastructure), housing rehabilitation, and economic development.

U.S. Department of the Interior

Federal Land-to-Parks Transfer Program

The General Services Administration provides funds to identify, assess, and transfer available surplus federal real property to state and local entities for use as parks, recreation areas, and open space. The General Services Administration or Department of Defense must make federal property available. Up to 100% federal participation is possible.

Land Acquisition

This program, administered by the US Fish and Wildlife Service (FWS), identifies and acquires high quality lands and waters for inclusion into the National Wildlife Refuge System.

North American Wetland Conservation Fund

The US Fish and Wildlife Service provides up to 50% federal funds to stimulate public-private partnerships to protect, restore, and manage a diversity of wetland habitats for migratory birds and other wildlife in the United States, Canada, and Mexico.

Partners for Fish and Wildlife

The US Fish and Wildlife Service provides financial and technical assistance to private landowners, businesses, and local governments interested in restoring wetlands and riparian habitats on their land.

Rivers, Trails, and Conservation Assistance Program

The National Parks Service provides staff consultants and technical assistance for river and trail corridor planning and for open space preservation efforts.

Other Sources of Funding Information

Additionally, there are other valuable sources to identify funding information. Among these are:

- "Financing and Technical Assistance for Florida Municipalities." This guide, published annually by the Florida League of Cities, provides a detailed listing of funding sources available from state of Florida agencies. It contains considerable detail and is expected to be a significant source of information. http://www.flcities.com/membership/grant/

- Florida Department of Community Affairs publication "Breaking the Cycle[2]" which describes a number state and federal programs available for hazard mitigation.

- The Resource Identification Strategy (RIS) Database. This database, developed jointly by the Florida Department of Community Affairs (DCA) and the Florida Public Affairs Center at Florida State University, contains information on historical and potential funding sources for disaster preparedness, response, mitigation, recovery, and long-term redevelopment projects funded by federal, state, and other organizations. Its goal is to help Florida towns, cities, and counties build stronger disaster-resistant, sustainable communities. The database may be searched by program or by project on the Internet at: http://www.flris.org .

- Another useful database is at http://www.floridafunding.com

- State of Florida grant programs may be viewed at http://www.floridadisaster.org/brm.

- From the federal government there is http://www.grants.gov/

Finally, there is a wealth of information at the "Catalog of Federal Domestic Assistance" on the Internet at http://www.gsa.gov/cfda.

The Appendices

Appendix A

Miami Dade County
Board of County Commissioners

Resolution No. R-572-00

Resolution Adopting the Local Mitigation Strategy

On June 6, 2000, the Miami-Dade County Board of County Commissioners formally adopted the Local Mitigation Strategy as official county policy.

Miami-Dade Legislative Item
File Number: 001412

File Number: 001412 **File Type:** Resolution **Status:** Adopted

Version: 0 **Reference:** R-572-00 **Control:** County Commission

File Name: LOCAL MITIGATION STRATEGY **Introduced:** 5/25/2000

Requester: Miami-Dade Fire and Rescue Department **Cost:** **Final Action:** 6/6/2000

Agenda Date: 6/6/2000 **Agenda Item Number:** 7L1A

Notes: **Title:** RESOLUTION ADOPTING THE LOCAL MITIGATION STRATEGY IDENTIFYING AND PRIORITIZING HAZARD MITIGATION GRANT PROGRAM PROJECTS TO BECOME A PART OF THE STATEWIDE HAZARD MITIGATION STRATEGY

Indexes: HAZARD MITIGATION GRANT PROGRAM **Sponsors:** NONE

Sunset Provision: No **Effective Date:** **Expiration Date:**

Registered Lobbyist: None Listed

Legislative History

Acting Body	Date	Agenda Item	Action	Sent To	Due Date	Returned	Pass/Fail
Board of County Commissioners	6/6/2000	7L1A	Adopted				P
County Manager	5/25/2000		Assigned	Paul Philip	5/25/2000	5/25/2000	
County Manager	5/25/2000		Assigned	County Attorney	6/6/2000		

REPORT: 7L1 - FIRE & RESCUE

County Attorney 5/25/2000 Assigned William X. Candela

Legislative Text

TITLE
RESOLUTION ADOPTING THE LOCAL MITIGATIN STRATEGY IDENTIFYING AND PRIORITIZING HAZARD MITIGATION GRANT PROGRAM PROJECTS TO BECOME A PART OF THE STATEWIDE HAZARD MITIGATION STRATEGY

BODY
Whereas, the Federal Emergency Management Agency funded a national initiative to help communities develop local mitigation strategies that identify projects to mitigate the effects of natural disasters and to identify sources of funds to address those problems,

Whereas, the State of Florida Department of Community Affairs entered into a contract with Miami-Dade County to provide the funding for the County and municipalities to jointly develop a Local Mitigation Strategy to become a component of the Statewide Mitigation Strategy,

Whereas, the County entered into agreements with local municipalities to establish a unified process for developing the Local Mitigation Strategy and convey funds for participation in the plan development,

Whereas, the Local Mitigation Strategy meets the State contract requirements and was accomplished with the participation of local governments, the School Board of Miami-Dade County, and a broad range of private not-for-profit agencies, businesses and universities coordinated by the Office of Emergency Management,

Whereas, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board adopts the Local Mitigation Strategy in substantially the form attached hereto and made a part hereof, an original of which is on file with the Clerk of the Board.

HEADER
TO: Honorable Members and Chairperson DATE: June 6, 2000
Board of County Commissioners

SUBJECT: Adopting the Local Mitigation
Strategy Document For Hazard

FROM: M.R. Stierheim Mitigation
County Manager

STAFF RECOMMENDATION
It is recommended that the Board approve the attached resolution adopting the Local Mitigation Strategy that was developed pursuant to the State Department of Community Affairs contract approved by the Board on March 31, 1998 by Resolution No. R-362-98. The Local Mitigation Strategy contains policy recommendations and hazard mitigation initiatives that the State will include in the Statewide Hazard Mitigation Strategy project. The contract provided $570,250 in Federal Department of Energy and Federal Emergency Management Agency funds to the Office of Emergency Management and municipalities for the period June 30, 1998 to August 31, 1999. Attachment A, Part IV.C of the contract requires that the document be submitted to the Board for formal adoption following acceptance by the State. All other obligations of the contract have been completed and the State accepted the Local Mitigation Strategy in December 1999.

MANAGER'S BACKGROUND
The Department of Community Affairs developed a publication, The Local Mitigation Strategy: A Guidebook for Florida Cities and Counties, outlining the scope and procedures for this statewide project. Central to this approach was the establishment of a Working Group to oversee the development of the local mitigation strategy. Eleven Miami-Dade County department representatives, a representative from each of Miami-Dade County's thirty municipalities, and representatives from twenty-six organizations and agencies from a broad range of interests worked over a sixteen-month period to complete the document.

The process was comprehensive. It took into account the federal, state and local entities that perform hazard mitigation functions and the guiding principles of each in the area of mitigation. It analyzed policies, ordinances and programs affecting mitigation and their effectiveness. Procedures to resolve conflict that may arise between government entities from the development of the local mitigation strategy were established to identify and resolve problems early and provide for the appropriate involvement of affected and responsible parties. A critical facilities inventory, the locations of hazardous materials, and repetitive loss and vulnerability data due to storm surge, flooding and wind was developed.

The initiatives and projects have been prioritized in deference to the State contract requirements. State and Federal agencies that provide funds to support local programs have been identified. The Local Mitigation Strategy Working Group efforts are ongoing although State funds have been expended and contract requirements have been accomplished.

This item was first intended for Board action in February but scheduling conflicts for attending necessary state and national emergency management conferences caused it to be delayed.

Appendix B

State Letter Approving the Local Mitigation Strategy

STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS
"Dedicated to making Florida a better place to call home"

JEB BUSH
Governor

THADDEUS L. COHEN, AIA
Secretary

November 22, 2004

Mr. Carlos J. Castillo, Director
Miami-Dade County Emergency Management
9300 NW 41st Street
Miami, Florida 33178-2414

Dear Mr. Castillo:

Congratulations! The attached letter constitutes the Federal Emergency Management Agency's (FEMA) formal approval of the Miami-Dade County plan. As indicated in the letter from FEMA, the plan is in compliance with the Federal hazard mitigation planning standards resulting from the Disaster Mitigation Act of 2000, as contained in 44 CFR 201.6. The plan is approved for a period of five years.

The State strongly encourages each community to perform an annual review and assessment of their Local Mitigation Plan, per Rule 9G-22. A plan update is required at least every five years. The plan approval extends to the following participating jurisdictions that provided the necessary copies of their resolutions adopting the plan. The plan approval extends to the jurisdictions included in the attached letter from FEMA (those that provided copies of their resolutions adopting the Miami-Dade County Local Mitigation Strategy Plan).

If you have any questions regarding this process, please contact Solomon Ademuyiwa at 850-487-2269.

Respectfully,

Charles H. Speights
for
Leroy Thompson,
State Hazard Mitigation Officer

LT/sa
Attachment

2555 SHUMARD OAK BOULEVARD • TALLAHASSEE, FLORIDA 32399-2100
Phone: 850.488.8466/Suncom 278.8466 FAX: 850.921.0781/Suncom 291.0781
Internet address: http://www.dca.state.fl.us

CRITICAL STATE CONCERN FIELD OFFICE
2796 Overseas Highway, Suite 212
Marathon, FL 33050-2227

COMMUNITY PLANNING
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100

EMERGENCY MANAGEMENT
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100

HOUSING & COMMUNITY DEVELOPMENT
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100

FEMA Letter Approving the Local Mitigation Strategy

U.S. Department of Homeland Security
Region IV
3003 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

October 20, 2004

Mr. Frank Koutnik, Bureau Chief
Department of Community Affairs
Bureau of Recovery and Mitigation
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

Reference: Multi-Jurisdictional Hazard Mitigation Plan: Miami-Dade County

Dear Mr. Koutnik:

We are pleased to inform you that the revisions to the Miami-Dade County Multi-jurisdictional Plan are in compliance with the Federal hazard mitigation planning standards resulting from the Disaster Mitigation Act of 2000, as contained in 44 CFR 201.6. The plan is approved for a period of five (5) years, to October 19, 2009.

This plan approval extends to the following participating jurisdictions that provided copies of their resolutions adopting the plan:

- Miami-Dade County
- City of Aventura
- Town of Bay Harbor Islands
- Village of Bal Harbor
- Village of Biscayne Park
- City of Coral Gables
- City of Doral
- Village of El Portal
- City of Florida City
- Town of Golden Beach
- City of Hialeah
- City of Hialeah Gardens
- City of Homestead
- Indian Creek Village
- City of Islandia

www.fema.gov

- Village of Key Biscayne
- Town of Medley
- City of Miami
- City of Miami Beach
- City of Miami Gardens
- Town of Miami Lakes
- Miami Shores Village
- City of Miami Springs
- City of North Bay Village
- City of North Miami
- City of North Miami Beach
- City of Opa-locka
- Village of Palmetto Bay
- Village of Pinecrest
- City of South Miami
- City of Sunny Isles Beach
- Town of Surfside
- City of Sweetwater
- Village of Virginia Gardens
- City of West Miami

The approved participating jurisdictions are hereby-eligible applicants through the State for the following mitigation grant programs administered by the Federal Emergency Management Agency (FEMA):

- Hazard Mitigation Grant Program, our post- disaster-funding program;
- Pre-Disaster Mitigation Competitive program for mitigation projects and planning grants;
- Flood Mitigation Assistance program, limited to Repetitive Loss properties insured through the National Flood Insurance Program.

We commend Miami-Dade County for development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note, all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years. We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development. When

Appendix C

Table 1
Hazard Vulnerabilities by Municipality for Miami-Dade County

Jurisdiction	Hurricane Wind	Storm Surge	Flood	HazMat	Nuclear	Wildfire
Aventura	Yes	No	Yes	No	No	No
Bal Harbour	Yes	No	Yes	No	No	No
Bay Harbor Islands	Yes	No	No	No	No	No
Biscayne Park	Yes	No	Yes	No	No	No
Coral Gables	Yes	Yes	Yes	Yes	No	No
Cutler Bay	Yes	Yes	Yes	Yes	Yes	Yes
Doral	Yes	No	Yes	Yes	No	Yes
El Portal	Yes	No	Yes	No	No	No
Florida City	Yes	No	Yes	Yes	Yes	Yes
Golden Beach	Yes	Yes	Yes	No	No	No
Hialeah	Yes	No	Yes	Yes	No	Yes
Hialeah Gardens	Yes	No	Yes	Yes	No	Yes
Homestead	Yes	Yes	Yes	Yes	Yes	Yes
Indian Creek Village	Yes	No	No	No	No	No
Islandia	Yes	Yes	Yes	No	Yes	Yes
Key Biscayne	Yes	Yes	Yes	No	No	Yes
Medley	Yes	No	Yes	Yes	No	Yes
Miami	Yes	No	Yes	Yes	No	No
Miami Beach	Yes	Yes	Yes	Yes	No	No
Miami Gardens	Yes	No	Yes	Yes	No	No
Miami Lakes	Yes	No	No	No	No	Yes
Miami Shores	Yes	No	Yes	No	No	No
Miami Springs	Yes	No	Yes	Yes	No	No
North Bay Village	Yes	Yes	No	No	No	No
North Miami	Yes	Yes	Yes	Yes	No	No
North Miami Beach	Yes	No	Yes	Yes	No	No
Opa-locka	Yes	No	Yes	Yes	No	No
Palmetto Bay	Yes	Yes	Yes	No	Yes	Yes
Pinecrest	Yes	No	Yes	No	No	Yes
South Miami	Yes	No	Yes	Yes	No	No
Sunny Isles Beach	Yes	Yes	Yes	No	No	No
Surfside	Yes	Yes	Yes	No	No	No
Sweetwater	Yes	No	Yes	Yes	No	No
Virginia Gardens	Yes	No	Yes	Yes	No	No
West Miami	Yes	No	Yes	No	No	No
Unincorporated Area	Yes	Yes	Yes	Yes	Yes	Yes

Correlation of Hazard to Jurisdiction

Wherever a "Yes" appears in **Table 1**, above, refer to the corresponding disaster event in **Table 2** below to determine the frequency of and potential loss from that event in the jurisdiction in question. Certain hazards have the same frequency and risk potential regardless of location within the county. Among these are drought, extreme heat, mass migration, tornados, and thunderstorms. Tsunami threatens the same jurisdictions as storm surge.

Table 2
Risk Assessment by Hazard for Miami-Dade County

Hazard	Frequency	Severity/Potential Loss
Agricultural Hazards	Medium	Extensive
Drought	Low	Serious
Extreme Heat	Low	Moderate
Flood	High	Extensive
Hard Freeze	Low	Extensive
Hazardous Materials	Medium	Serious
Hurricane Wind & Surge	Medium	Catastrophic
Mass Migration	Medium	Moderate
Nuclear Power Plant	Low	Catastrophic
Tornado	Medium	Extensive
Thunderstorm/lightening	High	Serious
Tsunami	Low	Moderate
Wildfire	Medium	Moderate

Hard freeze and agricultural hazards such as citrus canker and the Mediterranean fruit fly are vulnerabilities that lie within the agricultural community, which is located in the southwest section of the unincorporated area of Miami-Dade County.

Miami-Dade County **is not** subject to the risk of avalanches, dam failure, earthquakes, landslides, volcanoes or severe winter storms. These disaster events are not addressed in the Miami-Dade County Local Mitigation Strategy. As noted in the vulnerability analysis, epidemic diseases are a threat to Miami-Dade County but are not subject to mitigation at the local level due to jurisdictional issues.

Data Sources for Vulnerability and Risk

The information and assessments contained in Tables 1 and 2 above are based on data and information from the following sources:

- Hurricane, tornado and thunderstorm estimates are from the National Weather Service Miami Forecast Office, Florida State University Meteorology Department and the publications: *Florida Hurricanes and Tropical Storms* (Williams & Duedall) and *Hurricane Watch* (Sheets & Williams).

- Storm surge estimates are based on historical records and the SLOSH II computer modeling from FEMA, the U.S. Army Corps of Engineers and the National Hurricane Center.

- Flood data is from the South Florida Water Management District (SFWMD) and the National Weather Service Miami Forecast Office.

- Hazardous materials (HazMat) data is based on filings required under Section 302 of the Federal Emergency Planning and Community Right-to-Know Act and maintained by Miami-Dade Office of Emergency Management and Miami-Dade Fire Rescue.

- Nuclear Power Plant estimates are based on the location within FPL's Turkey Point 10-Mile Emergency Planning Zone (EPZ) (See App. E).

- Wildfire vulnerabilities are based on data provided by the Florida Division of Forestry and the Miami-Dade County Department of Environmental Resources Management (DERM) (See App. E).

- Agricultural loss data is from USDA Farm Service Agency, the University of Florida's Institute of Food and Agricultural Sciences (IFAS) and the Miami-Dade County Cooperative Extension Service.

- Drought, extreme heat and freezing data is based upon records from SFWMD, Miami-Dade DERM, Miami-Dade Office of Emergency Management, University of Florida IFAS and the National Weather Service.

- Mass migration information is from the U.S. Department of Homeland Security, Florida Department of Law Enforcement and the Miami-Dade Office of Emergency Management.

- Tsunami information is from the National Weather Service Miami Forecast Office.

Appendix D

Table 1
South Florida Hurricanes & Storms

Date	Name	Category	Wind	Surge	Deaths	Damage $
6/17/1906	Hurricane #2	1	80	Unk	0	Unk
10/18/1906	Hurricane #8	3	120	Unk	164	160,000
10/11/1909	Hurricane #9	2	100	Unk	0	Unk
10/21/1924	Hurricane #7	TS	70	Unk	0	Unk
9/18/1926	Hurricane #6	4	138	13.2’	243	1.4 Billion
10/21/1926	Hurricane #10	2	110	Unk	0	Unk
9/17/1928	Hurricane #4	4	132	10-15’	2,500*	26,000,000
9/28/1929	Hurricane #2	2	100	Unk	0	Unk
9/3/1935	Hurricane #2	5	160	20+	408	6,000,000
11/4/1935	Hurricane #6	1	75	6’	19	5,500,000
10/6/1941	Hurricane #5	3	120	8’	5	700,000
9//16/1945	Hurricane #9	4	138	13.7’	4	540,000,000
9/22/1948	Hurricane #7	2	98	8’	0	Unk
10/6/1948	Hurricane #8	2	105	6.2’	0	5,500,000
8/27/1949	Hurricane #2	4	130	Unk	2	52,000,000
10/18/1950	King	2	105	14’	3	28,000,000
9/10/1960	Donna	4	136	13’	50	1.8 Billion
8/27/1964	Cleo	2	105	6’	3	28,000,000
9/8/1965	Betsy	3	125	9’	75	6.4 Billion
10/4/1966	Inez	1	85	15.5’	48	5,000,000
9/3/1979	David	2	98	3-5’	5	10,000,000
8/24/1992	Andrew	5†	155	16.9’	48	30 Billion
11/16/1994	Gordon	TS	52	3-5’	0	90,000,000
9/25/98	Georges	2	98	5-6’	0	12,500,000
11/5/98	Mitch	TS	65	3-4’	0	100,000
10/15/1999	Irene	1	75	3-5’	4	800,000,000
10/3/2000	To become Leslie	TD	35	2-4’	0	500,000,000
9/3/2004	Frances	1	75	2-4’	0	33,000,000
9/25/2004	Jeanne	TS	50	2-4’	0	10,400,000
8/25/2005	Katrina	1	80	2-4’	0	800,000,000
9/18/2005	Rita	TS	50	2-3’	0	12,000,000
10/24/05	Wilma	2	110	5-6’	0	1.5 billion

Note: The date listed is the date of landfall in South Florida and the category of storm shown is the highest category that existed when the storm passed over or near Miami-Dade County.

† Hurricane Andrew was reclassified from a Cat 4 storm to Cat 5 in 2002 by the National Hurricane Center.

Sources: National Weather Service, Miami Forecast Office
NOAA National Hurricane Center/Tropical Prediction Center
Florida State University Meteorology Department
Florida Hurricanes and Tropical Storms (Williams & Duedall)

Table 2
South Florida Heavy Rainfall and Major Flooding

Date	Type Storm	Location	Rainfall inches	Damage
Jun 12, 1901	T.S. #4	Miami	5-10" (13")	Unknown
Oct 17, 1904	Hurricane #3	South Dade	10-15"	Severe Agriculture
Oct 18, 1906	Hurricane #8	Miami	8-12"	Heavy
Oct 17, 1910	Hurricane #4	South Florida	10-15"	Unknown
Oct 20, 1924	Hurricane #7	Dade County	5-12"	Extensive
Nov 30, 1925	T. S. #2	Central Florida	15" (16")	Severe
Sep 27, 1929	Hurricane #2	Dade County	8-12"	Unknown
Jun 15, 1931	Unknown	La Belle	12"	Heavy
Jul 30, 1933	Hurricane #5	West Palm	15"	Unknown
Sep 3, 1935	Hurricane #2	Homestead	7-18"	Unknown
Nov 4, 1935	Hurricane #6	Miami	3-12"	Over $5 Mil
Jun 15, 1936	T. S. #1	Miami	10-15"	Heavy-1st floor evacs
Oct 18, 1944	Hurricane #11	West Palm	10-15"	Severe Ag losses
Sep 16, 1945	Hurricane #9	Dade County	8-12"	Severe Ag losses
Oct 12, 1947	Hurricane #8	Dade County	10-15"	Massive flooding
Sep 21, 1948	Hurricane #7	Dade County	8-12" (25")	Severe crop damage
Oct 6, 1948	Hurricane #8	South Dade	5-10" (12")	Over $5 Mil
Jun 17, 1959	T.D. #3	South Florida	7-12"	Roads/structures
Oct 14-15, 65	Unknown	South Florida	10-20"	Moderate to severe
Sep 1, 1977	Tropical storm	S.W Coast	12-18"	Widespread-roads & Structures
Aug 17, 1981	T.S. Dennis	South Dade	10-12"	Severe Ag losses
Jul 23, 1985	T. S. Bob	Naples	13-20"	Unknown
Nov 16, 1994	T. S. Gordon	South Dade	6-16"	Ag, Streets, Structures
Oct 15, 1999	Hurricane Irene	Miami-Dade	10-15" (17.5")	Major flooding
Oct 3, 2000	Tropical Dep.	Miami-Dade	10-20"	Major flooding
Aug 25, 2005	Hurricane Katrina	Miami-Dade	8-12"	Major flooding, Severe Ag losses

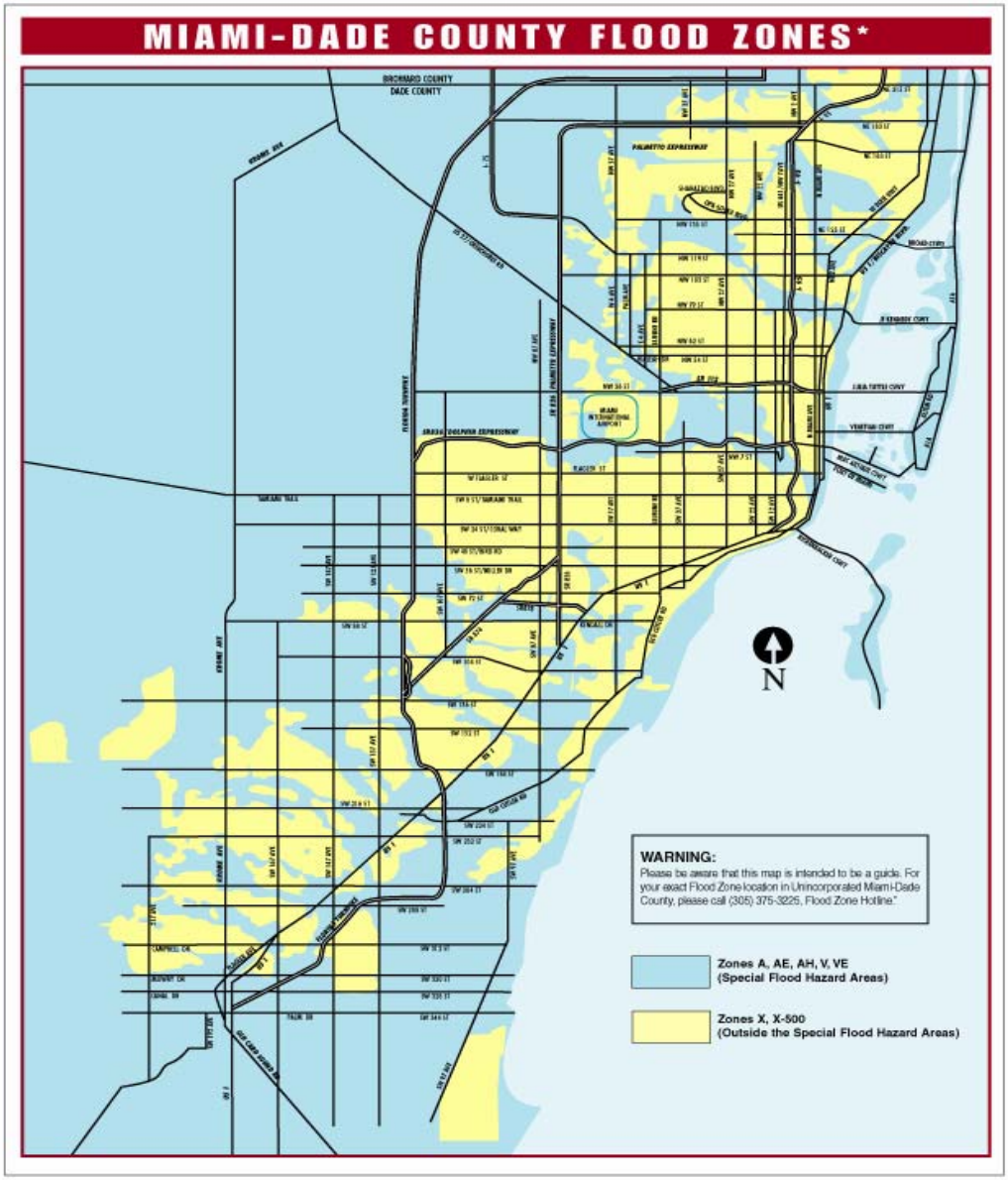
Total events: 26 Return period: 4.0 years

Source: National Weather Service, Miami Forecast Office
South Florida Water Management District
Florida State University Meteorology Department

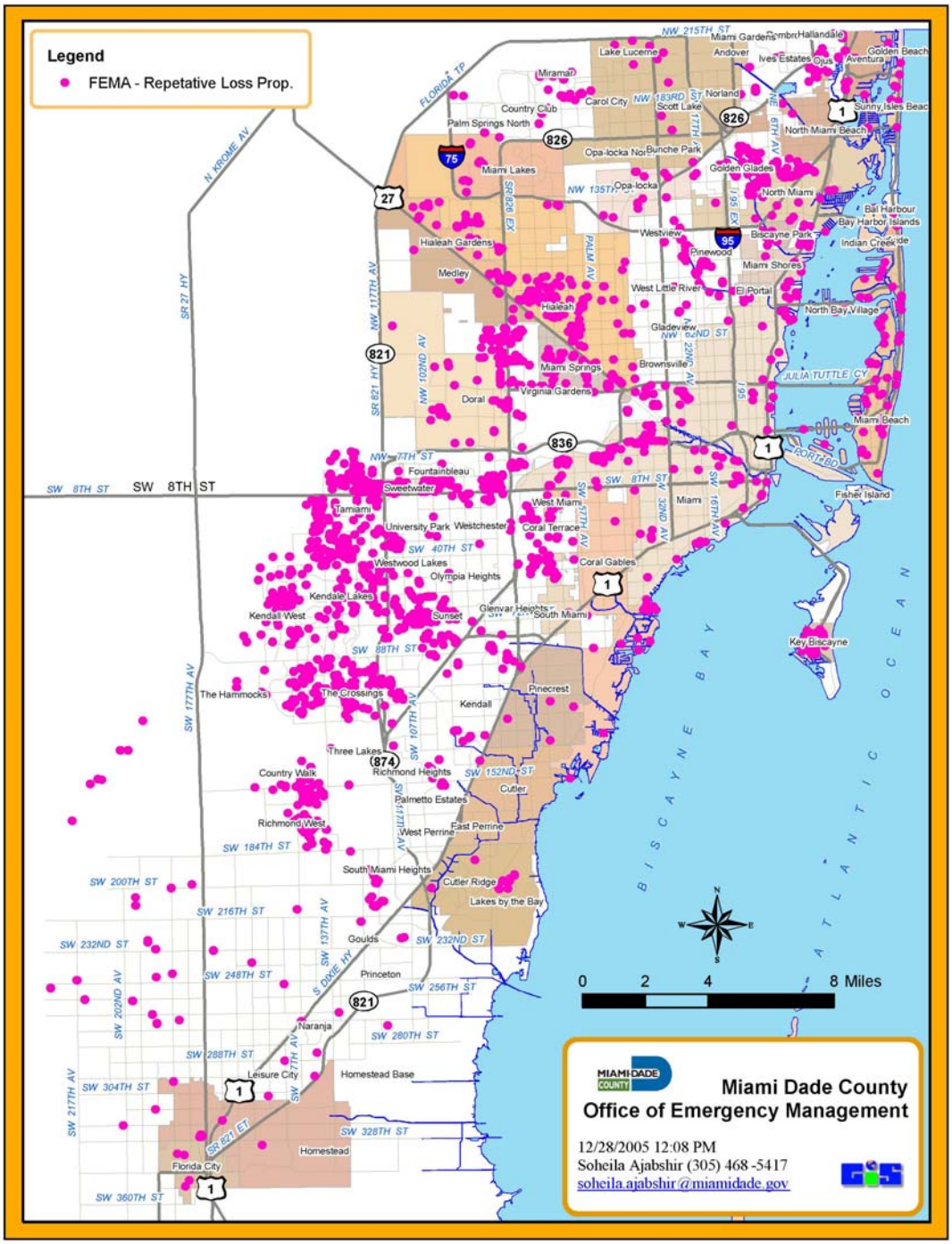
Appendix E

Maps

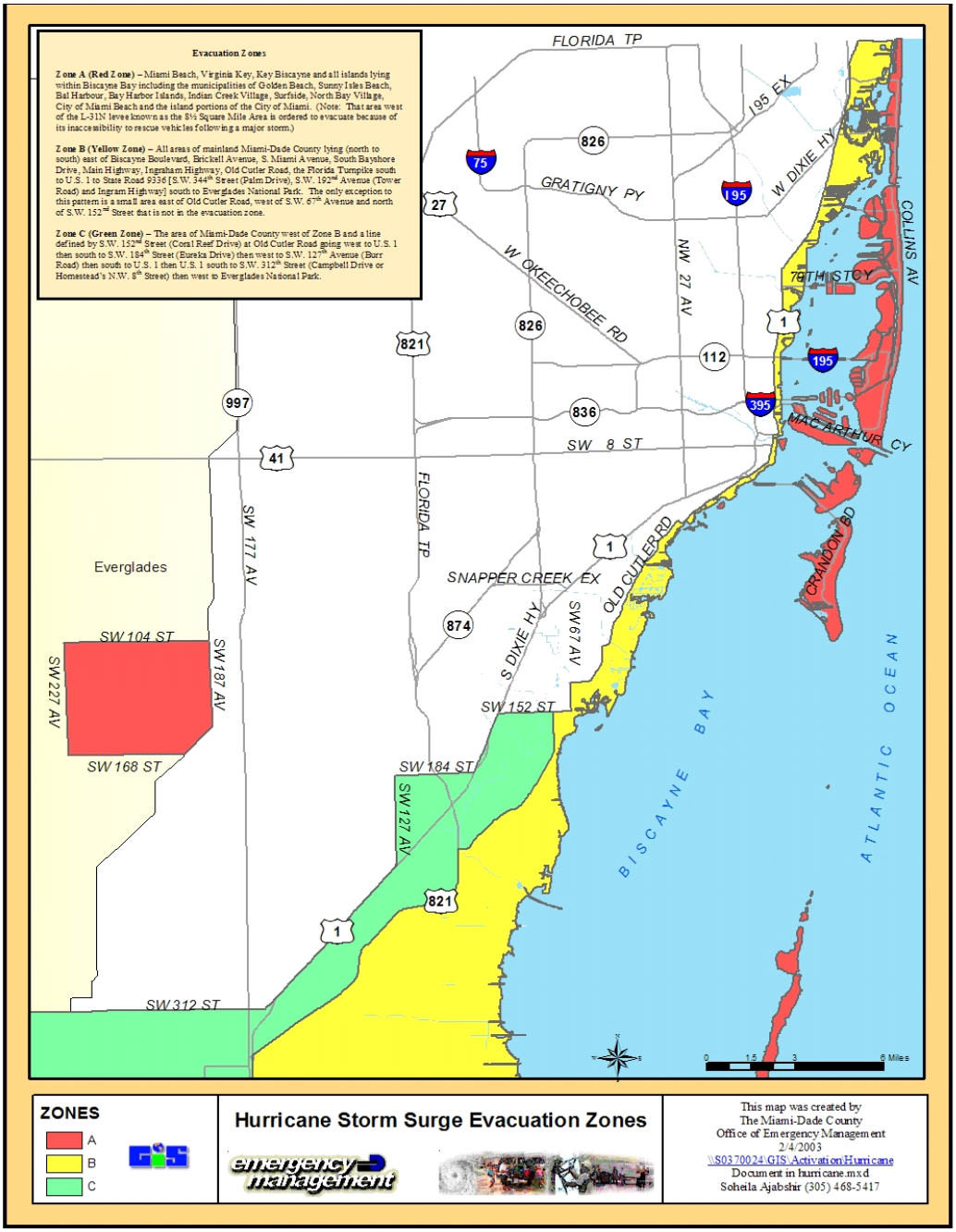
Map of Miami-Dade County Flood Zones



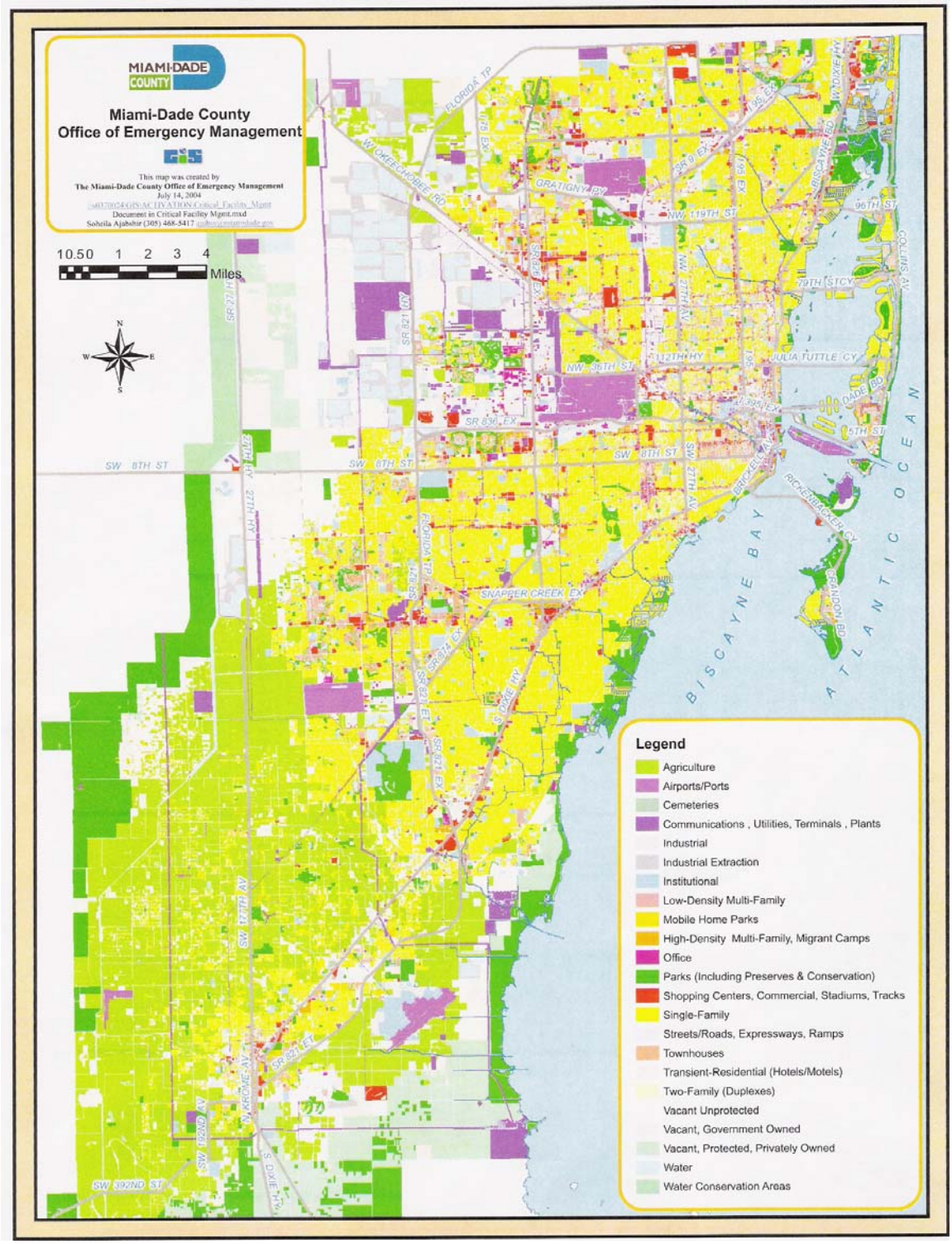
Map of Miami-Dade NFIP Repetitive Loss Properties
2006



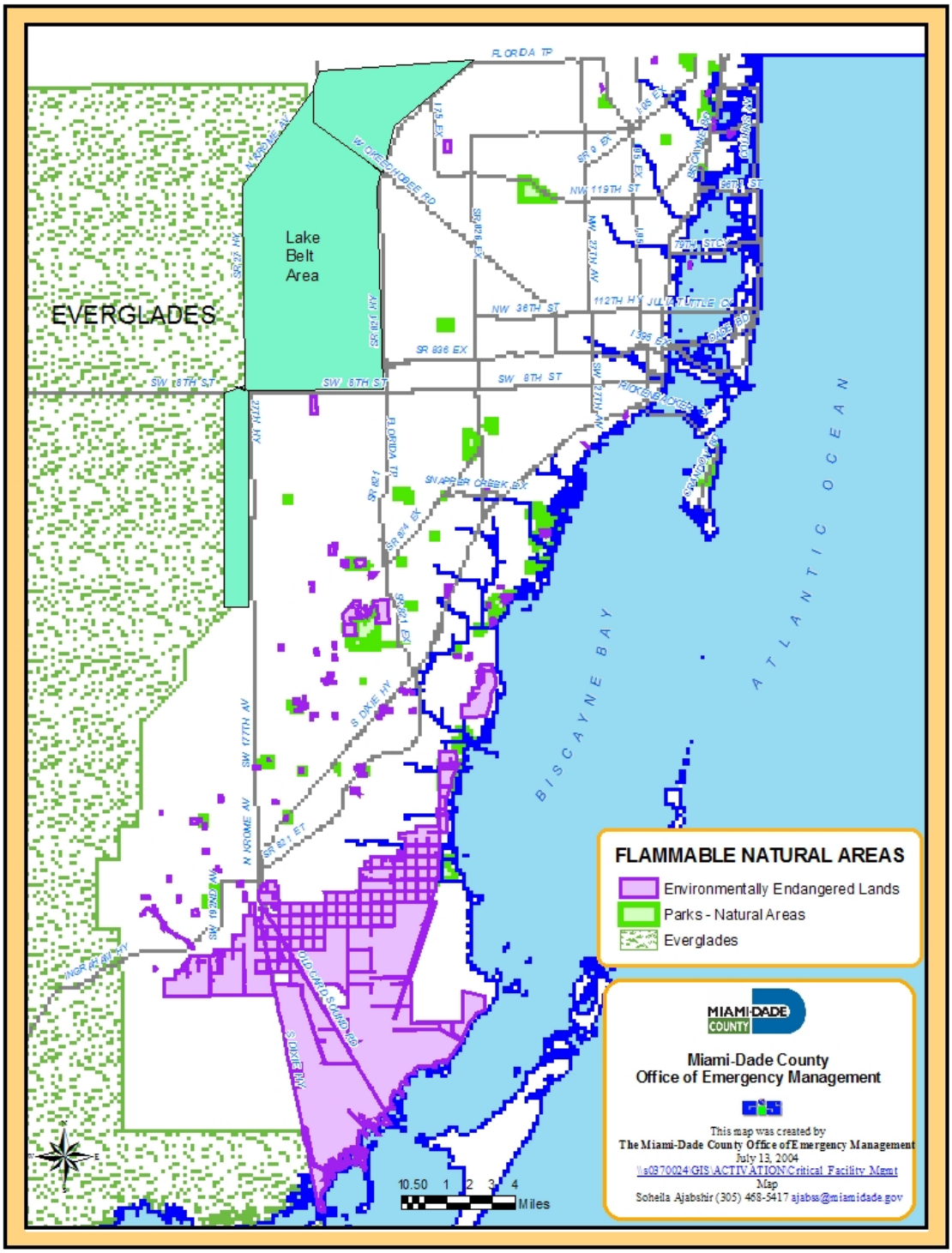
Map of Miami-Dade Evacuation Zones



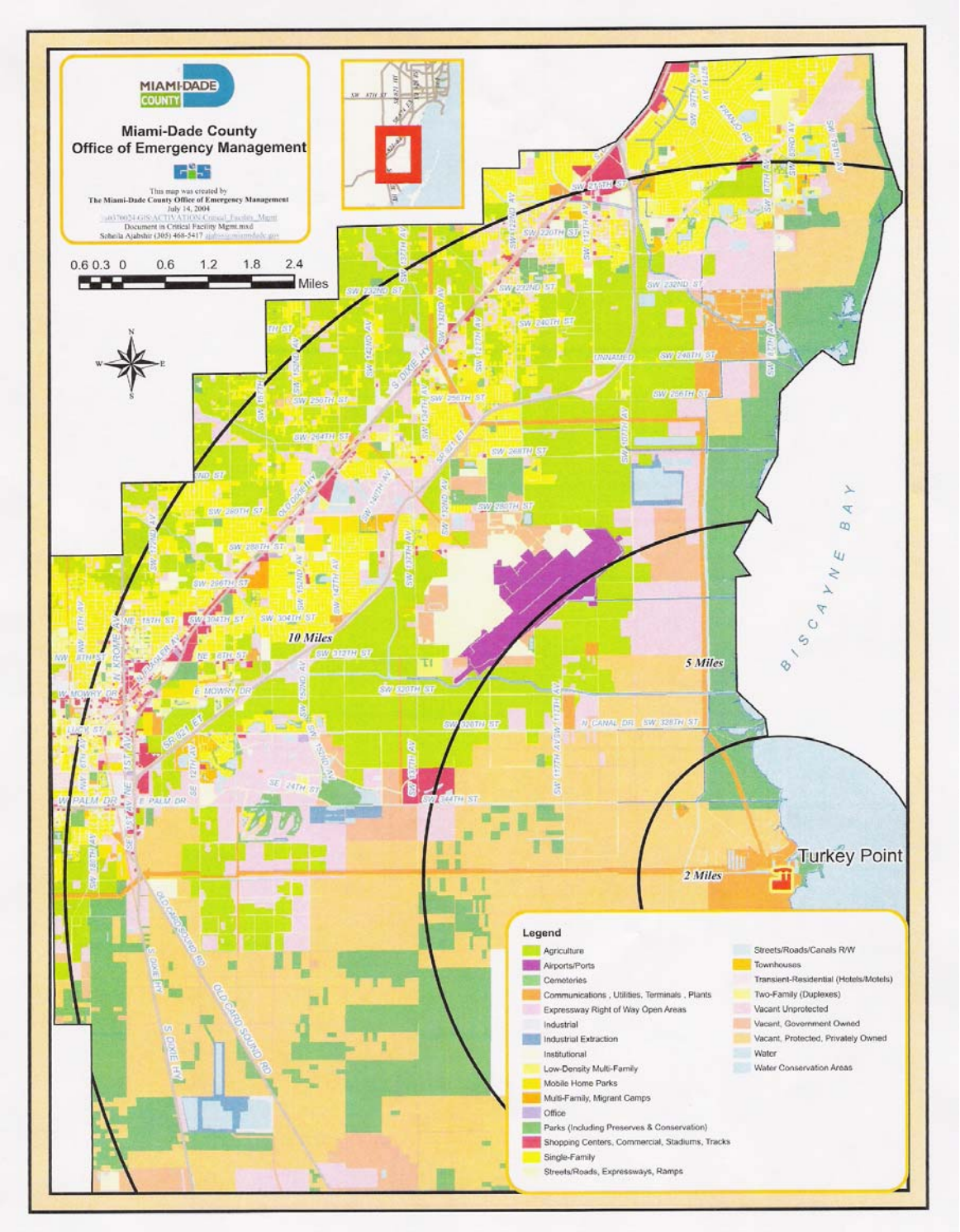
Map of Miami-Dade Comprehensive Land Use



Map of Miami-Dade Flammable Natural Areas



Map of Turkey Point Nuclear Power Plant 10-Mile EPZ



Appendix F

LMS Prioritization Matrix

Suitability Parameter:

Parameter		Weighting Factor	Scoring Criteria	Score	Points
Suitability		**30%**			
1	Appropriateness of the Measure	40%	**5 – High:** Reduces vulnerability and is consistent with Local Mitigation Strategy goals and plans for future growth **3 – Medium:** Needed, but does not tie to identified vulnerability **1 – Low:** Inconsistent with LMS goals or plans	5	200
2	Community Acceptance	15%	**5 – High:** accepted by most communities **3 – Medium:** accepted by most; may create burdens **1 – Low:** Not likely to be accepted by any community ("Not in my backyard")	5	75
3	Environmental Impact	15%	**5 – Positive effect** on the environment **3 – No effect** on the environment **1 – Adverse effect** on the environment	5	75
4	Consistent with Existing Legislation and/or Policies	15%	**5 – High:** Consistent with existing laws and regulations **3 – Medium:** New legislation or policy changes needed, but no conflicts identified **1 – Low:** Conflicts with existing Laws and regulations	5	75
5	Consistent with Existing Plans and Priorities	15%	**5 – High –** Consistent with existing plans **3 Medium** – Somewhat consistent **1 – Low** – Conflicts with existing plans and policies	5	75
	Parameter Subtotal	100%	**Sum of parameter scores; max =**	500	500
Suitability Subtotal		**(sum of parameter scores) / (maximum possible score)**			**100%**

Risk Reduction Parameter

Risk Reduction		**45%**			
1	Scope of Benefits	15%	**5 – High:** Benefits all municipalities and the unincorporated area directly or indirectly **3 – Medium:** Benefits more than half but not all of the municipalities and/or the unincorporated area **1 – Low:** Benefits less than half of the municipalities and/or the unincorporated area	5	75
2	Potential to Save Human Lives	35%	**5 – High:** More than 1,000 lives **3 – Medium:** Up to 1,000 lives **1 – Low:** No lifesaving potential	5	175
3	Importance of Benefits	15%	**5 – High:** Needed for essential services **3 – Medium:** Needed for other services **1 – Low:** No significant implications	5	75
4	Level of Inconvenience or "Nuisance Factor"	10%	**5 – None:** Causes few problems **3 – Moderate:** Most problems avoided **1 – Significant:** Causes much inconvenience (e.g., traffic jams, loss of power, delays)	5	50
5	Economic Effect or Loss	10%	**5 – Minimal** economic loss (little effect during project) **3 – Moderate** economic loss (minimum disruption) **1 – Significant** economic loss (businesses closed, jobs affected, etc.)	5	50
6	Number of People to Benefit	15%	**5 – High:** more than 100,000 people **3 – Medium:** 10,000 to 100,000 people **1 – Low:** fewer than 10,000 people	5	75
	Parameter Subtotal	100%	**sum of parameter scores; max =**	500	500
Risk Reduction Subtotal		**(sum of parameter scores) / (maximum possible score)**			**100%**

Cost Parameter

Cost		**25%**			
1	Estimated Costs*	20%			100
	i. Initial Cost	*75%*	**5 – Low:** $0 to $100,000 **3 – Moderate:** $100,000 to $1 million **1 – High:** More than $1 million	*5*	*375*
	ii. Mainte-nance/Operating Costs	*25%*	**5 – Low** costs **3 – Moderate** costs **1 – High** costs	*5*	*125*
2	Benefit to Cost Ratio	40%	**5 – High:** Ratio is greater than 4 to 1 **3 – Medium:** Ratio is between 1 to 1 and 4 to 1 **1 – Low:** Ratio is less than 1 to 1	5	200
3	Financing availability	10%	**5 – Good:** Readily available with grants or other funding **3 – Moderate:** Limited matching funds available **1 – Poor:** No funding sources or matching funds are identified	5	50
4	Affordability	10%	**5 – Good:** Project is easily affordable **3 – Moderate:** Project is somewhat affordable **1 – Poor:** Project is very costly for the jurisdiction	5	50
5	Repetitive Damages Cor-rected	20%	**5 - High:** Alleviates repetitive loss. Property must have been damaged in the past by a disaster event**.** **3 - Medium:** Repetitive loss may have occurred but was not documented. **1 - Low:** No effect on repetitive loss**.**	5	100
	Parameter Subtotal	100%	**sum of parameter scores: max =**	500	500
Cost Subtotal		**(sum of parameter scores) / (maximum possible score)**			**100%**

Prioritization Algorithm Totals

Parameter	Weighting Factor		Percent	Points
SUITABILITY SUBTOTAL	30%		100%	30
RISK REDUCTION SUBTOTAL	45%		100%	45
COST SUBTOTAL	25%		100%	25
TOTAL	**100%**			**100**

For a working Microsoft Excel worksheet of the LMS Prioritization Matrix send an e-mail request to: **mdlms@miamidade.gov**.

Components Used to Prioritize Potential Mitigation Measures

PARAMETER	DEFINITION
Suitability	
Appropriateness of the measure	The extent to which a measure reduces identified vulnerabilities and conforms to stated Local Mitigation Strategy goals, objectives and plans.
Community Acceptance	The likelihood of the measure being accepted or perceived as positive by all, most, or only some of a community. The "not in my back yard" theory is a negative.
Environmental Impact	An indicator of whether the measure will have a positive, negative, or neutral effect on the environment.
Legislation	An indication of whether the measure can be implemented within existing laws and regulations, or if it will require action at the legislative or senior management level policy changes.
Consistent with Existing Municipal Plans and Priorities	A measure of conformance with existing planning documents and stated goals and objectives of a municipality.
Risk Reduction Potential	
Scope of Benefits	The extent to which a measure benefits multiple municipalities, more than half of a community, or less than half of the community.
Potential to Save Lives	How many lives, if any, will the measure save or protect.
Importance of Benefits	The effect of a measure on essential services, such as life safety, human health, and basic necessities of life.
Level of Inconvenience or "Nuisance Factor."	The extent to which a measure can avoid problems in the community, or cause such as traffic congestion, delays, loss of power, etc.
Economic Effects and Property Damage Avoided	A measure of economic effects avoided, including both property damage and economic losses suffered by businesses and residents such as business closings and jobs affected.
Number of People to Benefit	A measure of the number of people expected to benefit from a measure. More than 100,000; more than 10,000; less than 10,000?
Cost	
Initial Costs of the Project	Actual anticipated total (federal plus local share) dollar costs of a proposed mitigation measure.
Ability to Maintain and Operate	Measures the ability of a municipality to maintain and operate the equipment or facility after it is acquired.
Benefit to Cost Ratio	A measure of total anticipated benefits divided by total costs, discounted appropriately and evaluated using FEMA's benefit/cost methodology.
Financing	The extent to which resources are available to finance the cost of the measure, including sources of potential grants and matching funds.
Affordability	An assessment of the measure's cost in relation to available resources.
Repetitive Damages	The potential for a measure to reduce the frequency of repetitive damages at a facility. Past damages must have occurred and have been documented.

For a working Microsoft Excel worksheet of the LMS Prioritization Matrix send an e-mail request to: mdlms@miamidade.gov.

Appendix G

LMS Working Group Members

Chairman/Coordinator: Frank Reddish

Vice Chairman/Coordinator: Mike Gambino

The Municipalities

Judy Appelgren
Assistant to the City Manager
City of Aventura

Frank Spence
Village Manager
Village of Biscayne Park

Ralph Casals
Public Works Director
City of Cutler Bay

Assistant Village Manager
Village of El Portal

Jim Skinner
Chief of Police
Town of Golden Beach

Manny Carrera
Emergency Management Coordinator
City of Hialeah Gardens

Sam Kissinger
Village Manager
Indian Creek Village

Tom Hughes
Chief of Police
Town of Medley

Judy Hoanshelt
Grants Manager
City of Miami Beach

J.C. Jimenez
Assistant to the Town Manager
Town of Bay Harbor Islands

Dallas Brown
Facilities Superintendent
City of Coral Gables

Eric Carpenter
Public Works Director
City of Doral

Bennie Lovett
Chief Code Enforcement Officer
City of Florida City

Joe Caragol
Emergency Management Coordinator
City of Hialeah

Ed Bowe
Police Captain, Community Services Bureau
City of Homestead

Eugenio Santiago
Chief Building Official
Village of Key Biscayne

Bashir Wayne
Recovery & Mitigation Specialist
City of Miami

Tom Ruiz
Public Works Director
City of Miami Gardens

Osdel Larrea
Public Works Director
Town of Miami Lakes

Scott Davis
Public Works Director
Miami Shores Village

Jim Borgmann
City Manager
City of Miami Springs

Bob Pushkin
Assistant City Manager
City of North Bay Village

Lumane Claude
Chief of Staff
City of North Miami

Marlen Hecheverria
Grants Administrator
City of North Miami Beach

Starex Smith
Assistant to the City Manager
City of Opa-locka

Ron Williams
Public Works Director
Village of Palmetto Bay

Angela Gasca
Assistant to the Village Manager
Village of Pinecrest

Michael Mills
Police Major
City of South Miami

Mike Grandinetti
Police Captain
City of Sunny Isles Beach

Jorge Forte
Assistant to the Mayor
City of Sweetwater

James Chohonis
Chief of Police
Village of Virginia Gardens

Juan Pena
Public Works Director
City of West Miami

Note: The municipalities of Bal Harbour and Islandia no longer participate in the Miami-Dade Local Mitigation Strategy.

Miami-Dade County

Curt Sommerhoff
Director
311 Call Center

Sonia Bridges
Risk Management Officer
M-D Aviation Department

Kevin Carrier
Code Compliance Officer
Building Code Compliance Office

Bill Moriarty
Director, Energy Programs
Community Action Agency

Don Pybas
Director
Cooperative Extension Service

Maria Saboya
Deputy Supervisor
Elections

Frank Reddish
Emergency Management Coordinator
Office of Emergency Management

Mike Gambino
Section Supervisor
Environmental Resources Management

Raul de la Campa
Administrative Officer
Finance Department

Allie Grande
Grants Manager
Fire Rescue Department

Terrence Thompson
Special Projects Coordinator
General Services Administration

Marta Silva
Administrative Officer
Housing Agency

Joyce Denny
Grants Administrator
Park & Recreation Department

Paula Church
Principal Planner
Planning & Zoning

Susan Windmiller
Special Projects Administrator
Police Department

David Cardenas
Chief, Road, Bridge & Canal Maintenance
Public Works Department

Helene Dudley
Grants Administrator
Seaport Department

Cornelius Allen
Special Projects Administrator
Solid Waste Management

Olga Espinosa
Director, Outreach Division
Team Metro

Douglass Greist
Administrator
Transit Agency

Schools, Colleges and Universities

Nancy Orozco, Associate Director
Small Business Development Center
Florida Atlantic University

Freddy Ulloa
Vice President for Business Services
Barry University

Hugh Gladwin, Director
Institute for Public Opinion Research
Florida International University

Charles Cyrille, Manager
Emergency Management Program
Florida International University

Gary Parker
Director, Facilities Management
Florida Memorial University

Marine Extension Agent
University of Florida, Sea Grant Program

Don Pybas, Director
Cooperative Extension Service
University of Florida, IFAS

Jordan Fickess
Director of Communications
Johnson & Wales University

Lorena Morrison
School Head
Miami Christian School

Norry Lynch
Director of Risk Management
Miami-Dade County Public Schools

Dian Hyatt
Principal
St. Lawrence School

Gary Gosnell
Vice Provost for Facilities
Miami-Dade College

Ken Capezzuto
Director, Environmental Health & Safety
University of Miami

Susan Smith, Associate Director
Office of University Advancement
St. Thomas University

Hospitals

Ara Nahapetian
Corporate Project Manager
Baptist Health South Florida

Douglas Giammona
Director, Support Services
Coral Gables Hospital

Sidney Bostick
Manager, Plant Operations
Mercy Hospital

Roger Fritze
Director of Security & Transportation
Miami Jewish Home & Hospital

Remigio Pando
Administrator
Citrus Health Network

Lisa Max
Grant Manager
Jackson Health System

Bob Nowland
Vice President, Finance
Miami Children's Hospital

Vandana Pathak
Senior Planner
Mount Sinai Medical Center

State and Federal Agencies

Stephen Clark
Chief Ranger
Biscayne National Park

Bonnie Foist
Chief Ranger
Everglades National Park

Rob Molleta
Warning Coordination Meteorologist
National Weather Service

Brett Miller
Florida Department of Community Affairs
Division of Emergency Management

Jose Calas
Environmental Affairs Administrator
Florida Dept. of Environmental Protection

Rebecca Garvoille
Regional Planner
South Florida Regional Planning Council

Evan Skornick
Senior Planner
South Florida Water Mgmt District

Scott Prinos
Supervisory Hydrologist
U.S. Geological Survey

Jessica Schenone
Facilities Coordinator
Miami Dade County Health Department

James Suffern, Lieutenant
ASIO Sector Miami
U. S. Coast Guard

Miguel Gonzalez
Chief, Lender Relations Division
U.S. Small Business Administration

Alina Torres
Regional Director, Consumer Services
Florida Department of Financial Services

Other Participants

Rolando Acosta
Program Manager/Disaster Coordinator
Alliance for Aging

Sofian Abdelaziz Zakkout
Director
American Muslims for Emergency Relief

George Grace
Service Manager
BellSouth Telecommunications, Inc.

Karen Mahar
Director of Planning
Camillus House, Inc.

Christine Irwin
Grants Manager
CHARLEE of Dade County

Ralph Person
Center Coordinator
Community Partnership for the Homeless

Nick Michalisin
Vice President
Exeter Architectural Products

Leslie Chapman-Henderson
President
Federal Alliance for Safe Homes

Stephen Taylor
Administrative Supervisor
American Medical Response

Luis Avila
Director, Emergency Services
American Red Cross

Rodrigo Rodriguez
Director, Environmental Services
C3TS

Martin Terris
Director for Grants & Research
Catholic Charities

Lesli Remaly
Disaster Liaison
Church World Service

Henry Thompson
Vice President, Corporate Affairs
Economic Opportunity Family Health Ctr

Bryan Norcross
Director of Meteorology
WFOR-TV-CBS4

Marlen Oria
Major Accounts Manager
Florida Power & Light

Mariano Valle
Principal
H.J. Ross & Associates

Bill Coffey
Service Director, Florida & Caribbean
The Home Depot

Jeff Robinson
CEO
Hurricane Protection Industries, Inc.

Margaret Moss
Finance Manager
Miami Bridge Youth and Family Services

Claudia Barber
Sales Representative
Phoenix Architectural Products

Manuel Reyes-Otálora
President
RO Architects & Planners

Michael Nardone
Vice President
URS Corporation

Crystal Coleman
Director of Housing
Hialeah Housing Authority

Roy Radcliffe
Emergency Operations Manager
Humane Society of Greater Miami

Steve Terry
Land Resources Manager
Miccosukee Tribe of Indians of Florida

Lynne Cameron
Director
Neighbors 4 Neighbors

Bob Palestrant
President
Quality Response Solutions, Inc.

Diane Oliphant
Business Continuity Manager
Ryder System, Inc.

Fabio Dias
Maintenance Manager
IBM

Appendix H

LMS Committees

Local Mitigation Strategy Steering Committee:

Luis Avila, American Red Cross of Greater Miami and the Keys
Dallas Brown, City of Coral Gables
Ken Capezzuto, University of Miami
Kevin Carrier, Miami-Dade Building Code Compliance Office
Ed Bowe, City of Homestead
Mike Gambino, Miami-Dade Department of Environmental Resources Management
Rebecca Garvoille, South Florida Regional Planning Council
Hugh Gladwin, Florida International University
Michael Nardone, URS Corporation
Bryan Norcross, WFOR-CBS-4
Frank Reddish, Miami-Dade Office of Emergency Management
Jeff Robinson, Hurricane Protection Industries, Inc.
Evan Skornick, South Florida Water Management District
Jared Smith, Jared Smith PA
Bashir Wayne, City of Miami

LMS Standing Committees

Agriculture Committee
College & University Committee
Flood Mitigation Committee
- Watershed Mitigation Subcommittee
- Community Rating System Subcommittee
- FIRM Restudy Subcommittee

Hospitals Committee
Publications Committee
Terrorism Mitigation Committee
Ways and Means Committee

LMS Ad Hoc Committees:

Evacuation Restudy Committee
- Drawbridges Subcommittee
- High-rises Subcommittee
- Hurricane Sheltering Subcommittee
- Rainfall Inundation Subcommittee
- Storm Surge Subcommittee
- Traffic and Transportation Subcommittee

Appendix I

Introduction to the Minutes of the Working Group Meetings

The initial meeting between Miami-Dade County and the first group of interested municipalities and other parties was held May 5, 1998 at the Miami-Dade Emergency Operations Center (EOC) at 5600 S.W 87th Avenue, Miami, Florida 33173 (the EOC moved to its present location at 9300 N.W 41st Street, Miami, FL 33178 on June 15, 2000). These representatives formed the nucleus of the Working Group and were established to fulfill the obligations of a grant from the state of Florida. The following minutes of the meetings of the Local Mitigation Strategy Working Group will provide the reader with an overview of the beginning, development and the continuing activities of the group. Originally, it was required by the state that a schedule of meeting was to be maintained but as the Working Group enters its eighth year, the schedule will no longer be published. August 12, 1999 was the last meeting under the original state contract. In September 1999 the meeting frequency was changed from monthly to quarterly. Meetings dates have now been stabilized and are generally held on the central Wednesday of March, June, September and December. In recent times members of the Working Group have volunteered to host the LMS Working Group meetings, which seems to enhance interest and attendance. The minutes will be continuously published as they clearly demonstrate the growth and development of the Local Mitigation Strategy in Miami-Dade County.

The Local Mitigation Strategy Working Group

Minutes of the May 5, 1998 Meeting

Municipalities in Attendance

Aventura	Homestead	North Bay Village
Bal Harbour	Key Biscayne	North Miami
Bay Harbor Islands	Miami	Pinecrest
Coral Gables	Miami Beach	Sunny Isles Beach
Florida City	Miami Shores	Sweetwater
Hialeah Gardens	Miami Springs	

Others in attendance: Miami-Dade ITD, Miami-Dade DERM, State of Florida DEM, and the South Florida Regional Planning Council

The meeting began at 10:00 a.m. with a welcome from Chief Chuck Lanza and introductions from all in attendance. An agenda and an information packet were supplied to each attendee. The information packet included: The Local Mitigation Strategy: Cities and Counties Working Together to Build Disaster-Resistant Communities, a list of LMS tasks, and a sample Contractual Services Agreement between Miami-Dade County and a municipality. The video "Local Mitigation Strategy" was shown. Chief Lanza presented an overview of the Local Mitigation Strategy. The presentation was followed by a discussion of the program requirements.

The question was posed by Chief Lanza: Does this group agree that they will become the Working Group as defined in the Local Mitigation Strategy booklet and the contract for the purposes of completing the Local Mitigation Strategy? The Working Group will meet at least quarterly. The Working Group will meet again June 11, 1998, at the EOC at 10:00 am. The group agreed.

Chief Lanza posed the question: Does the Working Group agree that Hialeah, Miami, Miami Beach, Coral Gables, Homestead, North Miami, and North Miami Beach will be the Divisional Leaders Group? The group will meet monthly to bring issues to and from the Working Group and the Divisional Working Groups. The Divisional Leaders Group will meet May 19, 1998, at the EOC at 10:00 am. The Divisional Leaders will meet frequently with the Divisional Working Groups: The members of the Divisional Working Groups are:

- **Hialeah**-Hialeah Gardens, Medley, Miami Springs, Opa-locka, and Virginia Gardens
- **Coral Gables**- Pinecrest, South Miami, Sweetwater, and West Miami
- **Homestead**-Florida City and Islandia

- **North Miami Beach**-Aventura, Bal Harbour, Golden Beach, and Sunny Isles Beach

- **North Miami**- Bay Harbor Island, Biscayne Park, Indian Creek, and Surfside

- **Miami**-El Portal, Key Biscayne, Miami Beach, Miami Shores, and North Bay Village

Note: Cities in **bold** are members of the Divisional Leaders Group and have agreed to chair the respective Divisional Working Groups. The Working Group agreed.

Chief Lanza advised the Working Group that each municipality must send a letter of intent choosing one of the following options:

1. The municipality plans to fully participate in the creation of the Local Mitigation Strategy as defined in the Guidebook, or

2. The municipality plans to subcontract the responsibilities for the creation of the Local Mitigation Strategy, or

3. The municipality does not plan to participate in the creation of the Local Mitigation Strategy.

Chief Lanza asked that these letters be sent by May 19, 1998.

Chief Lanza provided a sample contract that all municipalities who choose to participate in the creation of the Local Mitigation Strategy (selection number 1) or who chose to subcontract for the creation of the Local Mitigation Strategy (selection number 2) must sign and return.

It is recommended that the Working Group consider identifying mitigation activities in the following five categories:

1. Regulatory actions and functions
2. Protection of critical facilities
3. Vegetation and landscaping
4. Coastal and floodplain management
5. Public awareness

The next meeting f the Working Group will be held on June 12, 1998 at the Miami-Dade Emergency Operation Center.

The meeting adjourned at 11:10 am.

The Local Mitigation Strategy Working Group

Minutes of the June 12, 1998 Meeting

Municipalities in Attendance:

Aventura	Florida City	North Bay Village
Bal Harbour	Hialeah	North Miami
Bay Harbor Islands	Homestead	Pinecrest
Biscayne Park	Key Biscayne	Surfside
Coral Gables	Miami	

Others in Attendance:

Miami-Dade ITD	State of Florida DEM
Miami-Dade DERM	Miami-Dade Finance Department
Miami-Dade Planning Dept.	Miami-Dade FEMA Coordination
South Fla. Reg. Planning Council	South Fla. Water Management District

The meeting began at 10:00 am with a welcome from Chief Chuck Lanza. An agenda and an information packet were supplied to each attendee. The information packet included: a list of LMS tasks, and a sample inter-local agreement between Miami-Dade County and a municipality. Chief Lanza presented an overview of the Local Mitigation Strategy.

Frank Reddish, the emergency management coordinator for hazard mitigation was introduced. He spoke briefly on what constitutes a mitigation project.

Mike Gambino from Miami-Dade County Department of Environmental Resource Management (DERM) presented an overview of the National Flood Insurance Program as it pertains to floodplain management. He demonstrated how several floodplain initiatives could be included in the local mitigation strategy. Among the many benefits of the floodplain inclusion is an improvement in the community rating which could result in lower flood insurance premiums.

One of the requirements of the Local Mitigation Strategy process is that all participants submit critical facilities information. Rob Marton, the emergency management coordinator for hazardous materials presented the need for a "critical facilities inventory" and the required data elements. Karen Grassi, from Miami-Dade Information Technologies Department, demonstrated some of the applications that can be linked using GIS and the critical facilities inventory.

Irma Plummer presented the accomplishments of the North Miami Divisional EOC work group. The group has met twice. They have agreed to pool their resources to retain a

consultant to write the group plan. North Miami will provide oversight to the consultant. An inter-local agreement between all cities in the group will be signed.

Letters of intent have been received from the following:

Aventura	Hialeah Gardens	North Bay Village
Bay Harbor Islands	Homestead	North Miami
Biscayne Park	Key Biscayne	Opa-locka
Florida City	Miami	Pinecrest
Hialeah	Miami Springs	Surfside

The members of the divisional working groups are:

- **Hialeah**-Hialeah Gardens, Medley, Miami Springs, Opa-locka, and Virginia Gardens
- **Coral Gables**-Sweetwater, Pinecrest, South Miami, and West Miami
- **Homestead**- Florida City and Islandia
- **North Miami Beach**-Aventura, Bal Harbour, Golden Beach, and Sunny Isles Beach
- **North Miami**- Bay Harbor Island, Biscayne Park, Indian Creek, and Surfside
- **Miami**-El Portal, Key Biscayne, Miami Beach, Miami Shores, and North Bay Village

Note: Cities in **bold** are members of the divisional leaders group and have agreed to chair the respective divisional working groups.

Chief Lanza reminded the Working Group that each municipality must send a letter of intent choosing one of the following options:

1. The municipality plans to fully participate in the creation of the Local Mitigation Strategy as defined in the guidebook, or

2. The municipality plans to subcontract the responsibilities for the creation of the Local Mitigation Strategy, or

3. The municipality does not plan to participate in the creation of the Local Mitigation Strategy.

It is recommended that the Working Group consider identifying mitigation activities in the following five categories:

1. Regulatory actions and functions

2. Protection of critical facilities

3. Vegetation and landscaping

4. Coastal and floodplain management

5. Public awareness

The follow meetings have been scheduled:

Group	Date and Time	Location
Divisional EOC leaders conference call	Wednesday, June 17, 1998 2:00 PM	Divisional cities
LMS Working Group	Friday, July 10, 1998 10:00 AM	Emergency Operations Center

The meeting adjourned at 11:15 am.

The Local Mitigation Strategy Working Group

Minutes of the July 10, 1998 Meeting

Municipalities in attendance:

Aventura	Hialeah Gardens	Miami Beach	Opa-locka
Bay Harbor Islands	Homestead	Miami Shores	Pinecrest
Biscayne Park	Islandia	Miami Springs	South Miami
Coral Gables	Key Biscayne	North Bay Village	Surfside
Florida City	Medley	North Miami	Virginia Gardens
Golden Beach	Miami	North Miami Beach	West Miami
Hialeah			

Others in attendance:

Miami-Dade Finance	Miami-Dade Park & Recreation
Miami-Dade ITD/GIS	Miami-Dade Solid Waste Mgmt
Miami-Dade DERM	FL DEM
Florida International University	University of Miami
South Florida Regional Planning Council	

The meeting began at 10:00am with a welcome and comment from Chief Chuck Lanza who then introduced Frank Reddish.

Frank began by reminding all those who have not yet returned their letter of intent to participate to please do so. He also reminded the group to not forget the contract agreement. Each of the booklets to be used in developing the strategy was discussed for the benefit of those who have not yet received them. The booklets, by title, are: "The Local Mitigation Strategy, Cities and Counties Working Together to Build Disaster-Resistant Communities," "The Local Mitigation Strategy, A Guidebook for Florida Cities and Counties," "Workbook in Local Mitigation Strategy Development," and "Vulnerability Assessment Supplement, Part 1." Additional copies are on order and should be available soon.

It is the intent of the program to involve groups other than municipalities and a discussion was held on how to bring companies, private non-profits organizations and private citizens on board. It was noted that the University of Miami and FIU have both expressed interest in participating and are in attendance at today's meeting.

The list of deliverables was discussed and it was announced that the first delivery date has been postponed to be concurrent with the second delivery date, i.e. mid-September, 1998. The one deliverable that brought about the liveliest discussion seems to be the Critical Facilities Inventory. The discussion included questions of what constitutes a critical facility and how the loss could affect a community. Karen Grassi from Miami-Dade ITD/GIS offered her assistance in the inventory process. Chief Lanza pointed out that the inventory includes

filling out a complete form, not just identifying a location (a copy of the form is attached and is also available from the OEM). He also stated that the county would complete the inventory for county owned facilities located within a city limit.

Each of the divisional committees was asked to give the group an update.

Coral Gables: David Brown of Coral Gables spoke on behalf of the group, which has decided to pool their grant funds to hire a consultant. He also stated that the University of Miami will be asked to contribute and feels certain that they will.

North Miami: Ken Cassel of Bay Harbor Islands spoke on behalf of this group and told us that they have completed their interlocal agreements and should be putting the project to bid very soon.

Miami: Grant Sheehan spoke on behalf of the group (which includes Miami Beach for purposes of the LMS). He told us that the group had met and was still undecided on how to use the funds.

Hialeah: Jim Borgmann of Miami Springs spoke on behalf of the group. They will meet again in the near future.

Homestead: Danny Formosa told us that this group had met once and will meet again soon. The City of Islandia has been added to the Homestead group for purposes of the LMS.

North Miami Beach: The group from North Miami Beach has not met yet but plans to do so soon.

This was the end of the LMS meeting. However, Chief Lanza invited Ed Garrison of Miami-Dade Finance Department to speak briefly concerning Section 404 hazard mitigation funds that are available as a result of the "Ground Hog Day" storms (FEMA-1204-DR-FL). Ed reminded the group that the deadline for applying is August 14, 1998. Ed can be reached at (305) 375-5080. Brett Miller from Florida Division of Emergency Management also added comments on the Hazard Mitigation Grant Program.

Finally, Chief Lanza spoke briefly on the "Y2K" problem. This is the issue of computer problems arising as a result of the year 2000. Parties with concerns are invited to contact the EOC at (305) 273-6700.

It was announced that the next meeting of the Local Mitigation Strategy working group would be held on Wednesday, August 12, 1998 at 10:00 A.M. at the Miami-Dade EOC.

The meeting was adjourned at 11:00 am.

The Local Mitigation Strategy Working Group

Minutes of the August 12, 1998 Meeting

Municipalities in attendance:

Aventura	Florida City	Miami	North Miami Beach
Bal Harbour	Golden Beach	Miami Beach	Pinecrest
Bay Harbor Islands	Hialeah	Miami Shores	South Miami
Biscayne Park	Hialeah Gardens	Miami Springs	Surfside
Coral Gables	Key Biscayne	North Bay Village	Virginia Gardens
El Portal	Medley	North Miami	West Miami

Others in attendance:

American Red Cross	Johnson & Wales University
Miami-Dade Finance Department	M-D Planning, Regulation & Development
Miami-Dade GSA (Risk Management)	Miami-Dade Solid Waste Management
Miami-Dade DERM	University of Miami
Fla. Division of Emergency Management	Fla. Department of Transportation

Welcoming for the first time: American Red Cross, Johnson & Wales University and Miami-Dade Department of Planning, Regulation and Development.

The meeting began at approximately 10:15 a.m. chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Frank began with the announcement that all but three of our municipalities have sent in their letters of intent and a reminder to all those who have not yet completed the contract agreement to please do so. (Note to group: subsequently, all 30 municipalities have signed a letter of intent.)

A representative of each of our division EOCs reported on their progress:

Hialeah: Jim Borgmann of Miami Springs spoke on behalf of the group. They are in the process of choosing a consultant while working on their deliverables.

Coral Gables: Gina Romano of Coral Gables and Yocie Galiano Gomez of Pinecrest spoke on behalf of the group, which has decided to pool their grant funds to hire a consultant.

North Miami: Irma Plummer of North Miami spoke on behalf of this group and told us that they are putting the project to bid very soon and are also working to complete their deliverables.

Miami: Joe Fernandez of Miami spoke and told us that they have completed an interlocal agreement, which is compatible to all parties and that progress is being made on the project.

Homestead: Bennie Lovett of Florida City told us that they are making progress. The Homestead and Islandia representatives could not make it today.

North Miami Beach: The group from North Miami Beach has met several times now and has agreed to have a consultant do at least some of the work. They have contacted Parsons Engineering for a cost estimate. Dale Greer of North Miami Beach will be the lead for this group. There was a concern as to whether Sunny Isles Beach would participate in the program. (Note to all: In a telephone call following the meeting, Sunny Isles Beach agreed to participate.)

The Working Group was asked to consider developing a standard format for presenting the deliverable items especially those due prior to the final delivery. The use of an outline form was recommended, at least as an interim measure.

The traditional definition of a "Critical Facility" was reiterated; namely, any facility, the loss of which would adversely affect response and recovery efforts following a disaster event. The LMS program will expand upon this to include facilities, the loss of which goes well beyond response and recovery and will include facilities where the loss will affect the economic well being of the community through loss of revenues, jobs and/or repair and recovery costs. While the locations of most critical facilities are known, additional important data must still be collected.

A discussion was held on how to bring the private sector (i.e. companies, private citizens and others) on board. It was noted that there is continued and growing interest in participating by such groups and some are in attendance at today's meeting.

The list of deliverables was discussed and everyone was reminded that time is of the essence. Also, there has been some misunderstanding of the deliverable concerning the vulnerability assessment. What is due now is a list of data sources, such as flood plain management plans and engineering studies, which can be used for the vulnerability assessment.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be held on Tuesday, September 8, 1998 at 10:00 A.M. at the Miami-Dade Emergency Operations Center.

The meeting was adjourned at 11:00 am.

The Local Mitigation Strategy Working Group

Minutes of the September 8, 1998 Meeting

Municipalities in attendance:

Aventura	Florida City	Medley	North Bay Village
Bal Harbor	Golden Beach	Miami	North Miami
Bay Harbor Islands	Hialeah	Miami Beach	North Miami Beach
Biscayne Park	Hialeah Gardens	Miami Shores	Pinecrest
Coral Gables	Islandia	Miami Springs	South Miami
El Portal	Key Biscayne		

Others in attendance:

American Red Cross	
Miami-Dade Building Code Compliance	Miami-Dade DERM
Miami-Dade Finance	Miami-Dade Housing Agency
Miami-Dade Water & Sewer	Miami-Dade OEM
Florida International University	Johnson & Wales University
Fla. Division of Emergency Management	South Florida Regional Planning Council

The meeting began at approximately 10:15 AM chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Frank began with the announcement that all 30 of our municipalities have sent in their letters of intent and a reminder to all those who have not yet completed the contract agreement to please do so.

A representative of each of our division EOCs reported on their progress:

Hialeah: The group is having a divisional meeting Wednesday morning, September 9th to finalize their September deliverables. The group has chosen the firm of Carr Smith Corradino to act as their consultant.

Coral Gables: Zully Williams, Coral Gables Public Works Supervisor will now chair this group. They will be meeting Friday, September 11th to finalize their deliverables.

North Miami: Ken Cassel of Bay Harbor Islands spoke on behalf of this group and told us that they are working to complete their deliverables.

Miami: Terry Remlin, representing the City of Miami, spoke and advised us that the group is completing their work based on the document prepared by Peter Kory of Key Biscayne. Copies of Peter's work have been distributed to the other groups as a guide.

Homestead: Bennie Lovett of Florida City told us that they are making progress. The Homestead representative could not make it today due to a death in the family.

North Miami Beach: Jules Bevis of Aventura has completed a draft of the September deliverables and presented it to the group from North Miami Beach. The group will expand on this draft.

There was a discussion of the updated list of critical facilities that had been received from Joe Myers, Director of Florida's Division of Emergency Management. (A copy of the list and memo had been faxed to everyone earlier in the week.) The LMS program will expand upon this to include facilities, the loss of which will affect the economic well being of the community through loss of revenue and jobs. While the locations of most critical facilities are known, additional important data must still be collected.

The Working Group agreed to use the "Regional Dispute Resolution Process" from the South Florida Regional Planning Council as the guideline for our conflict resolution language. Chris Rose from the Miami-Dade Office of Emergency Management is doing the rewrite.

The list of deliverables was discussed and everyone was reminded that time is of the essence.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be held on Thursday, October 8, 1998 at 10:00 A.M. at the Miami-Dade EOC.

The meeting was adjourned at 11:00 am.

The Local Mitigation Strategy Working Group

Minutes of the October 8, 1998 Meeting

Municipalities in attendance:

Coral Gables	Homestead	Key Biscayne	Virginia Gardens
El Portal	Miami Beach	North Bay Village	West Miami
Golden Beach	Miami Shores	South Miami	

Others in attendance:

Miami-Dade Building Code compliance	Miami-Dade DERM
Florida International University	Miami-Dade OEM

The meeting started at approximately 10:15 am chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Today's sign-in requested that all attendee include an e-mail address if one is not already on file with the Working Group. More and more data is transmitted between the members using e-mail. Frank noted that a free e-mail account was available through Microsoft Corporation's "hotmail" service (www.hotmail.com).

Critical facilities maps from Miami-Dade County Information Technologies Department's GIS section were distributed to each municipal representative. Maps will also be distributed to all Working Group members who could not attend today's meeting. All members are asked to review their maps and report any errors or omissions they might find.

Some of the municipalities still have not returned their signed agreements. Everyone was reminded to please get this done. The "closed for the summer" excuse is no longer valid. We still need a contract from El Portal, Florida City, Indian Creek Village, Islandia, Miami, Miami Springs, and South Miami.

The list of deliverables was discussed and everyone was reminded that time is of the essence. As of this meeting deliverables have not been received from Florida City, Hialeah, Miami and North Miami. Staff members of the Miami-Dade Office of Emergency Management who are knowledgeable in hazard mitigation are available to assist in finishing up the phase of the project.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be held in December 1998; the exact date and time to be announced in the near future.

The meeting was adjourned at 11:00 am.

The Local Mitigation Strategy Working Group

Minutes of the December 8, 1998 Meeting

Municipalities in attendance:

Aventura	Indian Creek Village	North Miami
Bay Harbor Islands	Islandia	North Miami Beach
Biscayne Park	Key Biscayne	Opa-locka
Coral Gables	Medley	Pinecrest
El Portal	Miami	South Miami
Golden Beach	Miami Beach	Sunny Isles Beach
Hialeah Gardens	Miami Shores	Sweetwater
Homestead	North Bay Village	West Miami

Others in attendance:

American Red Cross	Carr Smith Corradino
Humane Society of Greater Miami	International Hurricane Center
Miami-Dade DERM	Miami-Dade Park & Recreation Department
Fla. Division of Emergency Management	Florida International University
South Florida Regional Planning Council	South Florida Water Management District
J & T Professional Associates	

Welcoming for the first time: John Lisk of the Humane Society, Joe Corradino of Carr Smith Corradino, Toni Riordan and John Lenaerts of J & T Professional Associates and Mercedes Barreras of South Florida Water Management District. New faces attending from on-board organizations are Marian Burns of the American Red Cross, Ricardo Alvarez of the International Hurricane Center, Gil Delgado of Miami-Dade Park & Recreation Department and Sergio Purrinos of the City of Homestead.

The meeting began at approximately 10:15 AM chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

The meeting was opened with the announcement that our first two sets of deliverables had been sent in and have been approved by the Florida Division of Emergency Management. Special thanks were extended to Jules Bevis of Aventura, Zully Williams of Coral Gables and Peter Kory of Key Biscayne for the exceptional work they did in completing the assignments on behalf of the Working Group.

A representative of each of our division EOCs reported on their group's progress:

Hialeah: Has hired a consultant, the engineering-planning firm of Carr Smith Corradino to complete their participation and Joe Corradino of the firm was introduced to the Working Group.

Coral Gables: Zully Williams of Coral Gables spoke on behalf of the group, which had a meeting November 19th and will meet again December 10. She reports that things are progressing well.

North Miami: Irma Plummer of North Miami spoke on behalf of this group and told us that they have put the project to bid and will award the bid December 17th.

Miami: Joe Fernandez of Miami spoke and told us that the group had met December 1st to start work on the next deliverable and there are plans to meet again January 7, 1999.

Homestead: Bennie Lovett of Florida City could not attend today however, the Homestead and Islandia representatives are getting together following today's meeting [which they did].

North Miami Beach: The group from North Miami Beach met November 13, 1998 and has begun work on the next deliverables. Jules Bevis has agreed to continue as group leader and will serve on the steering committee. Their next meeting is planned for January 4th at 1:30pm.

Jan Brandt of Florida Division of Emergency Management (and our group's DCA/DEM advisor) was introduced and led a brief discussion on the importance of properly defining project priorities. He gave some good examples of how problems can arise without proper priorities being set. Jan also congratulated the group and was complementary of our earlier submissions.

Dr. Hugh Gladwin, director of the Institute of Public Opinion Research at Florida International University demonstrated the TAOS computer modeling software that has been supplied to the group by the state of Florida. He also showed us the other data that is stored on the CD-ROM along with TAOS. Copies of the disc are available to members of the Working Group.

All members of the Working Group are asked to develop a hazard mitigation project "wish list" and submit it to Frank by late December. A copy of the "wish list homework assignment" fax will be attached to the minutes.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be held on Tuesday, January 12, 1999 at 10:00 A.M. at the Miami-Dade EOC. The meeting was adjourned at 11:15 am.

In order to streamline some of the work process, a steering committee has been formed that is comprised of one representative from each of the regional groups, a representative of the county government and a member of the private sector. Engineering and planning consultants who have been hired by group members may be asked to join the steering committee in an advisory or ex officio capacity; Mr. Corradino for example. Mr. John Hulsey of the South Florida Regional Planning council has also been asked to join the steer-

ing committee in an advisory capacity. The committee may entertain from time-to-time to ask representatives from county, state, federal and other agencies whose actions may impact the hazard mitigation process to sit in on meetings (e.g. South Florida Water Management District, Florida DOT or FEMA).

The steering committee members are:

- Jules Bevis, Aventura (North Miami Beach)
- Ken Cassel, Bay Harbor Islands (North Miami)
- Jorge Millan, Hialeah Gardens (Hialeah)
- Peter Kory, Key Biscayne (Miami)
- Zully Williams, Coral Gables (Coral Gables)
- Mike Gambino, Miami-Dade DERM (county)
- Ed Garrison, Miami-Dade Finance (UMSA)
- Marian Burns, American Red Cross (PNPs)
- Walt Peacock, FIU (Universities)
- Frank Reddish, Miami-Dade OEM (chairman)
- John Hulsey, South Florida Regional Planning Council (advisory)
- Joe Corradino, Carr Smith Corradino (private sector)
- Homestead to be named

To: Local Mitigation Strategy Working Group
From: Frank Reddish
Subject: Homework Assignment

*** Developing your hazard mitigation project wish list ***

- All municipalities should make a wish list
- All county departments should make a wish list
- All colleges and universities should make a wish list
- All private non-profit organizations should make a wish list
- All private sector for-profit organizations should make a wish list

When in doubt – make a wish list

Wish lists may be long or short but should start with what you consider the most important project down through the project least important to your organization. Wish lists may be edited, amended, lengthened, shortened, increased, decreased, etc. Start anywhere; change it later; but **do it now.**

Projects may be complex or simple … Projects may be large or small … Projects may be costly or inexpensive … Projects may be yours alone or shared with a neighbor … Projects may be perfectly logical or totally crazy. But, projects not listed don't get done!

The wish list is a good starting point for this next phase of our strategy. Please try to send me your wish list before the end of the year. I'd like to work on them during that dull week between Christmas and New Year's Day. U.S. mail is fine (5600 SW 87 Avenue, 33173). A fax will work (305-273-6708). How about e-mail (reddish@co.miami-dade.fl.us). Or drop it off. Make my day – **send me a wish list.**

Note: John Patterson and Erle Peterson already did theirs. Joe Fernandez can use Grant's list. Ron Bliss' and Steve Sibert's lists should be interesting.

The Local Mitigation Strategy Working Group

Minutes of the January 12, 1999 Meeting

Municipalities in attendance:

Aventura	Homestead	Miami Springs
Bay Harbor Islands	Indian Creek Village	North Bay Village
El Portal	Key Biscayne	North Miami
Florida City	Medley	North Miami Beach
Golden Beach	Miami	Opa-locka
Hialeah	Miami Beach	Pinecrest
Hialeah Gardens	Miami Shores	Sunny Isles Beach

Others in attendance:

American Red Cross	Carr Smith Corradino
Humane Society of Greater Miami	International Hurricane Center
Miami-Dade Solid Waste	Miami-Dade Housing Agency
Fla. Division of Emergency Management	Fla. International University
ICF Kaiser Engineers	South Florida Water Management District

Welcoming for the first time: Ed Palacio of ICF Kaiser Engineering and Angela DeZayes of Florida International University physical plant. New faces attending from on-board organizations are Brian Hooten of the City of Opa-locka, Javier Acevedo from the city of North Miami Beach and Marta Silva of Miami-Dade Housing Agency.

The meeting began at approximately 10:15 AM chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

The meeting was opened with the announcement that payments for the first two deliverable periods have been mailed and should have been received by the municipalities. Any municipality not receiving a check should call Frank Reddish.

Homestead, Medley, Miami Beach and Miami Shores turned in critical facility location maps. Pinecrest, Homestead and Miami-Dade Housing Agency delivered mitigation wish lists. Those who have not as yet turned in these documents were reminded to please do so.

A representative of each of our division EOCs reported on their group's progress:

Hialeah: Met with their consultant, Joe Corradino, to develop the wish lists. The group met to discuss progress on Monday, January 11th.

Coral Gables: Yocie Galiano Gomez reported on behalf of the Coral Gables group. The group met December 10th and will meet again January 14th. She reports that things are progressing well.

North Miami: Irma Plummer of North Miami spoke on behalf of this group and told us that they have selected ICF Kaiser as their consultant, which should be confirmed by the city counsel tonight.

Miami: Frank Rollason chaired the meeting, which was held January 7th. Peter Kory explained how their group was proceeding. They will meet again soon.

Homestead: Florida City and Homestead representatives are getting together following today's meeting [which they did].

North Miami Beach: The group from North Miami Beach met January 4, 1998 and has begun work on the next deliverables. The group plans to "piggy back" on the North Miami consulting contract and hire ICF Kaiser to represent them.

Frank Reddish briefed the group on the progress of the steering committee that has been formed to deal with prioritization and with countywide issues. The members of the steering committee were introduced to all.

Bill DelGrosso, emergency management coordinator for community outreach, spoke to the Working Group about another program under development in Miami-Dade County. That is the Community Emergency Response Team (CERT) program. Bill introduced the program and invited members of the Working Group and their municipalities to participate.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be held on Thursday, February 12, 1999 at 10:00 A.M. at the Miami-Dade EOC.

The meeting was adjourned at 11:15 am.

The Local Mitigation Strategy Working Group

Minutes of the February 12, 1999 Meeting

Municipalities in attendance:

Aventura	Hialeah	North Miami
Bay Harbor Islands	Hialeah Gardens	North Miami Beach
Bal Harbour	Homestead	Opa-locka
Biscayne Park	Key Biscayne	Pinecrest
Coral Gables	Medley	South Miami
El Portal	Miami Shores	Surfside
Florida City	Miami Springs	Virginia Gardens
Golden Beach	North Bay Village	West Miami

Others in attendance:

American Red Cross	Barry University
Carr Smith Corradino	International Hurricane Center
Miami-Dade DERM	Fla. Division of Emergency Management
Florida International University	Miami-Dade Community College
Miami-Dade Finance Department	Miami-Dade Housing Agency
South Florida Regional Planning Council	

And, of course, our leader and caseworker, Jan Brandt from the State LMS program in Tallahassee.

Welcoming for the first time: George Webb from Barry University; David Lundgren from Miami-Dade Community College and Bashir Wayne from Florida Division of Emergency Management, Bureau of Recovery and Mitigation.

The meeting began at approximately 10:15 am chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Mr. Reddish announced that we now have the Section 302 hazardous materials locations for the entire county. He stated that there were a total of 192 known sites in Dade County and copies of the list will be distributed to all group members. Last year, there were 18 train wrecks (many also in Medley).

Mr. Reddish also reported that he would be e-mailing a compiled wish list of everyone's hazard mitigation initiatives, including the private sector.

Dr. Walter Peacock, Associate Director for Research, FIU Center for Engineering and Applied Sciences stated that The Arbiter of Storms (TAOS) modeling system provides hazard maps showing wind and water surges due to rainfall and storms (related to different cate-

gories) all laid out on the CD ROM. The models will show a municipality where the problems are likely to be. Mr. Reddish said the models would allow you to view a band of destruction and pinpoint where damage might occur (vulnerability) and to what extent on specific types of homes, such as wooden, mobile, etc. Jan Brandt stated that TAOS data is in GIS shape files. The CD ROM also includes ArcExplorer that enables you to open the shape files in GIS format. Critical facilities can only be added or revised if you have an ArcView station. Dr. Peacock said there are critical facilities (shelters) on the CD ROM, if you have ArcView you should be able to interpret the data.

Mr. Peter Kory, Village of Key Biscayne, discussed the definition of initiatives. Initiatives should be handled at the county level and those should provide the basis for municipalities to define projects. Mr. Brandt said the state had changed the word project to initiatives to encourage more than just structural type projects such as public education programs.

Mr. Brandt discussed funding; projects are funded as funding becomes available and not all projects in each LMS will be funded due to that particular availability. Ms. Zully Williams, city of Coral Gables, asked how the state will evaluate the applications for funding in the future; currently applications are selected based on how they are written and the documentation submitted. Mr. Brandt stated that the state might look to the County LMS to endorse the application. Also, the state will consider whether to award more points to those projects that have endorsements by the LMS group. Dr. Peacock stated that there was a resource identification list on the State's website:

www.state.fl.us/comaff.

Frank Reddish briefed the group on the progress of the steering committee and the members of the steering committee were, once again, introduced to all. Mr. Reddish reported that the Steering Committee had also discussed an approach to broad countywide projects narrowing to the municipal level. There were also political ramifications to selecting a project, and what should be the provisions placed on projects to survive politically as well as the practically. Also there is the relationship between municipalities and the county and other agencies such as the American Red Cross that has taken a national interest in mitigation. The issue is putting all the organizations together to accomplish the LMS without friction. Mr. Brandt discussed Volusia County, for example, have 17 municipalities and a consultant. There is a list of projects within that LMS which represents an implementation plan and there are projects listed for each municipality (tiered). The Volusia LMS will also list the top 3 as prioritized by the county. Another county has left the prioritization up to the steering committee, with 1 vote per municipality and the municipality cannot vote for any other their projects. Mr. Jorge Millan, Village of Hialeah Gardens, suggested not using mitigation initiatives and addressing regional issues. Mr. Reddish stated that the "wish lists" will only be used as a tool to focus a municipality on developing a mitigation project list and help the county identify what projects are shared by more than one municipality and what projects are unique to a municipality.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be held on Thursday, February 11, 1999 at 10:00 A.M. at the Miami-Dade EOC.

The meeting was adjourned at 11:15 am.

The Local Mitigation Strategy Working Group

Minutes of the March 10, 1999 Meeting

Municipalities in attendance:

Aventura	Hialeah	North Miami Beach
Bay Harbor Islands	Hialeah Gardens	Opa-locka
Bal Harbour	Homestead	Pinecrest
Biscayne Park	Key Biscayne	South Miami
Coral Gables	Medley	West Miami
Golden Beach	Miami Shores	

Others in attendance:

American Red Cross	Barry University
Carr Smith Corradino	International Hurricane Center
Miami-Dade DERM	Florida International University
Miami-Dade Community College	Miami-Dade Finance Department
Miami-Dade Housing Agency	ICF Kaiser
Jackson Memorial Hospital/Public Health Trust	
University of Florida, Institute of Food and Agricultural Sciences	

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Welcoming for the first time: Don Pybas, director of the Agriculture Extension Service of the University of Florida's Institute of Food and Agricultural Sciences, Frank Meistrell, risk manager from Miami-Dade Community College and Wayne Ferdinand of Jackson Memorial Hospital and the Public Health Trust.

The meeting began at approximately 10:15 AM chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Frank announced that the first phase of the critical facilities maps is complete and new maps are being printed and will be delivered in the next couple of weeks.

A representative of each of our division EOCs reported on their group's progress:

Hialeah: They have been meeting with their consultant, Joe Corradino, and are very close to completing this assignment.

Coral Gables: Zully Williams announced that she has accepted the position of assistant town manager in Islamorada but will complete the 3rd period deliverables for the Coral Gables group. We will miss her and her good work. Yocie Galiano Gomez of Pinecrest has agreed to be the representative for the group in the future.

North Miami: Ed Palacio of ICF Kaiser spoke on behalf of this group and told us that they have been meeting and are on target for completion by march 26th.

Miami: Peter Kory has completed the work for Key Biscayne. El Portal, Miami Shores, Miami Beach and North Bay Village are all progressing. The City of Miami has missed the last two meetings, has reported no progress and has not delivered any required material. The county intends to complete the City of Miami's portion of the Local Mitigation Strategy so that our deliverables will be total.

Homestead: Florida City and Homestead representatives are making progress and should be submitting documents within 30 days. Islandia reports by phone that since the National Park Service (They are completely within Biscayne National Park) controls their entire infrastructure they really don't have anything to mitigate.

North Miami Beach: Ed Palacio of ICF Kaiser also represents the group from North Miami Beach and the next deliverables will be ready March 26th. Nannette Murray of Sunny Isles Beach has agreed to represent this group in the future and will serve on the Steering Committee.

Frank Reddish briefed the group on the progress of the Steering Committee that has been formed to deal with prioritization and with countywide issues. The committee met February 22nd at Florida International University's Center for Engineering and Applied Sciences and was hosted by Dr. Walter Peacock and the International Hurricane Center.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be announced in April 1999.

The meeting was adjourned at 11:30 am.

The Local Mitigation Strategy Working Group

Minutes of the June 15, 1999 Meeting

Municipalities in attendance:

Aventura	Hialeah	Miami Beach
Bay Harbor Islands	Hialeah Gardens	Miami Shores
Biscayne Park	Homestead	Pinecrest
Coral Gables	Key Biscayne	South Miami
El Portal	Medley	Sweetwater
Florida City	Miami	West Miami
Golden Beach		

Others in attendance:

Carr Smith Corradino	International Hurricane Center
Miami-Dade DERM	Florida International University
Humane Society of Greater Miami	ICF Kaiser
Miami-Dade Community College	Miami-Dade Finance Department
Miami-Dade Housing Agency	Miami-Dade Public Works
Miami-Dade- Park & Recreation	Storm Soft Mooring Systems, Inc.
South Florida Water Management District	FL DEM Area 7 Coordinator

University of Florida, Institute of Food and Agricultural Sciences

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Welcoming for the first time: Joe Garafalo, extension agent, Agriculture Extension Service of the University of Florida's Institute of Food and Agricultural Sciences; Dulce Sirgado and John Patterson from Miami-Dade Public Works; Roy Radcliffe, Humane Society of Greater Miami; and new municipal representatives Mecedes Sosa, newly appointed assistant manager for Bay Harbor Islands and Domingo Moya, grant coordinator for the city of Sweetwater.

The meeting began at approximately 10:30 AM chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Frank reminded everyone that those who have completed their 3rd Contract Period deliverables should submit an invoice for the payment of 40% of the municipalities' total grant. Also, the critical facilities maps have been reprinted and delivered. Corrections should be completed in the next couple of weeks and new maps will be printed and will be delivered once again. Eventually these maps should be 100% correct.

Frank Reddish briefed the group on the progress of the Steering Committee that has been formed to deal with prioritization and with countywide issues. The committee met June 10, 1999 at the Sunny Isles Beach city hall and was hosted by Nannette Murray. The com-

mittee also discussed which actions should be taken following the August 31, 1999 LMS conclusion.

As a result of the Steering Committee report, it was requested that each member of the Working Group discuss with their respective municipalities or organizations as to what we should do as a group once the program ends in August. This will be brought up for discussion at the next Working Group meeting.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be July 13, 1999 and would be a joint meeting with the Y2K and Satellite EOC groups.

The meeting was adjourned at 11:30 am.

The Local Mitigation Strategy Working Group

Minutes of the July 13, 1999 Meeting

Municipalities in attendance:

Aventura	Golden Beach	Miami	North Miami Beach
Bay Harbor Islands	Hialeah	Miami Beach	Opa-locka
Coral Gables	Hialeah Gardens	Miami Shores	South Miami
El Portal	Homestead	North Bay Village	Sweetwater
Florida City	Key Biscayne	North Miami	West Miami

Others in attendance:

American Red Cross	Carr Smith Corradino
DERM	Florida International University
Humane Society of Greater Miami	International Hurricane Center
Institute for Public Opinion Research	Miami-Dade Community College
Miami-Dade Finance Department	Miami-Dade Housing Agency
Miami-Dade- Park & Recreation	Miami-Dade Public Works
Public Health Trust (Jackson Memorial Hospital)	

Welcoming for the first time: Rosemary Wascura, new acting town manager for Golden Beach.

The meeting began at approximately 10:30 a.m. following a meeting and presentation of Y2K planning and preparation by various county departments and by representatives of Florida Power and Light (FPL), the Federal Reserve Bank and the banking industry. The LMS meeting was chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Frank reminded those who have completed their 3rd Contract Period and still not submitted an invoice to please do so. Those that have, have already been paid.

Frank Reddish briefed the group on the progress of the Steering Committee that has been formed to deal with prioritization and with countywide issues. The committee met July 8, 1999 at the Montgomery Botanical Center in Coral Gables. The committee once again discussed which actions should be taken following the August 31, 1999 LMS conclusion. As a result of the Steering Committee report, it was requested that each member of the Working Group discuss with their respective municipalities or organizations as to what we should do as a group once the program ends in August. This will be brought up for discussion at the next Working Group meeting.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be August 12, 1999. The meeting was adjourned at 11:30 am.

The Local Mitigation Strategy Working Group

Minutes of the August 12, 1999 Meeting

Municipalities in attendance:

Bal Harbour	Hialeah	Miami	North Miami
Bay Harbor Islands	Hialeah Gardens	Miami Beach	North Miami Beach
Biscayne Park	Homestead	Miami Shores	Opa-locka
El Portal	Indian Creek	Miami Springs	South Miami
Florida City	Key Biscayne	North Bay Village	West Miami
Golden Beach			

Others in attendance:

Carr Smith Corradino	International Hurricane Center
DERM	Florida International University
Humane Society of Greater Miami	Florida DCA/DEM
Miami-Dade Finance Department	Miami-Dade Public Works
Miami-Dade Housing Agency	South Florida Regional Planning Council
University of Miami	

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Welcoming for the first time: Dr. Charles Gottlieb, director of Environmental Health and Safety for the University of Miami and recently appointed emergency management coordinator for the city of Hialeah, John Seay

The meeting began at approximately 10:30 am chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Frank reported that the disaster recovery class had been successful with over fifty in attendance. Also, the hurricane evacuation shelter evaluation program has been very successful with over 300 engineers, architects and building inspectors having completed the two-day course. Having this many qualified inspectors in the county will greatly advance our shelter program that is one of the countywide initiatives and of concern to all.

Frank Reddish gave a final briefing to the group on the Steering Committee progress in prioritizing the countywide issues. The committee also discussed which actions should be taken following the August 31, 1999 LMS conclusion. A show-of-hands vote was taken to determine how many members of the Working Group wished to continue after August 31st even if the state does nothing. The vote was virtually unanimous.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be in September with an actual date to be announced in the near future.

The meeting was adjourned at 11:30 am.

The Local Mitigation Strategy Working Group

Minutes of the September 22, 1999 Meeting

Municipalities in attendance:

Aventura	Hialeah Gardens	Miami	North Miami Beach
Bal Harbour	Homestead	Miami Shores	Opa-locka
Bay Harbor Islands	Indian Creek	North Bay Village	South Miami
Florida City	Key Biscayne	North Miami	West Miami
Hialeah			

Others in attendance:

American Red Cross	Carr Smith Corradino
DERM	Fla. International University
Humane Society of Greater Miami	International Hurricane Center
Johnson & Wales University	Miami-Dade Finance Department
Miami-Dade Housing Agency	Miami-Dade Park & Recreation
Miami-Dade Public Works	Miami-Dade Solid Waste Management
South Florida Regional Planning Council	University of Miami

Welcoming for the first time: Vern Weatherholtz, the new public works director for North Bay Village, Darin Baldwin from Florida City, Carlos Perez from North Miami and Dale Botwin from the Humane Society of Greater Miami

The meeting began at approximately 10:00 a.m. chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Frank welcomed everyone to the "first meeting" of Phase II of the Local Mitigation Strategy, Phase I having officially ended on August 31st following a vote by the Working Group to continue with the program after August.

It was announced that the Local Mitigation Strategy document is complete and will go to Tallahassee next week. Frank Reddish then asked the Working Group to approve the final document by a show of hands. The vote to approve was unanimous. There will, however, be some time during the next week to add any final items that a member might have.

The floor was then turned over to Mr. Erle Peterson of the Miami-Dade Office of Emergency Management who, along with representatives from the Department of Environmental Resource Management (DERM), Solid Waste Management and the Park & Recreation Department presented the "Coordinated Debris Clearance" (CDC) plan. This plan has been developed because the debris problem has been determined to be the highest priority on our LMS list of countywide initiatives. After a lively discussion and question and answer

period it was determined that each community would study the issue and present proposals and recommendations prior to the next LMS meeting.

At this point Frank Reddish explained about the emergency declaration for Hurricane Floyd and held a mini-briefing for the members that had costs associated with Hurricane Floyd. The proper FEMA forms were passed out and all eligible members of the Working Group were encouraged to fill out the Request for Public Assistance right now at the meeting. And, true to our cause, we will try to get hazard mitigation money through Hurricane Floyd.

It was announced that the next meeting of the Local Mitigation Strategy Working Group would be in November with an actual date to be announced in the near future.

The meeting was adjourned at 11:30 am.

The Local Mitigation Strategy Working Group

Minutes of the March 8, 2000 Meeting

Municipalities in attendance:

Aventura	Indian Creek	North Miami
Bay Harbor Islands	Key Biscayne	North Miami Beach
Biscayne Park	Medley	Opa-locka
Coral Gables	Miami Beach	Pinecrest
Hialeah	Miami Shores	Sunny Isles Beach
Homestead	North Bay Village	Sweetwater

Others in attendance:

American Red Cross	Eden, Inc.
Carr Smith Corradino	International Hurricane Center
ICF Consulting	Pistorino & Alam Engineering
Humane Society of Greater Miami	Citrus Health Network
Jackson Memorial Hospital	Fla. International University
Johnson & Wales University	University of Miami
Miami-Dade DERM	Miami-Dade Finance Department
Miami-Dade Housing Agency	Miami-Dade Public Works
Miami-Dade Water & Sewer	Miami-Dade Cooperative Extension Service
Federal Bureau of Investigation	National Park Service

University of Florida, Institute of Food and Agricultural Sciences

Welcoming for the first time: Alex Garcia, Special Agent, FBI; Jeffery Scott, Planner, Everglades National Park; Bob Panko, Fire Officer, National Park Service; John Pistorino, Dean Carlson and Tony Grau of Pistorino & Alam Consulting Engineers; Frank Morales of Jackson Memorial Hospital and the Pubic Health Trust; Ken Forbes and Bob Roach of Eden, Inc.; Remi Pando of Citrus Health Network; Steven Simonton, Johnson & Wales University.

The meeting began at approximately 9:00 am chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Frank announced that our LMS caseworker, Robert Neff went and got a real job and our new LMS person at DCA in Tallahassee will be Hank Erickson.

Upcoming classes here at the EOC will be Hurrevac (hurricane tracking software) training, Resource Management, proper tree trimming for hurricane season and a discussion on hurricane forecasting by Jim Lushine, Warning Coordination Meteorologist from the National Weather Service's Miami Forecast Office.

Special Agent Alex Garcia of the Federal Bureau of Investigation gave a presentation on the potential infrastructure problems occurring recently because of computer hackers. Agent Garcia heads a national FBI taskforce known as the National Infrastructure Protection and Computer Intrusion Program (NIPCIP).

Dr. Charles Gottlieb of the University of Miami addressed the group with details of the FEMA sponsored Disaster Resistant Universities program which is part of "Project Impact." Miami is one of nine universities throughout the United States participating in the pilot program, which is administered through the University of California, Berkley. Once the bugs are worked, the program will be made available to all schools around the country.

Lt. Les Forster of Miami-Dade Fire Rescue gave a presentation on the Community Emergency Response Team (CERT) program. Les explained the program to the group and told us that now that the neighborhood program is up and running the CERT group wants to expand to include business teams as well and teams at the local colleges. The message went over well and John Pistorino, president of the engineering firm, Pistorino & Alam, who was in attendance today, volunteered his company to be the first to sign on. Joe Corradino of the firm Carr Smith Corradino also was interested. The University of Miami, Florida International University and Johnson & Wales University all expressed interest. Don Pybas, director of the Miami-Dade County Agricultural Cooperative Extension Service asked whether the release of liability to the county applied to county employees. Good question; we need to get an answer.

A letter dated February 29, 2000 from Shirley Collins bureau chief for the Bureau of Recovery and Mitigation, FDEM, to our Emergency Management director Chuck Lanza was introduced to the group (copies circulated to all). This letter details the direction FDEM is going with Local Mitigation Strategy. Of special importance to the LMS Working Group is the fact that LMS participation is a requirement for a number of grants. The project will only be accepted if it is part of LMS for some grant programs while other grant programs give a competitive advantage to LMS projects.

This lead to a discussion about how often the LMS "master document" should be updated with completed projects removed and new ones added. The Working Group decided that every four months would be best. The Steering Committee will determine the dates for the updated documents to be forwarded to FDEM in Tallahassee.

It was also decided to change the format of our master LMS document slightly. In the future the document will be divided into three parts: The Strategy, The Projects, and The Funding Sources followed by the appendices. This should make amending the document easier by permitting the changes to one part without affecting the other two.

The LMS Working Group also confirmed that it will continue to meet quarterly and the Steering Committee will meet monthly or as needed.

The LMS Working Group meeting adjourned at 10:00 a.m. followed by a meeting of

the Steering Committee. Interested parties were invited to stay.

The LMS Steering Committee meeting began at approximately 10:15 a.m., March 13th. Members in attendance were: Ken Cassel, City of Homestead; Joe Corradino, Corradino Group; Yocie Galiano Gomez, Village of Pinecrest; Mike Gambino, Miami-Dade DERM; Ed Garrison, Miami-Dade Finance Department, Hugh Gladwin, Florida International University; Peter Kory, Village of Key Biscayne; Frank Reddish, OEM; Iñaki Rezola for Marian Burns, American Red Cross; Mercedes Sosa, Town of Bay Harbor Islands.

The Committee discussed when would be the best time to publish updated versions of the Local Mitigation Strategy. It was concluded that it would be best to publish immediately prior to hurricane season, which begins June 1st of each year. Therefore the first update will be sent to Tallahassee on May 31, 2000 and updates will continue every four months thereafter unless the LMS Working Group amends the schedule. For the year 2000, updates will be May 31 and September 30 and then on January 31, 2001. Miami-Dade Office of Emergency Management will act as the clearinghouse for all amendments.

It was agreed that in order to allow proper assembly of the documents, all updated materials must be received at the Office of Emergency Management one month prior to the publication date (i.e. April 30, September 30 and December 31).

The LMS Steering Committee adjourned at 10:30 am and reconvened as the Evacuation Restudy Committee. The Evacuation Committee minutes are filed separately.

The Local Mitigation Strategy Working Group

Minutes of the June 7, 2000 Meeting

Municipalities in attendance:

Aventura	Indian Creek	North Bay Village
Biscayne Park	Key Biscayne	North Miami
Coral Gables	Medley	North Miami Beach
Florida City	Miami	Opa-locka
Hialeah	Miami Beach	Sunny Isles Beach
Homestead	Miami Shores	Sweetwater
		West Miami

Others in attendance:

American Red Cross	Eden, Inc.
Homestead Hospital	International Hurricane Center
Humane Society of Greater Miami	Citrus Health Network
Jackson Memorial Hospital	Fla. International University
Johnson & Wales University	University of Miami
Miami Bridge	Miami-Dade Building Code Compliance
Miami-Dade County Public Schools	Miami-Dade Community Action Agency
Miami-Dade DERM	Miami-Dade Finance Department
Miami-Dade GSA	Miami-Dade Housing Agency
Miami-Dade Water & Sewer	Miami-Dade Cooperative Extension Service
Municipal Solutions	The Village
South Florida Regional Planning Council	
U.S. Department of Housing and Urban Development, Florida State Office	
U.S. Department of Labor, Homestead Job Corps Center	

Welcoming for the first time: Morris Mays, Miami-Dade Community Action Agency; Sandra Jenkins, Homestead Hospital; Frank Mitchell, Rudolph Funn and Paul Hoberling, U.S. Dept. of Labor, Homestead Job Corps Center; Al Cazzoli, U.S. HUD; Margaret Moss, Miami Bridge; Norry Lynch and Carol Echs, Miami-Dade County Public Schools; Ron Hughes, Johnson & Wales University; and Jose Rodriquez, The Village. Tekeia Clark has moved from Solid Waste Management to GSA and Vivian Duyos now represents SWM.

The meeting began at approximately 9:00 AM, chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

It was announced that the Miami-Dade County Board of County Commissioners, on Tuesday, June 6, 2000, passed a resolution formally adopting the Local Mitigation Strategy as presented by the LMS Working Group. Congratulations to all.

Upcoming classes here at the EOC will be proper tree trimming for hurricane season. A tree-trimming program is a high priority in our LMS. Joseph Garofalo, Ph.D., urban horticulture specialist at the county Cooperative Extension Service and the Institute of Food and Agricultural Sciences will demonstrate to proper tree trimming techniques to best ensure a tree's surviving a hurricane as well as information on the best and worst trees for hurricane survival. Matt King from Miami-Dade County Department of Environmental Resources Management (DERM) will discuss the laws governing trees and pruning. Ideas and suggestions for future training classes will be appreciated.

Linda Bell with the State of Florida, Division of Emergency Management joined us to speak about the National Flood Insurance Program and the Community Rating System. In Miami-Dade County there are fifteen municipalities that are not part of the Community Rating System. This is a program to lower flood insurance premiums and it would be extremely beneficial if all our cities belonged to the program. It will be a goal of the LMS Working Group to enroll the entire county in CRS and this goal will be added to our top LMS priority, that of reducing flooding and flood damage.

Peter Kory, Key Biscayne representative and member of the steering committee has volunteered to lead the CRS effort. Ken Rock of IFC Consulting has agreed to assist Peter. Following this meeting, Linda and Peter will meet with the representatives of the proposed new CRS members. Those present today are: Biscayne Park, Florida City, Homestead, Indian Creek, Medley, North Bay Village, Opa-locka, Sweetwater and West Miami. Peter has contacted all those not in attendance (Hialeah Gardens, South Miami, Pinecrest, Sunny Isles Beach and Virginia Gardens) except for the Village of El Portal. Hopefully we will reach them soon. This CRS effort will be a sub-committee under the LMS Flood Reduction Committee.

Everyone was reminded of the latest edicts emanating from FDEM wherein participation in the LMS is a requirement for a number of grants including the Hazard Mitigation Grant Program and the Flood Mitigation Assistance Program.

The LMS master document is almost ready for publication of the latest update. Publication was delayed so that the Board of County Commissioners resolution can be included in the document. Any changes including additions deletions and amendments should be sent in within the next week. The format of our master LMS document has been changed as recommended by the Steering Committee following the last meeting. The document is now divided into four parts: The Strategy, The Projects, and The Funding Sources followed by the appendices.

The LMS Working Group also confirmed that it will continue to meet quarterly and the Steering Committee will meet monthly or as needed. The next Working Group meeting will be Thursday, September 7, 2000 at 9:00 AM at the EOC.

The LMS Working Group meeting adjourned at 10:30 a.m. followed by a meeting of the Community Rating System Committee. Interested parties were invited to stay.

The Local Mitigation Strategy Working Group

Minutes of the September 7, 2000 Meeting

Municipalities in attendance:

Aventura	Medley	Miami Springs
Biscayne Park	Miami	North Miami
Coral Gables	Miami Beach	Opa-locka
Homestead	Miami Shores	Pinecrest
		West Miami

Others in attendance:

American Red Cross	BellSouth Telecommunications
Catholic Charities	Citrus Health Network
DRC, Inc.	Fla. International University
Humane Society of Greater Miami	Hurricane Protection Industries
International Hurricane Center	Johnson & Wales University
University of Miami	Miami-Dade County Public Schools
Miami-Dade DERM	Miami-Dade Finance Department
Miami-Dade Park & Recreation	Miami Museum of Science
Miami-Dade Water & Sewer	Miami-Dade Cooperative Extension Service

Welcoming for the first time: Frances Spiegel, who has replaced Marian Burns as our Red Cross representative (Marian is off to law school), Roger North, who has replaced John Faller as our representative from BellSouth, Kathie Janik, who has replaced Jules Bevis as our representative from the City of Aventura, Bruce Netter and Martin Terris from Catholic Charities of the Archdiocese of Miami, David Schrier from DRC Inc., Victor Vincent and John Lawrence from the Miami Museum of Science.

The meeting began at approximately 9:30 AM, chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

Upcoming classes here at the EOC will be proper "cost/benefit analysis and environmental concerns" at 9 AM, September 12th, taught by instructors from Florida DEM. Additionally, there will be a brainstorming session concerning the high-rise building dilemma or what to do about people trapped in high-rise buildings in the aftermath of a storm. Folks from the International Hurricane Center at FIU will also make a presentation. This is a part of our on going evacuation restudy.

Joy Klein, from the Department of Environment Resource Management (DERM) and Joe Maguire, from the Park and Recreation Department's Natural Areas Management section spoke to the group concerning the progress of our controlled or prescribed burn program. This program addresses one of the countywide initiatives in the Local Mitigation Strategy;

that of wildfires which occur all too often in Miami-Dade County. Under Joy's leadership, the LMS Working Group is forming a wildfire mitigation committee with Joy and Joe as well as Bob Panko, chief fire officer from Everglades National Park, assistant chief Cynthia Sears of Miami-Dade Fire Rescue, Laura Geselbracht of the Nature Conservancy, Roman Gastesi of South Florida Water Management District and Don Pybas of the University of Florida's Institute of Food and Agricultural Sciences and the Cooperative Extension Service. We are also asking the Florida Division of Forestry and the state Department of Environmental Protection to join the committee. Other interested members of the LMS Working Group are invited to participate.

Peter Kory, Mike Gambino and Frank Reddish of the Flood Reduction Committee met with Yusaf Mustafa from Florida DCA to discuss floodplain management and addressed the issue of NFIP "repetitive loss properties." The committee tried to explain that real estate prices in Miami-Dade County make buyouts of the repetitive loss properties unrealistic. The committee has been able to get a commitment from Florida DEM for a $50,000 Flood Mitigation Assistance grant to help attain our goal of 100% participation in the Community Rating System (CRS) program.

Everyone was reminded once again of the latest edicts emanating from FDEM wherein participation in the LMS is a requirement for a number of grants including the Hazard Mitigation Grant Program and the Flood Mitigation Assistance Program.

The LMS master document was published June 30, 2000 and reflects the format changes as recommended by the Steering Committee. The document is now divided into four parts: The Strategy, The Projects, and The Funding Sources followed by the appendices and minutes of previous meetings. The next publication will be December 31, 2000 and all submittals for this must be in by the first week of December.
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The LMS Working Group also confirmed that it will continue to meet quarterly and the Steering Committee will meet monthly or as needed. The next Working Group meeting will take place Wednesday, December 6, 2000 at 9:30 AM at the EOC.

The LMS Working Group meeting adjourned at 10:30 a.m.

The Local Mitigation Strategy Working Group

Minutes of the December 6, 2000 Meeting

Municipalities in attendance:

Aventura	Homestead	North Miami
Bal Harbour	Key Biscayne	Pinecrest
Coral Gables	Miami	South Miami
Florida City	Miami Beach	Sweetwater
Hialeah	Miami Springs	West Miami

Others in attendance:

Alliance for Aging	American Red Cross
Catholic Charities	Citrus Health Network
Exeter Architectural Products	Federal Emergency Management Agency
Florida DCA/DEM	Florida International University
H.J. Ross & Associates	Hurricane Protection Industries
International Hurricane Center	Mercy Hospital
Miami Children's Hospital	Miami-Dade Community College
Miami-Dade DERM	Miami-Dade Finance Department
Miami-Dade Park & Recreation	Miami Museum of Science
Miami-Dade Public Works	Miami-Dade Transit Agency
Miami-Dade Water & Sewer	Miami-Dade Cooperative Extension Svc
National Weather Service	Neighbors 4 Neighbors
PBS&J	Seminole Tribe of Indians
South Florida Limestone Coalition	Unlimited Applications, Inc.
University of Miami	URS Corporation
U.S. Army Corps of Engineers	South Florida Water Management District

Miami-Dade Office of Intergovernmental Affairs
University of Florida Institute of Food and Agricultural Sciences

Welcoming for the first time: Mike Weston from the Alliance for Aging, Nick Michalisin from Exeter Architectural Products, Cesar Calas from H.J. Ross & Associates, Michael Sorbello who replaces Gil Delgado as representative of Miami-Dade Parks, Juliana Walsh from the Miami-Dade Office of Intergovernmental Affairs, Alberto Parjus and Lisa McMillion for Miami-Dade Transit, Jim Lushine and David Kosier from NWS Miami Forecast Office, Lynne Cameron from Neighbors 4 Neighbors, Guy Hamilton from Unlimited Applications, Inc., Victor Powell from the South Florida Water Management District, Michael Nardone from URS Corporation, Paul Larsen from the South Florida Limestone Mining Coalition, Royce Tipton from the U.S. Army Corps of Engineers and Joe Kippenberger from the Seminole Tribe. Because of the joint meeting with the Governor's Flood Task Force, we also had with us today numerous representatives from FEMA, Florida Department of Community Affairs and representatives of several county commissioners and members of congress.

The meeting began at approximately 9:30 AM, chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

The first order of business was to remind everyone that the December 2000 edition of the LMS project list is ready to go to press. Everyone was reminded once again of the latest edicts emanating from FDEM wherein participation in the LMS is a requirement for a number of grants including the Hazard Mitigation Grant Program and the Flood Mitigation Assistance Program. This is the last call for submitting mitigation projects for inclusion in the list. The next edition will be June 2001.

The Evacuation Restudy Committee continues its work. On September 26, 2000, a forum chaired by Cathie Perkins was held to discuss the "High-rise Dilemma;" the problems occurring before, during and after a hurricane for people living in high-rise apartments and condos. Contributing were Hugh Gladwin and Nikki Dash from FIU, John Pistorino from the engineering firm of Pistorino & Alam, Jeff Robinson from Hurricane Protection Industries, Klaus Bemke from Miami Elevator, Lilia Vietia from The Continental Group, a property management company, Bill Wilson from the American Red Cross, John Hulsey from the South Florida Regional Planning Council and representatives from many of our municipalities that have high-rise structures. A transcript of the discussion is available through Miami-Dade OEM. The high-rise discussion will continue in the future.

The drawbridge task force continues to meet to iron out problems that might occur with our drawbridges during an evacuation. The group includes representatives from Miami-Dade OEM, Miami-Dade Public Works, Florida DOT, U.S. Coast Guard Marine Safety Office and the U.S.C.G. Bridge Operations Section, the Port of Miami, DERM, City of Miami, City of Miami Beach, Bay Harbor Islands, and Broward and Palm Beach County Public Works

The CERT Program (Community Emergency Response Team) continues to grow and is the largest in the state of Florida with over 700 members now trained. The program is now working with the University of Miami to develop a campus CERT program.

The Wildfire Committee continues to work to refine the prescribed burn program and will next meet January 10, 2001. The wildfire committee is made up of representatives from the Florida Division of Forestry, DERM, Miami-Dade OEM, Miami-Dade Fire Rescue, Miami-Dade Park & Recreation Natural Areas Management, the Nature Conservancy and Everglades National Park.

The Flood Reduction Committee's CRS sub-committee reports that Florida City, Homestead, Miami Springs, Opa-locka and Pinecrest have all begun the application process for gaining status as Community Rating System municipalities. We will continue working with the other communities in our effort to have 100% of the municipalities as CRS cities.

The shelter retrofit program has now submitted 17 properties for HMGP funding.

These include 11 schools, 3 park buildings, the Humane Society shelter, Miami Children's Hospital and CHPI homeless shelter.

Dr. Joe Garofalo from the University of Florida's Institute of Food and Agricultural Sciences has agreed to conduct another "Proper Tree Trimming" class in the spring prior to hurricane season.

Effective September 13, 2000 Miami-Dade County and its municipalities has become a Project Impact Community. Dennis Smith, the Project Impact Coordinator for the state of Florida and a planning manager for the Florida Showcase Community project gave a presentation on Project Impact and what it means to us as a community. It was agreed that the Local Mitigation Strategy Working Group would become the Project Impact Working Group and the LMS Steering Committee would become the Project Impact Steering Committee. Dennis recommended that, in addition to the committees already in existence, we form several others namely, Ways and Means, Legislative and Private Sector Coordination. The group agreed to do this. Hank Erikson from Florida DCA will be the immediate Project Impact liaison for Miami-Dade County. Steve Randolph from FEMA was introduced as our FEMA Region IV Project Impact Coordinator.

The final order of business was to report on the Governor's South Florida Flooding Task Force that will now become part of the Project Impact Working Group. A full report of the activities concerning the October 3rd storm was delivered to the group and a joint FEMA/State of Florida Report was distributed. Basically, the initial projects will include installation of an 800 cps pump on the C-4 Canal to be located at the S25B spillway. The canal will be dredged to remove 3 feet of fill over a 7.2-mile segment going west from the S25B. Drainage projects will be done in the Flagami neighborhood of the city of Miami, in the city of Sweetwater and in the city of West Miami. (Note: All of the foregoing is contingent upon a successful NEPA review.) A report on Phase 2 will be made at the next Working Group meeting.

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Mr. Paul Larsen representing the South Florida Limestone Mining Coalition gave a presentation of an offer by the limestone miners to allow the storage of stormwater on 19 square miles of their land located in the area known as the Lake Belt. This is a generous offer but will require considerable study to ensure there is no impact on the northwest well field that is also located in the Lake Belt.

The Working Group agreed to meet again in January to continue the development of Project Impact and to work on the flood mitigation project. The Steering Committee will meet monthly or as needed. The next Working Group meeting will take place Tuesday, January 9, 2001 at 9:00 AM in the Fire Board Chambers.

The LMS/Project Impact Working Group meeting adjourned at 11:30 a.m.

The Local Mitigation Strategy Working Group

Minutes of the January 9, 2001 Meeting

Municipalities in attendance:

Aventura	Miami Springs	South Miami
Hialeah	North Miami	Sweetwater
Homestead	Pinecrest	Virginia Gardens
Key Biscayne	Miami Beach	West Miami
Miami		

Others in attendance:

Alliance for Aging	American Red Cross
Catholic Charities	CPHI
Exeter Architectural Products	Federal Emergency Management Agency
Florida DCA/DEM	Florida International University
H.J. Ross & Associates	Homestead Hospital
Hydrological Associates	International Hurricane Center
Knezevich $ Associates	Media Interactives
Mercy Hospital	Metcalf & Eddy, Inc.
Miami-Dade Community Action Agency	Miami-Dade Cooperative Extension Svc
Miami-Dade DERM	Miami-Dade Finance Department
Miami-Dade Park & Recreation	Miami-Dade Public Works
Miami-Dade Transit Agency	Miami-Dade Water & Sewer
PBS&J	Seminole Tribe of Indians
South Florida Limestone Coalition	Unlimited Applications, Inc.
University of Miami	URS Corporation
Woolpert, LLP	South Florida Water Management District

South Florida Resource Conservation & Development Council
Miami-Dade Office of Intergovernmental Affairs
University of Florida Institute of Food and Agricultural Sciences

Welcoming for the first time: Gordon Ansell from Mercy Hospital, Dan Deegan and Michael Lee from PBS&J, Brad Waller from Hydrologic Associates, and Kevin Berg and Sue Normand from Media Interactives. Because of the joint meeting with the Governor's Flood Task Force, we also had with us today numerous representatives from FEMA, Florida Department of Community Affairs and representatives of several county commissioners and members of congress.

The meeting began at approximately 9:00 AM, chaired by Frank Reddish of the Miami-Dade County Office of Emergency Management.

The first order of business was to present an update on the progress of the flood re-

covery work in progress throughout the county. The LMS flood reduction committee has continued to meet regularly with FEMA and the Florida Division of Emergency Management (FLDEM). The NEPA review is underway and is predicted for completion in April or May.

Kevin Berg, a producer for Media Interactives informed the group that a disaster information CD ROM is in production and will feature Miami-Dade County and its Project Impact program. The CD has the blessing of FEMA and Florida DCA.

The CERT Program (Community Emergency Response Team) continues to grow and is the largest in the state of Florida with over 800 members now trained. The program continues working with the University of Miami to develop a campus CERT program.

As mentioned at the last meeting a tree-trimming class is now scheduled for May. This time it will be held at the Cooperative Extension Service offices in Homestead.

The Working Group agreed to meet again in March to continue the development of Project Impact and to work on the flood mitigation project. The Steering Committee will meet monthly or as needed. The next Working Group meeting will take place Wednesday, March 7, 2001 at 9:30 AM in the Fire Board Chambers.

The LMS/Project Impact Working Group meeting adjourned at 11:30 a.m.

The Local Mitigation Strategy/Project Impact Working Group

Minutes of the March 7, 2001 Meeting

Municipalities in attendance:

Aventura	Medley	North Miami
Coral Gables	Miami	Pinecrest
Florida City	Miami Beach	South Miami
Hialeah	Miami Lakes	Sweetwater
Homestead	Miami Shores	West Miami
Key Biscayne	Miami Springs	

Others in attendance:

American Red Cross	Catholic Charities
C3TS	Citrus Health Network
CPHI	Craig A. Smith & Associates
Federal Emergency Management Agency	Florida DCA/DEM
Florida Dept. of Environmental Protection	Florida Division of Forestry
Florida International University	Florida Power & Light
F.R.I.E.N.D.S, Inc.	Florida Sea Grant Program
International Hurricane Center	Mercy Hospital
Miami-Dade Aviation Department	Miami-Dade Communications Dept.
Miami-Dade Community Action Agency	Miami-Dade Cooperative Extension Svc
Miami-Dade DERM	Miami-Dade Expressway Authority
Miami-Dade Finance Department	Miami-Dade Park & Recreation
Miami-Dade Public Works	Miami-Dade Transit Agency
Miami-Dade Water & Sewer	Miami Rescue Mission
Miami Museum of Science	PBS&J
Ryder Logistics & Transportation	South Florida Limestone Coalition
South Florida Water Management District	United Home Care Services
University of Miami	Unlimited Applications, Inc.
URS Corporation	WFOR – CBS4
White Rock Quarries	Woolpert, LLP

South Florida Resource Conservation & Development Council
University of Florida Institute of Food and Agricultural Sciences
Miami-Dade Office of the Mayor

Welcoming for the first time: Mary Collins, Councilwoman from the newly formed Town of Miami Lakes, Marella Crane from the Florida Sea Grant program, Judy Frank and Brick Rule from FPL, Greg Jeffries & Orlando Rubio from Craig A. Smith & Associates, Steve Hale from White Rock Quarries, Gary Lewis from the Florida Division of Forestry, Jose Calas from Florida Department of Environmental Protection, Bryan Norcross from WFOR-TV Channel 4, Hilda Olexa, the new representative for Miami-Dade Aviation De-

partment, Lynn Norman from Miami-Dade Communications Department and Tom Murphy from the Miami-Dade Expressway Authority. Because of the joint meeting with the Governor's Flood Task Force, we also had with us today numerous representatives from FEMA, Florida Department of Community Affairs and representatives of several county commissioners and members of congress.

The meeting began at approximately 9:30 AM, chaired by Frank Reddish, Project Impact coordinator from the Miami-Dade County Office of Emergency Management.

The first order of business was to introduce several of the newcomers mentioned above including Mary Collins representing Miami-Dade's newest municipality, the Town of Miami Lakes which has now joined the Local Mitigation Strategy Working Group and Project Impact.

Recently, FEMA and President Bush have stated that Project Impact or, at least its funding, may be discontinued. The tone of the group today is that Miami-Dade County and the Miami-Dade Project Impact Partners will continue the program with or without the federal government.

The next order of business was to present an update on the progress of the flood recovery work in progress throughout the county. The LMS flood reduction committee has continued to meet regularly with FEMA and the Florida Division of Emergency Management (FLDEM). The NEPA review is underway and is predicted for completion in April or May. The canal bottom sampling and profiling is now complete for the C-4 Canal. The pump to be located at the S25B structure has been designed and a construction bid has been let. The easement problems have been solved. A recommended site for the 500 to 1000 acre reservoir has been identified within the Lake Belt area. The flood committee was introduced again.

Roman Gastesi of the South Florida Water Management District gave a presentation on the current drought. He stated that this is the worst drought on record and that Phase II water restrictions will continue indefinitely. Roman passed out literature describing the Phase II restrictions.

Gary Lewis of the Florida Division of Forestry spoke about the ongoing wildfire problems of late. He told us that a major planned or controlled burn is planned for late April in the area south of Florida City and east of U.S.1 to take place when a favorable wind is present.

There will be two half-day workshops on the Community Rating System (CRS) sponsored by Florida DEM and scheduled for May 10, 2001. The morning session is for cities not now in the CRS program while the afternoon session is for cities with an established CRS program. Everyone is urged to attend.

Dr. Joe Garofalo of the county Agriculture Extension Service will teach a class on May 22nd on the proper way to prune a tree for hurricane season. After lunch the group will

trim an actual tree. Parks and Public Works people will get a lot out of this class. If interested, sign up with Cathie Perkins of Miami-Dade OEM.

The Working Group agreed to meet again in May to continue the development of Project Impact and to work on the flood mitigation project. The May meeting will also be our official "Project Impact Signing Ceremony." The actual date, time and place for the meeting will be announced soon. The Steering Committee will meet monthly or as needed.

The LMS/Project Impact Working Group meeting adjourned at 11:30 AM.

The Local Mitigation Strategy/Project Impact Working Group

Minutes of the May 30, 2001 Meeting

Held at Vizcaya Museum and Gardens

Municipalities in attendance:

Coral Gables	Miami	Opa-locka
El Portal	Miami Beach	South Miami
Florida City	Miami Lakes	Sweetwater
Homestead	Miami Shores	Virginia Gardens
Key Biscayne	Miami Springs	West Miami

Others in attendance:

American Red Cross	Catholic Charities
C3TS	CPHI
Craig A. Smith & Associates	Exeter Architectural Products
Federal Emergency Management Agency	Florida DCA/DEM
Florida Dept. of Environmental Protection	Florida Division of Forestry
Florida International University	Florida Power & Light
F.R.I.E.N.D.S, Inc.	Florida Sea Grant Program
The Home Depot	Humane Society of Greater Miami
Hurricane Protection Industries	International Hurricane Center
Mercy Hospital	Miami Children's Hospital
Miami Country Day School	Miami-Dade Communications Dept.
Miami-Dade Community Action Agency	Miami-Dade County Manager's Office
Miami-Dade Cooperative Extension Svc	Miami-Dade DERM
Miami-Dade Finance Department	Miami-Dade Fire Rescue & Fire Board
Miami-Dade Office of the Mayor	Miami-Dade Public Works
Miami-Dade Transit Agency	Miami-Dade Water & Sewer
Miami-Dade Public Schools	Miami Museum of Science
Miami Rescue Mission	PBS&J
Ryder System, Inc.	Ellen Roth for Senator Graham
University of Florida Institute of Food and Agricultural Sciences	
United States Army Corps of Engineers	WB Consulting
United States Weather Service Miami Forecast Office	

This meeting of the Miami-Dade Project Impact Working Group, is not only our official signing ceremony where each member declares themselves a "Project Impact Partner," but it is also combined with and will serve as the annual Miami-Dade County Public Officials Conference. The meeting was held at Vizcaya Museum and Gardens, a national landmark on the National Registry for Historic Places. Vizcaya was chosen because it had suffered storm surge damage after Hurricane Andrew and many hazard mitigation measures

were installed here to protect this historic structure. The audience could see mitigation at work throughout the meeting. As each attendee entered they were invited to sign a giant proclamation (mounted on a storm panel) stating that they are a "Project Impact Partner."

The meeting began at approximately 9:30 AM, opened by Chief Chuck Lanza, director, Miami-Dade Office of Emergency Management who, in his opening remarks gave a brief history of the Miami-Dade Local Mitigation Strategy (LMS) and how it evolved into Project Impact. Chuck then introduced Frank Reddish, Project Impact coordinator for Miami-Dade County.

The business of Project Impact was discussed at this point prior to any ceremonies. Frank gave an update on the progress of the C-4 Canal Basin project and the many municipal drainage projects in progress. Frank announced on behalf of the Florida Division of Forestry that it appears the large wildfire that burned south of Florida City in late April turned out to be extremely beneficial for the area.

Frances Spiegel of the American Red Cross was introduced and told the group about the "Spring Break Shuttering Project." A group of students from Mississippi State University joined the American Red Cross, Americorps, The Home Depot, Hurricane Protection Industries, Miami-Dade OEM, and the city of North Miami in a Project Impact project to install hurricane panels on the homes of senior citizens. It was a huge success!

Next, Captain Bob Palestrant, our CERT coordinator, gave an update on the status of the CERT program. CERT is alive and well and growing in Miami-Dade County.

At this time, the dais was turned over to our Public Officials Conference master of ceremonies, Bill Delgrosso, who introduced the guest speakers. County Manager Steve Shiver first introduced the many public figures in attendance. He then spoke on behalf of Miami-Dade County and the local Project Impact partners. Frank Koutnik, Chief of the Bureau of Planning and Policy for the Florida Department of Community Affairs spoke on behalf of the state of Florida partners. Finally, Todd Davison, director for mitigation for FEMA Region IV spoke on behalf of the federal government partners. Each of the speakers then signed the giant proclamation, which had been brought to the dais.

After the ceremony, the public officials in attendance were briefed on the state of emergency management and the upcoming hurricane season.

The Working Group agreed to meet again in September (exact date, time and place to be announced) to continue the development of Project Impact. The Steering Committee will continue to meet monthly or as needed.

The LMS/Project Impact Working Group meeting and signing ceremony adjourned at 11:30 a.m.

The Local Mitigation Strategy/Project Impact Working Group

Minutes of the September 20, 2001 Meeting

Held in the Operations Room of the Miami-Dade Emergency Operations Center

Municipalities in attendance:

Aventura	Key Biscayne	Pinecrest
Coral Gables	Miami	Virginia Gardens
Hialeah	Miami Springs	West Miami
Homestead	North Miami	

Others in attendance:

American Medical Response	American Red Cross
Citrus Health Network	Disaster Management, Inc.
Exeter Architectural Products	Florida DCA/DEM
Florida International University	Florida Power & Light
Focal Communications	F.R.I.E.N.D.S, Inc.
Greenhorne & O'Mara	H.J. Ross & Associates
Hazen and Sawyer	The Home Depot
Humane Society of Greater Miami	Hurricane Protection Industries
International Hurricane Center	Law Engineering
Mercy Hospital	Miami Christian School
Miami-Dade Cooperative Extension Service	Miami-Dade DERM
Miami-Dade Finance Department	Miami-Dade Office of the Mayor
Miami-Dade Water & Sewer	Miami Museum of Science
Miami Rescue Mission	Ryder System, Inc.
Ellen Roth for Senator Graham	The Salvation Army
University of Miami	WFOR-CBS-4

South Florida Resource Conservation & Development Council
South Florida Water Management District
University of Florida Institute of Food and Agricultural Sciences

Joining us for the first time were American Medical Response, Disaster Management, Inc., Focal Communications, Greenhorne & O'Mara, Inc., Hazen and Sawyer, Law Engineering and Environmental Services, Inc. and the Miami Rescue Mission.

The meeting of the Project Impact/Local Mitigation Strategy Working Group began at approximately 9:30 AM, opened by Project Impact Coordinator Frank Reddish, Miami-Dade Office of Emergency Management. (Note: From now on, in Miami-Dade County Project Impact and the Local Mitigation Strategy (LMS) are considered synonymous.)

The first item of business was a report by Victor Powell from the South Florida Water

Management District with an update on the progress of the C-4 Canal Basin initiative including the S25B forward pump and the many municipal drainage projects in progress. Victor also discussed the advanced modeling and the NEPA review, which is underway for the lateral pumping and the Lake Belt impoundment area.

Following Victor, Mike Gambino from Miami-Dade Department of Environmental Resources Management (DERM), who is also the Community Rating System Coordinator for Miami-Dade County, gave a report on the progress of the FIRM Map restudy and the status of the repetitive loss properties throughout the county. Mike also explained the FEMA "Cooperative Technical Partner" program in which the county plans to participate. Mike encouraged the municipalities to do the same.

Frank Reddish explained the residential shuttering program to the Working Group. This program, which is designed to provide hurricane panels to low-income elderly, is being funded by a $330,000 grant from FEMA through the state of Florida. Miami-Dade Mayor Alex Penelas and the Board of County Commissioners voted to add an additional one million dollars to the program. This should allow us to protect from 1,200 to 1,300 homes. Full details of the program will be provided by next month.

The LMS/Project Impact Steering Committee proposal to require participation in at least one Project Impact or Local Mitigation Strategy function during each six-month period to remain a member of the Working Group was ratified unanimously. This means those municipalities, county departments or other organizations that fail to attend at least one function between January 1st and June 30th and again between July 1st and December 31st of each year will be dropped from Project Impact and LMS and will no longer be eligible for funding in programs such as the Hazard Mitigation Grant Program (HMGP) and the Flood Mitigation Assistance Program nor will they be awarded LMS bonus points in other programs such as the Emergency Management Preparedness and Assistance Trust Fund.

It was announced that from now on all Project Impact correspondence will be by e-mail and faxes will no longer be used. Those Working Group members without e-mail are encouraged make arrangements with someone who does have it in order to receive notices.

At this time the subject of terrorism and the concept of mitigation against terrorism as a part of Project Impact were introduced. A lively discussion followed and it seems we want to take this on. Among the items addressed is a revisit to the critical facilities inventory and a public education program. Those contributing to the discussion were Ricardo Alvarez, deputy director of the International Hurricane Center at FIU, Andy Austin, storm water utility manager for the city of Hialeah, Captain Ed Bowe of the city of Homestead Police Department, Richard Ford from the Salvation Army, Yocelyn Galiano Gomez, assistant village manager of the village of Pinecrest, Mike Gambino from DERM, Dr. Hugh Gladwin, director of the Institute for Public Opinion Research at FIU, Dr. Charles Gottlieb, director of environmental health and safety for the University of Miami, Dr. Lorena Morrison, school head of Miami Christian School, Dr. Walter Peacock, head of the Department of Sociology and Anthropology at Florida International University, Don Pybas, county extension director,

University of Florida Institute of Food and Agricultural Sciences, Ellen Roth, regional director for Senator Bob Graham, Len Salva, general manager for Focal Communications and Victor Vincent, operations director for the Miami Museum of Science. Further counter-terrorism proposals will be studied by the Steering Committee and brought to the Working Group at the next meeting.

The Working Group agreed to meet again in December 2001 (exact date, time and place to be announced) to continue the development of Project Impact. The Steering Committee will continue to meet monthly or as needed.

Prior to adjournment, all new members and others who have not done so were invited to sign the Project Impact proclamation document. The Project Impact Working Group meeting was adjourned at approximately 11:00 a.m.

Project Impact and The Local Mitigation Strategy Working Group

Minutes of the December 19, 2001 Meeting

Held at the Kovens Conference Center at Florida International University

Municipalities in attendance:

Aventura
Biscayne Park
Coral Gables
Florida City
Golden Beach
Hialeah Gardens
Homestead
Medley
Miami
Miami Beach
Miami Lakes
Miami Shores
North Miami
North Miami Beach
South Miami
Sunny Isles Beach
Virginia Gardens

Others in attendance:

American Red Cross
C3TS
Florida DCA/DEM
Florida International University
Florida State Attorney's Office
The Home Depot
International Hurricane Center
Law Engineering
Miami-Dade DERM
Miami-Dade Housing Agency
Miami-Dade Office of Emergency Mgmt.
Miami-Dade County Public Schools
University of Miami
South Florida Water Management District
U.S. Geological Survey
Citrus Health Network
FEMA
Florida DEP
Florida Power & Light
F.R.I.E.N.D., Inc.
Humane Society of Greater Miami
Johnson & Wales University
Miami-Dade County Manager's Office
Miami-Dade Finance Department
Miami-Dade Office of the Mayor
Miami-Dade Seaport
Miami Rescue Mission
South Florida Regional Planning Council
U.S. General Accounting Office

Joining us for the first time were representatives from the Port of Miami, the State Attorney's Office, the U.S. Geological Survey, and a team from the U.S. General Accounting Office who are observing Project Impact at work.

The meeting of the Project Impact/Local Mitigation Strategy Working Group began at approximately 9:30 AM, opened by Project Impact Coordinator Frank Reddish. The group was greeted by David Grossman, dean of the Florida International University outreach program and our host for this meeting, which is being held at the Roz and Cal Kovens Conference Center on the FIU Biscayne Bay campus.

Following the greeting by Dean Grossman, Frank Reddish gave a summary report on several LMS projects currently under way:

The C-4 Basin flood control initiative is moving right along with completion of the pump station at the S25B structure scheduled for next month. The environmental and permitting process for the upstream impoundment area is also underway. Victor Powell wishes to move the pump on the C-6 canal from near White Rock Quarries downstream to the S26 structure. This project, at approximately $60,000,000, is the single largest Hazard Mitigation Grant Program (HMGP) project ever undertaken, both in cost and in scope of work.

The residential shuttering program continues. We were disappointed that we didn't have as many sign up when the program first began but we will continue to accept applications until all funds have been exhausted. Total funding for this program includes $330,000 HMGP funds from FEMA and the state supplemented by $1,000,000 from the Miami-Dade Board of County Commissioners.

The $3,000,000 HMGP institutional shelter-shuttering program is also going strong and all applications have been submitted to the state. The applicants include the Salvation Army, Miami Rescue Mission, Humane Society, Florida International University, University of Miami and the city of Sweetwater.

The LMS/Project Impact has been able to secure $5,000,000 in HMGP funding to complete the encapsulation project at Miami Children's Hospital. The application process is underway and going well.

Captain Bob Palestrant, our CERT program chairman from Miami-Dade Fire Rescue, briefed the group on the status of the Community Emergency Response Team (CERT) program. We have close to 1000 people that have completed CERT training and the program is being expanded to include business CERTs and university CERTs. Also, we have set aside $8,000 of our FEMA Project Impact to help equip low-income CERT teams. For those that don't know, unlike other CERT programs around the nation, our CERT training is carried out the members of Florida Task Force 1, Miami-Dade Fire Rescue's elite, internationally known urban search and rescue team.

Mike Gambino from DERM, our resident floodplain expert, briefed the Working Group on the Flood Mitigation Assistance Program. A FMA workshop is being held in Miami-Dade County on January 11, 2002. Mike also reported that not much progress has been made in the FIRM map restudy (more to come on this). He was joined in the discussion by FEMA Project Impact guru, Stephen Randolph

At this time our hosts from FIU – Ricardo Alvarez, Nicole Dash, Martha Gutierrez and Bonnie Brandt gave a presentation on the many roles that FIU plays in our community. Ricardo discussed the International Hurricane Center, a state function located on the FIU campus; Martha briefed us on the Terrafly program, which is an advanced aerial photography online program (www.terrafly.com). Ms. Dash gave us an overview of the role of FIU's department of sociology and the sociology of disaster and Bonnie discussed the many FIU community outreach programs. All of the FIU endeavors are excellent and we are fortunate

to have this institution as a Project Impact partner.

The Working Group agreed to meet again in March 2002 (exact date, time and place to be announced) to continue the development of Project Impact. The Flood Committee will hold a general informational meeting in February 2002. The FIRM remapping subcommittee will convene in early 2002 with Mike Gambino serving as chairman. The Steering Committee will continue to meet monthly or as needed.

The Project Impact Working Group was meeting adjourned at approximately 11:45 a.m. followed by a delightful luncheon provided by our gracious host and Project Impact partner, Florida International University.

Project Impact and The Local Mitigation Strategy Working Group

Minutes of the March 19, 2002 Meeting

Held at the Miami-Dade Emergency Operations Center

Municipalities in attendance:

Coral Gables	Medley	North Miami
El Portal	Miami	Opa-locka
Florida City	Miami Beach	Pinecrest
Hialeah	Miami Lakes	South Miami
Homestead	Miami Shores	Sweetwater
Key Biscayne	Miami Springs	

Others in attendance:

American Red Cross	Biscayne National Park
CBS – Channel 4 - WFOR	Catholic Charities
CHARLEE Program	Civil Air Patrol
Craig A. Smith & Associates	Community Partnership for the Homeless
Disaster Management, Inc.	FEMA
Florida International University	Florida Power & Light
Focal Communications, Inc.	F.R.I.E.N.D., Inc.
The Home Depot	Hurricane Protection Industries, Inc.
International Hurricane Center	John Adams & Company
Law Engineering	Miami-Dade County Manager's Office
Miami-Dade DERM	Miami-Dade Finance Department
Miami-Dade Housing Agency	Miami-Dade Office of the Mayor
Miami-Dade Office of Emergency Mgmt.	Miami-Dade Office of Water Resources
Miami-Dade Park & Recreation Department	Miami-Dade P.D. Animal Services
Miami-Dade Seaport	Miami-Dade Solid Waste Management
Miami-Dade Water & Sewer Department	Miami-Dade County Public Schools
Miami Children's Hospital	Miami Christian School
Miami Country Day School	Miami Rescue Mission
Ryder System, Inc.	University of Florida Agriculture Extension
University of Miami	South Florida Regional Planning Council
South Florida Water Management District	U.S. Geological Survey
South Florida Resource Conservation and Development Council	

Joining us for the first time: John Adams & Co., Biscayne National Park, the CHARLEE Program, and the Civil Air Patrol.

The meeting of the Project Impact/Local Mitigation Strategy Working Group began at approximately 9:30 AM, opened by Project Impact/LMS Coordinator Frank Reddish who

gave a summary report on several LMS projects currently under way.

There will be a Community Rating System (CRS) workshop sponsored by Florida Department of Community Affairs at the EOC on April 11th. Mike Gambino, from DERM, gave a talk on why CRS is important to everyone.

There will be a class sponsored by the Cooperative Extension Service on the proper way to prune trees to prevent damage from hurricanes. This will be held at the Agriculture Center in Homestead on May 30th.

There will be a Hurricane Andrew 10 Year Summit held at Florida International University May 30 and 31. The summit is sponsored by the International Hurricane Center at FIU.

We have been officially approved as a "StormReady" community by the United States Weather Service. Our official sign will be presented at a future meeting.

Chief Chuck Lanza, director of Miami-Dade Office of Emergency Management addressed the group to discuss counter-terrorism and the new homeland security issue. Chuck recommended that the "Citizens Corps Council" as defined by President Bush should be made up of the LMS Working Group. This will be discussed further at the next meeting.

The C-4 Basin flood control initiative is moving right along. The pump station at the S25B structure is complete and a dedication ceremony is scheduled for Monday, March 25, 2002. The environmental and permitting process for the upstream impoundment area is also underway. The LMS flood committee has approved moving the pump on the C-6 canal to a new location at the S26 salinity control structure. The C-4 project, at approximately $60,000,000, remains the single largest HMGP project ever undertaken, both in cost and in scope of work.

The residential shuttering program continues. Although over 600 applications have been received and more than 70 residences are complete, we are still disappointed that we don't have more applicants. We will continue to accept applications until all funds have been depleted. Total funding for this program includes $330,000 HMGP funds from FEMA and the state supplemented by $1,000,000 from the Miami-Dade Board of County Commissioners.

The $5,000,000 grant for the encapsulation project at Miami Children's Hospital has been approved by all parties. Ground breaking is planned for early summer.

Captain Bob Palestrant, our CERT program chairman from Miami-Dade Fire Rescue, briefed the group on the upcoming Community Emergency Response Team (CERT) annual exercise to be held this year in Miami Lakes. This year teams from other counties will be invited to participate.

Dr. Charles Gottlieb gave a report on the Disaster Resistant Universities conference held at the University of Miami in January. Most of the schools in the pilot program attended including the University of California at Berkeley, the University of Washington, the University of Alaska, Fairbanks and the University of North Caroline, Wilmington.

Gene Beck, from Florida Power & Light, gave a presentation on the programs FPL has to financially assist in mitigation measures such as building retrofits. Contributions by FPL may be used as part of the local match to FEMA grants.

Sarah Bellmund, ecologist from Biscayne National Park and Lawrence Frank from FEMA gave a presentation explaining a new wetlands project being developed by the National Park Service. The program will include the development of a wetlands area along the southern coast of Miami-Dade county and will have the effect of diffusing storm water runoff over a wide area of shoreline rather than concentrate the fresh water infusion into the bay at the mouths of the canals.

Raul Paterson, civil engineer from the U.S. Geological Survey, described a program now under development to provide real-time monitoring of rising water during periods of heavy rainfall. This should have the effect of allowing us to better predict potential flood hazards.

The Working Group agreed to meet again in June 2002 (exact date, time and place to be announced). The Steering Committee will continue to meet monthly or as needed.

The Working Group meeting was meeting adjourned at approximately 11:30 AM.

Project Impact and The Local Mitigation Strategy Working Group

Minutes of the June 18, 2002 Meeting

Held at the Miami-Dade Fire Board Chambers

Municipalities in attendance:

Aventura	Miami	Pinecrest
Coral Gables	Miami Beach	South Miami
Hialeah	Miami Lakes	Sunny Isles Beach
Homestead	Miami Shores	Sweetwater
Key Biscayne	Miami Springs	Virginia Gardens
Medley	North Miami	

Others in attendance:

American Red Cross	Biscayne National Park
CBS – Channel 4 - WFOR	Catholic Charities
CHARLEE Program	Church World Service
Citrus Health Network	Community Partnership for the Homeless
C3TS Engineering	Disaster Management, Inc.
FEMA	Florida Division of Emergency Management
Florida International University	Florida Power & Light
Florida Sea Grant	F.R.I.E.N.D., Inc.
The Home Depot	Hurricane Protection Industries, Inc.
Hurst Awning Company	International Hurricane Center
Law Engineering	Miami-Dade Animal Services
Miami-Dade Community Action Agency	Miami-Dade County Manager's Office
Miami-Dade DERM	Miami-Dade Fire Rescue
Miami-Dade Finance Department	Miami-Dade Housing Agency
Miami-Dade Office of Emergency Mgmt.	Miami-Dade Office of the Mayor
Miami-Dade Park & Recreation Department	Miami-Dade Public Works
Miami-Dade Seaport	Miami-Dade Solid Waste Management
Miami-Dade Water & Sewer Department	Miami-Dade County Public Schools
Miami Children's Hospital	Miami Christian School
Miami Country Day School	Miami Rescue Mission
Mount Sinai Medical Center	PBS&J
Ryder System, Inc.	The Salvation Army
Senator Bob Graham's Office	South Florida Regional Planning Council
St. Thomas University	TECO Peoples Gas
University of Florida Agriculture Extension	University of Miami
Villanueva Associates	South Dade Soil & Water Conservation District
South Florida Water Management District	U.S. Geological Survey

South Florida Resource Conservation & Development Council

Joining us for the first time: Church World Service, Hurst Awning Company, Mount Sinai Medical Center, St. Thomas University and Peoples Gas Company.

The meeting of the Project Impact/Local Mitigation Strategy Working Group began at approximately 9:30 AM, opened by Project Impact/LMS Coordinator Frank Reddish who gave a summary report on several LMS projects currently under way.

The Community Rating System (CRS) workshop sponsored by Florida Department of Community Affairs on April 11th was a success as was the tree pruning class sponsored by the Cooperative Extension Service, which was held at the Agriculture Center in Homestead on May 30th.

The CERT exercise held May 18th in the Town of Miami Lakes was a great success with fifteen teams participating. Thanks to all those that helped bring it off.

There will be a "Skywarn" class for boaters on July 17th at the University of Miami's Rosenstiel School of Marine Science on Virginia Key. This class is sponsored by Marella Crane and the Florida Sea Grant Program.

We have been officially approved as a "StormReady" community by the National Weather Service. In a short ceremony, Jim Lushine, NWS Warning Coordination Meteorologist, officially presented our StormReady sign.

Mr. Raul Mercado, of the engineering firm PBS&J, gave a presentation explaining to all, in layman's terms, how the C-4 Basin flood control initiative actually works. PBS&J is the company that has done the extensive feasibility modeling for the C-4 project.

Ed Robinson of FEMA Region IV explained the NFIP Repetitive Loss Properties data collection process and what steps we are taking to improve our knowledge of flooding problems.

Hank Erikson, from the Florida Department of Community Services, discussed the Disaster Mitigation Act of 2000 and the subsequent changes to the Stafford Act and Title 44 of the Code of Federal Regulations.

The residential shuttering program continues. There are now over 170 residences completed and more underway. Bill Moriarty and Odis Olivero from Miami-Dade Community Action Agency were introduced as the ones overseeing the actual installations. The rest of the shutter committee were also introduced.

A request was made for volunteers to serve on the counter-terrorism committee, which is being formed to develop what will be "Countywide Initiative 3 – Counter-Terrorism." This will be one of the initial actions by the LMS Working Group in its role as

Citizens Corps Council. The members of the new committee will be published within a week. Miami-Dade police lieutenant Maureen Shaunessy was introduced as one of the personnel in OEM's newly formed Division of Homeland Security.

The Working Group will next meet in September 2002 (exact date, time and place to be announced). The Steering Committee will continue to meet monthly or as needed.

The Working Group meeting was meeting adjourned at approximately 11:30 AM.

Project Impact and the Local Mitigation Strategy Working Group

Minutes of the September 19, 2002 Meeting

Held at the Miami-Dade Fire Department Auditorium

Municipalities in attendance:

Aventura	Miami Shores	Pinecrest
Florida City	Miami Springs	Sweetwater
Homestead	North Miami	Virginia Gardens
Key Biscayne	North Miami Beach	West Miami
Miami		

Others in attendance:

American Red Cross	CBS – Channel 4 - WFOR
Catholic Charities	Church World Service
Citrus Health Network	Community Partnership for the Homeless
C3TS Engineering	Disaster Management, Inc.
Congressman Lincoln Diaz Balart's Office	Episcopal Diocese of Southeast Florida
FEMA	Florida Division of Emergency Management
Florida International University	Florida Power & Light
Florida Sea Grant	Florida State Attorney's Office
F.R.I.E.N.D., Inc.	H.J. Ross & Associates
The Home Depot	International Hurricane Center
Jackson Health System	Law Engineering
Miami-Dade Animal Services	Miami-Dade Aviation Department
Miami-Dade DERM	Miami-Dade Fire Rescue
Miami-Dade Finance Department	Miami-Dade Housing Agency
Miami-Dade Office of Emergency Mgmt.	Miami-Dade Park & Recreation Department
Miami-Dade Solid Waste Management	Miami-Dade County Public Schools
Miami Children's Hospital	Miami Christian School
Miami Country Day School	Neighbors 4 Neighbors
Ryder System, Inc.	The Salvation Army
Save A Life Foundation, Inc.	Senator Bob Graham's Office
St. Lawrence School	St. Thomas University
South Florida Regional Planning Council	South Florida Water Management District
University of Miami	URS Corporation
Villanueva Associates	University of Florida Agriculture Extension

Joining us for the first time: Episcopal Diocese of Southeast Florida, St. Lawrence School and the Save A Life Foundation.

The meeting of the Project Impact/Local Mitigation Strategy working group began at

approximately 9:30 AM, opened by Project Impact/LMS Coordinator Frank Reddish who gave a summary report on several LMS projects currently under way.

Frank also announced that the LMS terrorism mitigation committee is up and running and has met several times already.

José Fuentes and Humberto Alonso from the South Florida Water Management District reported on the progress of the C-4 Basin Initiative and also announced the ground breaking for the C-4 impoundment area which will take place October 4th.

Mike Gambino from Miami-Dade Department of Environmental Resources Management (and also an LMS Steering Committee member) reported on several proposed projects including street drainage in the Belen neighborhood and the cleaning of the FEC Borrow Canal, which borders Virginia Gardens and Miami Springs.

There was additional discussion concerning the Disaster Mitigation Act of 2000, the subsequent changes to the Stafford Act and Title 44 of the Code of Federal Regulations and how these will effect the Miami-Dade Local Mitigation Strategy.

Liz Gutierrez of the American Red Cross reported on the residential shuttering program. There now over 350 residences completed and more are underway.

Bryan Norcross of CBS Channel 4 made several proposals including building a wall that would demonstrate the various types of window protection available, to develop a checklist for homeowners to determine if their homes are safe from a hurricane and, the color coding of evacuation zones.

Bruce DeSautel of The Home Depot told us that a checklist such as that proposed by Bryan is under development by The Home Depot and FLASH, the Federal Alliance for Safe Homes.

Irv Bock of the Save A Life Foundation gave a presentation on his organization that teaches CPR and other life saving practices. A question and answer period followed. Susie Perkowitz will be our contact at Save A Life.

The Working Group will next meet December 18, 2002 (exact place to be announced). The Steering Committee will continue to meet monthly or as needed.

The Working Group meeting was meeting adjourned at approximately 11:30 a.m.

Project Impact and the Local Mitigation Strategy Working Group

Minutes of the December 18, 2002 Meeting

Held at the Graham Center at Florida International University

Municipalities in attendance:

Coral Gables	Miami	North Miami Beach
El Portal	Miami Shores	Pinecrest
Homestead	Miami Springs	Virginia Gardens
Key Biscayne	North Miami	West Miami
Medley		

Others in attendance:

Alliance for Aging	American Red Cross
Area Health Education Center	Catholic Charities
CBS – Channel 4 - WFOR	CHARLEE of Miami-Dade
Church World Service	Citrus Health Network
Florida Department of Transportation	FEMA
Florida Division of Emergency Mgmt.	Florida International University
Florida State Attorney's Office	Foster Construction
H.J. Ross & Associates	Hurst Awning Company, Inc.
International Hurricane Center	Jackson Health System
MacTec	Miami-Dade Animal Services
Miami-Dade Aviation Department	Miami-Dade Budget Office
Miami-Dade Community Action Agency	Miami-Dade DERM
Miami-Dade Finance Department	Miami-Dade Housing Agency
Miami-Dade Mayor's Office	Miami-Dade OEM
Miami-Dade Park & Recreation Department	Miami-Dade Seaport
Miami-Dade County Public Schools	Miami Children's Hospital
Miami Christian School	Ryder System, Inc.
Senator Bob Graham's Office	St. Thomas University
South Florida Regional Planning Council	South Florida Water Management District
United State Geological Survey	University of Miami
URS Corporation	University of Florida Agriculture Extension
United Property Owners of the 8.5 Square Mile Area	
Villanueva Associates	

Joining us for the first time: Foster Construction.

The meeting of the Project Impact/Local Mitigation Strategy working group began at approximately 10:00 AM, opened by Project Impact/LMS Coordinator Frank Reddish who

gave a summary report on several LMS projects currently under way. Frank then introduced Ricardo Alvarez.

Ricardo Alvarez, deputy director of the International Hurricane Center here at FIU, (and our host) welcomed the working group and then introduced Mark Rosenberg, provost of Florida International University. Dr. Rosenberg spoke on the importance of the relationship between the university and the community.

Dr. Rosenberg was followed by Chuck Lanza, director of the Miami-Dade Office of Emergency Management who spoke briefly on the excellent cooperation between FIU, the Office of Emergency Management and the community at large.

Bill Moriarty, of the Miami-Dade Community Action Agency, gave the working group an update on the residential shuttering program, which has now installed window protect on the homes of over 600 low-income elderly residents of Miami-Dade County.

Ralph Carrillo, of the Miami-Dade Office of Emergency Management gave a report on the proceedings of the LMS terrorism mitigation committee, which is focusing on long-term mitigation by delivering information and education to our school children.

Frank Reddish presented some of the findings of the evacuation restudy committee. The storm surge evacuation zones have been studied by a subcommittee made up of representatives of the U.S. Army Corps of Engineers, the National Hurricane Center, the U.S. Geological Survey, the Florida Division of Emergency Management, PBS&J and the Miami-Dade Office of Emergency Management. The new evacuation zones were presented and they are comprised of three areas: the A or Red Zone consists of the barrier islands; B or Yellow Zone is the coastal mainland and the C or Green Zones is the far southern portion of the county subject to inland storm surge. Exact descriptions of these zones will accompany all printed maps depicting the changes.

John Leslie, Armando Ramirez and Raul Pellegrino from the South Florida Water Management District gave an update on the C-4 Basin initiative including some proposals for additional work. The work on the S-26 pumps is nearing completion, as is the work on Phase 2 of the Sweetwater berm. Work is well underway on the emergency detainment basin. The entire project remains on time and within budget.

Dr. Mary Jo Trepka, director of epidemiology for the Miami-Dade County Health Department, gave a report on biomedical hazards and what is being done about it. She also asked for assistance to locate possible quarantine sites throughout the county.

Dr. Arthur Oyola-Yamaiel from the Florida Division of Emergency Management gave a presentation to the working group outlining several new programs underway at the Department of Community Affairs as well as discussing the Disaster Mitigation Act of 2000 and changes in Title 44 of the Code of Federal Regulations.

Ricardo Alvarez spoke once again relating to the group the many undertakings at FIU and how they benefit the Miami-Dade Community. The community outreach program at FIU continues to grow and strengthen.

The Working Group will next meet Tuesday, March 18, 2003 at 9:30 AM in the auditorium of the Miami-Dade Fire Rescue Headquarters Building. The Steering Committee will continue to meet monthly or as needed.

The Working Group meeting was meeting adjourned at approximately 12:15 PM to an excellent lunch provided by our host, Florida International University.

Project Impact and The Local Mitigation Strategy Working Group

Minutes of the March 18, 2003 Meeting

Held Miami-Dade Fire Rescue Headquarters Auditorium

Municipalities in attendance:

Coral Gables
El Portal
Hialeah
Homestead
Key Biscayne
Medley
Miami
Miami Lakes
Miami Shores
Miami Springs
North Miami
North Miami Beach
Pinecrest
Sunny Isles Beach
Sweetwater
Virginia Gardens
West Miami

Others in attendance:

Alliance for Aging
Area Health Education Center
Catholic Charities
CHARLEE of Miami-Dade
Citrus Health Network
ERSA Consulting, Inc.
FEMA
Florida International University
Florida Power & Light
Hurst Awning Company, Inc.
Jackson Health System
Miami Christian School
Miami-Dade County Public Schools
Miami-Dade Aviation Department
Miami-Dade Community Action Agency
Miami-Dade Finance Department
Miami-Dade Mayor's Office
Miami-Dade Park & Recreation Department
Miami-Dade Public Works
Miami-Dade Water & Sewer
Miami Country Day School
Ryder System, Inc.
St. Lawrence School
Senator Bob Graham's Office
South Florida Water Management District
University of Miami Medical School
University of Florida Agriculture Extension
American Red Cross
Baptist Health System
CBS – Channel 4 - WFOR
Church World Service
CT3S Engineering
Florida Department of Transportation
Florida Division of Emergency Management
Florida Sea Grant Program
H.J. Ross & Associates
International Hurricane Research Center
MACTEC
Miami-Dade Community College
Miami-Dade Animal Services
Miami-Dade Budget Office
Miami-Dade DERM
Miami-Dade Housing Agency
Miami-Dade Office of Emergency Mgmt.
Miami-Dade Planning and Zoning
Miami-Dade Seaport
Miami Children's Hospital
PBS&J
Save A Life Foundation
St. Thomas University
South Florida Regional Planning Council
University of Miami
URS Corporation

The Miami-Dade Local Mitigation Strategy
June 30, 2007

The meeting called to order at approximately 9:30 A.M. by LMS Coordinator, Frank Reddish.

Frank informed the group that there have been over $5,000,000 worth of mitigation projects completed since the last meeting, December 2002. Frank also pointed out to everyone that it is still a requirement to attend at least fifty percent of the LMS meeting to be considered a participant and be eligible for the benefits of the Local Mitigation Strategy.

Frank also discussed the new FEMA Pre-Disaster Mitigation Program and explained the differences between it and the Hazard Mitigation Grant Program. A class on benefit/cost analysis will be held in the Miami-Dade EOC on June 3 & 4 that will relate to the new program. People were told to contact Hank Erikson to sign up.

The Residential Shuttering Program for the elderly is still underway. In order to qualify for funding the total household income must not exceed $20,000, and the owner of the house must be at 65 years old or older. The average cost to retrofit each house is between $1,500 and $1,600, and so far over 650 houses have been fitted. The program has been extended for an additional year.

Everyone was reminded of the new evacuation zones and the fact that they are now color-coded: Colors – Red – Zone A, Yellow – Zone B, and Green – Zone C. The new colors correspond with the ones in Broward County

Bruce Netter of Catholic Charities and Jim Shultz of the University of Miami medical school gave a presentation on the concept of "neighborhood care centers" to divert the "worried well" or, those who think they may be sick but aren't, away from hospital emergency rooms during a health crisis, outbreak or other mass care incident. This program would be headed through the UM Center for Disaster Epidemiology and Emergency Preparation.

Raul Pellegrino, John Leslie and Armando Ramirez gave us an update on the work on the C-4 Basin. The pump at the S-26 on the Miami River is complete and the dedication ceremony will be next month. Work continues on the emergency detention basin, the dredging and the Sweetwater berm. They also presented a list of proposed future projects including work on the C-2 and C-7 canals.

The next tree trimming class will be held Friday, May 30th at the Miami-Dade Cooperative Extension Service auditorium. This will mark the fourth consecutive year for this program that teaches park personnel and arborists the proper way to prune a tree for hurricane survival.

James Clausell, chairman of the CERT advisory board, gave us an update to the progress being made to reestablish the Miami-Dade CERT program. He suggested writing to Mayor Penelas with your concerns.

Ricardo Alvarez, deputy director of the International Hurricane Research Center (IHRC) at FIU announced that FIU was applying to the National Science Foundation to become a Science and Technology Center specializing in hurricane vulnerability research.

Carolyn Anderson, also of IHRC at FIU gave a report on the continuing LIDAR laser mapping operation. Carolyn told us that the flights have been completed and the data is now being analyzed.

Bryan Norcross, director of meteorology at WFOR-CBS-4 gave a presentation of the new five-day forecast that will come from the National Hurricane Center this hurricane season.

Lorena Morrison and Teri Logan of Miami Christian School gave a report on the doings of the LMS Terrorism Mitigation Committee. They demonstrated the game that has been developed to make young people more aware of terrorism and to introduce a terrorism unit into school social studies classes.

The next meeting of the LMS Working Group will be June 17, 2003 at 9:30 AM, location to be announced.

The Working Group meeting was meeting adjourned at approximately 11:30 PM.

Project Impact and The Local Mitigation Strategy Working Group

Minutes of the June 17, 2003 Meeting

Held Miami-Dade Fire Rescue Headquarters Auditorium

Municipalities in attendance:

Bay Harbor Islands
Coral Gables
Hialeah
Homestead
Key Biscayne
Miami
Miami Lakes
Miami Shores
Miami Springs
North Miami
North Miami Beach
Opa-locka
Pinecrest
Sunny Isles Beach
Sweetwater
Virginia Gardens
West Miami

Others in attendance:

American Red Cross
Catholic Charities
Citrus Health Network
CT3S Engineering
ERSA Consulting, Inc.
Florida Department of Transportation
Florida International University
Florida Power & Light
Greater Miami Service Corps
HRH Company
Jackson Health System
Miami Baptist Association
Miami-Dade Community College
Miami-Dade County Public Schools
Miami-Dade Aviation Department
Miami-Dade Community Action Agency
Miami-Dade Finance Department
Miami-Dade Housing Agency
Miami-Dade Office of Homeland Security
Miami-Dade Park & Recreation Department
Miami-Dade Public Works
Miami Children's Hospital
Mount Sinai Medical Center
RM2 Threat Consultants, Inc.
St. Thomas University
South Florida Water Management District
University of Florida Agriculture Ext.
University of Miami Medical School
CBS – Channel 4 - WFOR
Community Partnership for the Homeless
Disaster Management, Inc.
FEMA
Florida Division of Emergency Management
Florida Memorial College
Florida Sea Grant Program
H.J. Ross & Associates
International Hurricane Research Center
MACTEC
Miami Christian School
Miami-Dade County Health Department
Miami-Dade Animal Services
Miami-Dade Budget Office
Miami-Dade DERM
Miami-Dade Homeless Trust
Miami-Dade Office of Emergency Mgmt.
Miami-Dade Office of Mgmt and Budget
Miami-Dade Planning and Zoning
Miami-Dade Water & Sewer
Miami Rescue Mission
PBS&J
Ryder System, Inc.
South Florida Regional Planning Council
United Home Care Services
University of Miami
URS Corporation

Special guest: Melissa Rodrigo of the Palm Beach County LMS Working Group

The meeting called to order at approximately 9:30 AM by LMS Coordinator, Frank Reddish.

Frank reminded everyone that LMS projects are due within two weeks for inclusion in the June 30, 2003 edition of the Local Mitigation Strategy. Projects must be listed in the LMS in order to be eligible for many state and federal grants.

Frank told the group of the pending demise of the Hazard Mitigation Grant Program (HMGP) and suggested that all those that think the program should remain should write to their congressman and say so. He also discussed the new Pre-Disaster Mitigation Program and how it differs from the HMGP.

Bill Moriarty of the Miami-Dade Community Action Agency reported on the status of the residential shuttering program. Shutters have now been installed on the homes of over 700 low-income elderly citizens of this county.

Suelynn Dignard of the South Florida Water Management District reported on the upcoming study of the C-4 and other basins by the U.S. Army Corps of Engineers. She also asked that Working Group members share any historical or other relevant data with SFWMD and the Corps.

Jim Shultz from the University of Miami medical school gave an update report on the plan to develop "neighborhood care centers" to be available during a mass care incident.

John Hulsey from the South Florida Regional Planning Council presented a report of the long-term future problem of a rise in sea level and what its effects would be on South Florida. This problem will become especially acute in the barrier island municipalities.

Hugh Willoughby from the International Hurricane Research Center at FIU gave an update on the application to the National Science Foundation to fund a Science and Technology Center at FIU devoted to hurricane vulnerability research.

Charles Gottlieb from the University of Miami reported to the continuation of the FEMA Disaster Resistant Universities Program. The original six schools will receive continuation funding and six additional schools will be added to the program this year.

Mike Gambino from the Miami-Dade Department of Environmental Resources Management and chairman of the LMS FIRM sub-committee reported on the recent meeting held as part of the FIRM restudy that is now underway in Miami-Dade County.

James Clausell, chairman of the CERT advisory board briefed the Working Group on the events surrounding the reestablishment of the CERT program in Miami-Dade County. It

still has not been decide which county department will house the CERT administrative activities.

The next meeting of the LMS Working Group will be September 17, 2003 at 9:30 AM in the Miami-Dade Fire Rescue auditorium.

The Working Group meeting was adjourned at approximately 11:30 AM.

Project Impact and The Local Mitigation Strategy Working Group

Minutes of the September 17, 2003 Meeting

Held at Miami-Dade Fire Rescue Headquarters Auditorium

Municipalities in attendance:

Aventura
Coral Gables
Doral
El Portal
Florida City
Golden Beach
Homestead
Indian Creek
Key Biscayne
Medley
Miami
Miami Gardens
Miami Lakes
Miami Shores
Miami Springs
North Miami
Palmetto Bay
Pinecrest
Opa-locka
Sunny Isles Beach
Virginia Gardens
West Miami

Others in attendance:

A.D.A. Engineering
CBS – Channel 4 - WFOR
Citrus Health Network
CT3S Engineering
Federal Alliance for Safe Homes
Fla Department of Environmental Protection
Florida International University
Florida State Attorney's Office
The Home Depot
Hurst Awning Co.
Miami Christian School
Miami-Dade County Public Schools
Miami-Dade Aviation Department
Miami-Dade Community Action Agency
Miami-Dade Expressway Authority
Miami-Dade Museum of Science
Miami-Dade Office of the Mayor
Miami-Dade Planning and Zoning
Miami Children's Hospital
Mount Sinai Medical Center
Rotary Clubs International
St. Thomas University
South Florida Regional Planning Council
Southwest Social Services
South Florida Resource Conservation & Development Council
Uniframe, Inc.
URS Corporation
West Perrine Community Development Council
Catholic Charities
CHARLEE Program
Community Partnership for Homeless
ERSA Consulting, Inc.
Federal Emergency Management Agency
FL Division of Emergency Management
Florida Power & Light
H.J. Ross & Associates
Hurricane Protection Industries, Inc.
MACTEC
Miami-Dade College
Miami-Dade Animal Services
Miami-Dade Building Code Compliance
Miami-Dade DERM
Miami-Dade Housing Agency
Miami-Dade Office of Emergency Mgmt.
Miami-Dade Park & Recreation Department
Miami-Dade Water & Sewer
Mercy Hospital
Pistorino & Alam
St. Lawrence School
Office of Senator Bob Graham
South Florida Water Management District
United Home Care Services
University of Miami
World Relief

We welcome for the first time, representatives from Miami-Dade County's newest municipalities: Doral, Miami Gardens and Palmetto Bay. Also joining us for the first time are A.D.A. Engineering and Uniframe, Inc.

The meeting called to order at approximately 9:30 A.M. by LMS-Project Impact Coordinator, Frank Reddish.

Frank informed those who have applications pending for wind pool projects that the projects have been approved at the state and at FEMA Region IV and are awaiting congressional appropriation of the funds.

Frank then introduced the representatives from the city of Doral, the city of Miami Gardens and the village of Palmetto Bay who are attending the LMS Working Group meeting for the first time.

Frank introduced Mike Gambino, from DERM, to the audience. Not only is Mike a member of the LMS/Project Impact Steering Committee, he is the Miami-Dade County flood plain manager. Thanks to Mike's hard work, Miami-Dade will officially gain a Community Rating System rating of 5 as October 1, 2003. This is the lowest rating of any large metropolitan area in the entire United States. Well done, Mike!

Gene Beck and Eloy Villasuso from Florida Power & Light discussed the recent northeast blackout and explained to the working group why that has a very slim chance of ever happening in South Florida. The main factor is that we are at the bottom of a peninsula and our connections to the national electrical grid are limited geographically. Additionally, new upgraded equipment installed as a result of Hurricane Andrew also helps.

Debby Cleyman of the Miami-Dade Community Action Agency reported on the status of the residential shuttering program. Shutters have now been installed on the homes of over 800 low-income elderly citizens of this county.

Lynne Cameron from Neighbors 4 Neighbors explained her program, a phone bank operation assisting the citizens of Miami-Dade. The program originated out of Hurricane Andrew and has grown over the years. Neighbors 4 Neighbors has been a tremendous help if promoting the residential shuttering program.

Leslie Chapman-Henderson, president of the Federal Alliance for Safe Homes – FLASH – gave a presentation on this very comprehensive program. Please check out their website at www.flash.org to get a full picture of this excellent organization.

Hugh Gladwin, Director of the Institute for Public Opinion Research at Florida International University gave a presentation of the work being undertaken at the Laboratory for Social and Behavioral Research, a branch of the International Hurricane Research Center at FIU. Hugh is also a member of the LMS Steering Committee.

Suelynn Dignard of the South Florida Water Management District (SFWMD) reported on the upcoming study of the C-4 and other basins by the U.S. Army Corps of Engineers. She also asked that Working Group members share any historical or other relevant data with SFWMD and the Corps. A list of the data that she is looking for will be sent by email to everyone later today.

John Leslie, also of SFWMD gave a progress report on the C-4 Basin project. The work on the emergency detention basin will probably be finished in time for a December ribbon cutting ceremony.

Bruce Netter of Catholic Charities gave us an update on the progress in creating a workable Citizens Corps Council. A meeting will be held on Monday, September 22nd at 10:30 AM in the MDFR Auditorium. Bruce also presented plaques of appreciation from Catholic Charities to Linda Brown of the Florida Division of Emergency Management and to Frank Reddish of the Miami-Dade Office of Emergency Management.

James Clausell, chairman of the CERT advisory board briefed the Working Group on the events surrounding the reestablishment of the CERT program in Miami-Dade County. It seems that CERT may once again fall under the auspices of Miami-Dade Fire Rescue.

The next meeting of the LMS Working Group will be December 17, 2003 at 9:30 A.M. in the Graham Center on the Florida International University main campus.

The Working Group meeting was adjourned at approximately 11:30 AM.

Project Impact and The Local Mitigation Strategy Working Group

Minutes of the December 17, 2003 Meeting

Held at the Graham Center, Florida International University

Municipalities in attendance:

Coral Gables	Medley	North Miami Beach
Doral	Miami	Palmetto Bay
Florida City	Miami Gardens	Pinecrest
Golden Beach	Miami Shores	Sweetwater
Homestead	Miami Springs	Virginia Gardens
Key Biscayne	North Miami	West Miami

Others in attendance:

A.D.A. Engineering	A.M.A.N.A.
America's Life Line Foundation	CBS – Channel 4 - WFOR
Citrus Health Network	Craig A. Smith & Associates
Dade County State Attorney's Office	Disaster Management, Inc.
Federal Emergency Management Agency	Fla Dept of Environmental Protection
Fla Division of Emergency Management	Florida International University
Florida Memorial College	Florida Power & Light
H.J. Ross & Associates	Hurricane Protection Industries, Inc.
Hurst Awning Co.	Lutheran Services Florida
MACTEC	Miami Christian School
Miami-Dade County Public Schools	Miami-Dade Animal Services
Miami-Dade Aviation Department	Miami-Dade Building Code Compliance
Miami-Dade Community Action Agency	Miami-Dade DERM
Miami-Dade Expressway Authority	Miami-Dade Fair & Expo
Miami-Dade Fire Rescue	Miami-Dade Housing Agency
Miami-Dade Museum of Science	Miami-Dade Office of Emergency Mgmt.
Miami-Dade Office of the Mayor	Miami-Dade Park & Recreation Department
Miami-Dade Planning and Zoning	Miami-Dade Police Department
Miami-Dade Public Works	Miami-Dade Strategic Business Mgmt
Miami-Dade Water & Sewer	Miami Rescue Mission
Mount Sinai Medical Center	St. Thomas University
Office of Senator Bob Graham	University of Florida
University of Miami	URS Corporation
South Florida Regional Planning Council	South Florida Water Management District
Villanueva Associates	World Relief
South Florida Resource Conservation & Development Council	

Special Guests: Clemson University and Palm Beach County Emergency Management.

We welcome for the first time: America's Life Line Foundation, the American Muslim Association of North America, Lutheran Services Florida, and the Miami-Dade Office of Strategic Business Management

The meeting called to order at approximately 9:30 A.M. by LMS-Project Impact Coordinator, Frank Reddish.

Frank introduced out host, Florida International University vice president Steve Sauls, who welcomed the Working Group to FIU and the Graham Center.

Frank then introduced Ricardo Alvarez, deputy director of the International Hurricane Research Center at FIU. Ricardo gave a presentation on the type research under way at IHRC especially in the realm of windstorm mitigation. IHRC has been instrumental in getting the use of ring-shank nails during roof installations to become part of the building code.

Mr. Alvarez then introduced Hugh Gladwin, Director of the Institute for Public Opinion Research at Florida International University who gave a presentation of the work being undertaken at the Laboratory for Social and Behavioral Research, a branch of the International Hurricane Research Center at FIU. (Dr. Gladwin is also a member of the LMS Steering Committee.)

Dr. Tim Reinhold of Clemson University was introduced next. Dr. Reinhold is researching the effects of surface winds from land-falling hurricanes. His team has affixed sensors on the edges of roofs of houses up and down the coast to record winds speeds and other effects. They also have sensor towers that can withstand wind speeds up to 200 MPH that can be put in place as a storm approaches.

Following Dr. Reinhold's presentation everyone was treated to a tour of the FIU outdoor art collection led by staff of the FIU art museum. The tour was quite a hit.

Following the tour the Working Group was reminded that the damage or destruction of fine art is not reimbursable by FEMA and not by insurance unless specifically mentioned in the policy. Extra care must be taken to protect fine art.

Bill Moriarty of the Miami-Dade Community Action Agency reported on the status of the residential shuttering program. Shutters have now been installed on the homes of over 860 low-income elderly citizens of this county.

John Leslie, of the South Florida Water Management District gave a progress report on the C-4 Basin project. The work on phase I of the emergency detention basin is virtually complete and a dedication ceremony is planned for late January. Work has already begun on phase II. The remainder of the dredging should commence soon. John also gave a presentation addressing future project of a similar sort.

Captain Bob Palestrant of Miami-Dade Fire Rescue who is the leader of the local CERT program brought the group up to date on the return of the CERT program to the Miami-Dade Office of Emergency Management. New classes have begun and refresher training is available for CERT from the previous program. Bob explained that we intend to expand to include CERT teams to businesses, schools and faith based organizations. While Bob was speaking, Frank showed the group the CERT kits that were acquired through Project Impact to provide equipment to CERT team in low-income areas. The kit includes hardhat, vest, gloves, safety glasses, a flashlight with batteries, a whistle, a first aid kit, emergency blanket, duct tape, hand cleaner, a combination tool and a duffle bag. The hardhat, vest and bag are imprinted with the CERT logo.

Solomon Ademuyiwa from the Florida Division of Emergency Management gave a brief update on the status of FEMA's Pre-disaster Mitigation Program.

Finally, Frank Reddish asked for volunteers to serve on a committee to develop the University of Miami Medical School's Neighborhood CARE Centers program for use in a medical or WMD situation.

The next meeting of the LMS Working Group will be March 17, 2004 at 9:30 A.M. in the operations room of the Miami-Dade Emergency Operations Center.

The Working Group meeting was adjourned at approximately 12:15 A.M. to an excellent lunch provided by our host and partner, the International Hurricane Research Center at Florida International University.

Project Impact and the Local Mitigation Strategy Working Group

Minutes of the March 17, 2004 Meeting

Held in the Miami-Dade Emergency Operations Center

Municipalities in attendance:

Coral Gables
Florida City
Golden Beach
Homestead
Miami
Miami Gardens
Miami Lakes
Miami Shores
Miami Springs
North Miami
North Miami Beach
Palmetto Bay
South Miami
Sunny Isles Beach
Sweetwater
Virginia Gardens
West Miami

Miami-Dade departments in attendance:

Audit & Management Services
Community Action Agency
DERM
Employee Relations
Expressway Authority
Fire Rescue
Housing Agency
Juvenile Assessment Center
Performing Arts Trust
Port of Miami
Solid Waste Management
Team Metro Answer Center
Water & Sewer
Aviation
Corrections & Rehabilitation
Emergency Management
ETSD
Finance
General Services Administration
Justice Administration
Park & Recreation
Planning & Zoning
Public Works
Strategic Business Management
Transit Agency

Others in attendance:

Alliance for Aging
American Red Cross
Catholic Charities
Church World Service
Federal Emergency Management Agency
Florida International University
Florida Power & Light
Hurricane Protection Industries, Inc.
Miami Children's Hospital
Miami Dade College
St. Lawrence School
Office of Senator Bob Graham
South Florida Water Management District
URS Corporation
American Muslim Association of N.A.
C3TS
CHARLEE of Dade County, Inc.
Citrus Health Network
FL Division of Emergency Management
Florida Memorial College
H.J. Ross & Associates
Mercy Hospital
Miami Christian School
Miami-Dade County Public Schools
St. Thomas University
South Florida Regional Planning Council
University of Miami
Vizcaya Museum and Gardens

Watergate Corporation WFOR-CBS – Channel 4
World Relief

Special Guests: Nir Salomon of the Consulate of Israel, Zach Bell, Zvika Greenboim and Avi Zenou of ShellPro, Sara Theis of Viracon, Allen Groover of Dewberry & Davis, and Todd Davison, Director of Mitigation for FEMA Region IV.

We welcome for the first time The following Miami-Dade Departments: Corrections, Employee Relations, General Services Administration, Justice Administration, Juvenile Assessment Center and the Performing Arts Trust.

The meeting called to order at approximately 9:40 A.M. by LMS Coordinator, Frank Reddish.

Frank introduced Gabriela Vigo as the new FEMA representative to our LMS group who replaces Lawrence Frank. Frank also introduced Luis Jimenez from FEMA and Kathleen Marshall and Winston Thaxter from Florida DEM.

Roslyn Viterbo was introduced as the coordinator for the Miami-Dade Citizen Corps program. Roslyn spoke on each of the Citizen Corps programs: Community Emergency Response Teams (CERT), Crime Watch, Medical Reserve Corps and Volunteers in Police Service (VIPS).

Liz Abbott, of the South Florida Water Management District gave a progress report on the C-4 Basin project. The work on phase I of the emergency detention basin is virtually complete and a dedication ceremony was held in late January attended by FEMA director Mike Brown, Governor Jeb Bush and other dignitaries. Work has already begun on phase II. The remainder of the dredging should commence soon.

Debbie Cleyman of the Miami-Dade Community Action Agency reported on the status of the residential shuttering program. Shutters have now been installed on the homes of over 940 low-income elderly citizens of this county. We are planning a special celebration to dedicate house number 1,000 which should occur in April or May of this year.

Hugh Gladwin from FIU's Laboratory for Social and Behavioral Research gave us an update on their program and how their research relates to mitigation.

Jeff Robinson, CEO of Hurricane Protection Industries introduced our next topic which is the cross use of hurricane and counter-terrorism protection. Viracon showed us how hurricane protection in the form of strengthened glass could protect against bomb blasts. Shell Pro, an Israeli company that markets safe room to protect against bombs and missiles demonstrated how the safe room could protect against hurricanes.

Todd Davison, Mitigation Division director from FEMA Region IV spoke to the Working Group with an overview to the Flood Insurance Rate Map (FIRM) revisions cur-

rently underway in Miami-Dade County. He explained the benefits that will result from these revisions. Mike Gambino, Miami-Dade DERM chairs the FIRM map subcommittee of the LMS Flood Mitigation Committee. Other members of the FIRM committee are José Fuentes, South Florida Water Management District; Aleem Ghany, North Miami; Allen Groover, Dewberry & Davis; Bruce Henderson, Miami Beach; Peter Kory, Key Biscayne; Doug Palmer, Florida Division of Emergency Management; John Patterson, Miami-Dade Public Works; Ed Robinson, FEMA and Bashir Wayne, Miami.

The next meeting of the LMS Working Group will be June 16, 2004 at 9:30 AM in the auditorium of the Miami-Dade Fire Rescue Headquarters.

The Working Group meeting was adjourned at approximately 11:15 AM.

The Local Mitigation Strategy Working Group

Minutes of the June 16, 2004 Meeting

Held in the Miami-Dade Fire Rescue Headquarters Auditorium

Municipalities in attendance:

Coral Gables
Doral
El Portal
Florida City
Golden Beach
Hialeah
Hialeah Gardens
Homestead
Key Biscayne
Medley
Miami
Miami Gardens
Miami Lakes
Miami Shores
Miami Springs
North Miami
North Miami Beach
Palmetto Bay
Pinecrest
South Miami
Sunny Isles Beach
Sweetwater
West Miami

Miami-Dade County departments in attendance:

Aviation
Cooperative Extension Service
Emergency Management
Fire Rescue
Housing Agency
Planning & Zoning
Public Works
Transit Agency
Community Action Agency
Environmental Resources Management
Finance
General Services Administration
Park & Recreation
Police
Strategic Business Management
Water & Sewer

Others in attendance:

Alliance for Aging
Baptist Health South Florida
Community Partnership for the Homeless
FL Division of Emergency Management
Florida International University
H.J. Ross & Associates
Hurst Awning
The Miami Herald
St. Thomas University
South Florida Regional Planning Council
University of Miami Medical School
U.S. Department of Agriculture
American Muslim Association of N.A.
Citrus Health Network
Federal Emergency Management Agency
Florida Atlantic University
Florida Memorial College
Hurricane Protection Industries, Inc.
Miami-Dade County Public Schools
Mount Sinai Medical Center
Office of Senator Bob Graham
South Florida Water Management District
URS Corporation
World Relief

Special Guests: Nir Salomon of the Consulate of Israel, Craig Frank of Ombek Wireless Technology, and Wendy Fontaine from the Institute for Business & Home Safety.

We welcome for the first time: Florida Atlantic University

The meeting called to order at approximately 9:40 A.M. by LMS Coordinator, Frank Reddish.

It was noted that this meeting starts the seventh year of the Miami-Dade Local Mitigation Strategy and the Working Group. There was special recognition for Mike Gambino of DERM, John Hulsey of the South Florida Regional Planning Council and Peter Kory of Key Biscayne who have served on the LMS Steering Committee since its inception in 1998.

Mike Gambino of DERM gave an update on the project to update the Flood Insurance Rate Maps (FIRM) and asked all parties that might have information and flood type data to please share it with the FIRM Committee.

Jeff Rosenberg from the Miami-Dade Office of Strategic Business Management gave a report on grants and offered to help all members of the LMS Working Group with grant information and preparation.

Bill Moriarty of the Miami-Dade Community Action Agency reported on the status of the residential shuttering program. Shutters have now been installed on the homes of over 990 low-income elderly citizens of this county. We are planning a special celebration to dedicate house number 1,000 which should occur later this month. Additionally, the program is being expanded to include low-income disabled and families with children as well as low-income elderly.

Bob Palestrant spoke on the Miami-Dade Community Emergency Response Teams (CERT). He gave a short recap of the recently concluded annual drill that was held this year at the Homestead Sports Complex. The drill involved over 55 agencies with at least 160 team members actively participating. Bob then explained the concept of developing a "CERT City" training facility. Bob introduced Ricardo Alvarez from Florida International University.

Ricardo Alvarez spoke on several topics:

- First, Ricardo introduced an architectural concept on the future CERT City through a PowerPoint presentation.
- He then explained the use of ring shank nails (each member of the group was given an actual ring shank nail) and how they significantly strengthen a roof through their use. Note: The Miami Herald was present to do a story on the nails.
- The game developed by the LMS Terrorism Mitigation Committee has been manufactured and Ricardo showed the finished product to the group. The games will eventually become part of a curriculum to teach school children about terrorism.

Hugh Gladwin from FIU's Laboratory for Social and Behavioral Research gave us an

update on their program and how their research relates to mitigation. He asked the group for input concerning mobile home parks.

At this time, Frank introduced Nir Salomon, economic affairs director from the Israeli Consulate, who in turn introduced Craig Frank representing Ombeck Wireless Technology, a company that produces a method to deliver emergency communications and alert messages to cell phones on a geographical basis. This presentation is part of the LMS ongoing program to introduce new mitigation technologies to the Working Group.

Nancy Orozco from the Small Business Development Center at Florida Atlantic University gave a presentation on the Center's course on continuity of operations for small businesses. The course is offered free of charge and is designed to help small business prepare a plan of action in the effect of a disaster event.

Wendy Fontaine from the Institute for Business and Home Safety, an organization sponsored by the insurance industry, gave a presentation on the services they offer. IBHS also emphasizes that small business, and large ones, have a continuity of operations plan in the event of a disaster.

The next speaker was Quinton Williams from the Florida Department of Community Affairs, Division of Emergency Management who bought everyone up to date on the Pre-Disaster Mitigation (PDM) program. The state is anticipating that the fiscal year 2004-5 and fiscal year 2005-6 may be combined in a single grant cycle with up to $300,000,000 available for the competitive bids.

The next meeting of the LMS Working Group will be September 15, 2004 at 9:30 A.M. in the auditorium of the IFAS/Cooperative Extension Service Agriculture Center in Homestead, Florida.

The Working Group meeting was adjourned at approximately 11:45 A.M.

The Local Mitigation Strategy Working Group

Minutes of the September 15, 2004 Meeting

Held at the Cooperative Extension Service Agriculture Center, Homestead, Florida

Municipalities in attendance:

Coral Gables
Florida City
Golden Beach
Homestead
Key Biscayne
Medley
Miami
Miami Gardens
Miami Lakes
Miami Shores
North Miami
North Miami Beach
Opa-locka
Palmetto Bay
Sweetwater
West Miami

Miami-Dade County departments in attendance:

Aviation
Cooperative Extension Service
Emergency Management
Finance
Housing Agency
Park & Recreation
Public Works
Strategic Business Management
Community Action Agency
Elections
Environmental Resources Management
General Services Administration
Mayor's Office
Port of Miami
Solid Waste Management
Transit Agency

Others in attendance:

Adams & Company
C3TS Engineering
Community Partnership for the Homeless
FL Division of Emergency Management
Florida International University
Florida Sea Grant Program
Hurricane Protection Industries, Inc.
Metal Tech, Inc.
Miami-Dade County Public Schools
St. Thomas University
South Florida Regional Planning Council
Southwest Social Services
T.R. Jones & Company
University of Miami
URS Corporation
Alliance for Aging
Citrus Health Network
Federal Emergency Management Agency
Florida Atlantic University
Florida Memorial College
H.J. Ross & Associates
Jackson Health System
Miami Dade College
Mount Sinai Medical Center
Office of Senator Bob Graham
South Florida Water Management District
St. Lawrence School
University of Florida, IFAS
University of Miami Medical School
U.S. Department of Agriculture

We welcome for the first time**:** Adams & Company and Metal Tech, Inc.

The meeting called to order at approximately 9:40 A.M. by LMS Coordinator, Frank Reddish, who immediately introduced Don Pybas, Director of the Cooperative Extension Service and our host for today's meeting.

Mr. Pybas gave a presentation explaining the cooperative extension service and its relationship to the University of Florida, Miami-Dade County and the community as a whole, especially the farming community.

Following Mr. Pybas' presentation Frank Reddish introduced several people in the audience who have contributed to LMS programs: Marella Crane of the Florida Sea Grant Program who was instrumental in the publishing of our *Hurricane Manual for Marine Interests;* Bill Moriarty and Debbie Cleyman for their work on the shuttering project (Note: House 1,000 was recently completed);

Pam Golden, Homeland Security Manager at the School of Justice at Miami Dade College announced that the college is offering a free citizen's course in homeland security entitled "Prepare Florida."

Niel Batista, Domestic Preparedness Coordinator for Miami-Dade Office of Emergency Management (OEM) was introduced and Niel explained that projects listed in the Domestic Preparedness Strategy are considered to be part of the Local Mitigation Strategy and vice versa.

Erin Mohres, Community Preparedness Coordinator for OEM asked that members of the group contribute to the development of the program that has been under consideration at LMS for years; namely the "Mitigation for Misers" concept or, to gather together a collection of mitigation efforts that may be done by virtually anyone and don't cost very much money. Erin has agreed to take the lead on the program.

Mike Gambino of DERM presented updates on the National Flood Insurance Program and the county and city of Miami's Floodplain Management Plans. It was explained that Miami and the County have adapted the LMS document to be used as a floodplain management plan. An integral part of this plan is to review the plan regularly, and include in the plan a progress report on how we deal with repetitive loss properties. Mr. Gambino then stated that both Miami and the county have maps of their repetitive losses and the projects they are doing in response at the rear of the room, and will answer questions and comments from the group now or after the LMS meeting.

The next speaker was Quinton Williams from the Florida Department of Community Affairs, Division of Emergency Management who spoke on the issue of pending Hazard Mitigation Grant Program (HMGP) funds that will become available as a result of this hurricane season, namely Hurricanes Charley and Frances and possibly Ivan which approaches the Florida panhandle during this meeting. Quinton suggested that we should have our project packages read to go for a meeting in mid-October.

Hugh Gladwin, from Florida International University's Institute for Public Opinion Research gave a presentation about the goings on at the Institute. He spoke about studies of on post-hurricane behavior and research done concerning pre-Hurricane Frances. During the meeting there was a technical problem making it impossible to see Dr. Gladwin's slides. The slides are now available on-line at http://www.fiu.edu/orgs/ipor/pira/lms.htm.

Our final presentation was once more by Don Pybas, director of the Cooperative Extension Service and our host for this morning's meeting. Don informed everyone of how important the agriculture industry is in Miami-Dade County ranking second only to tourism in magnitude. Miami-Dade represents one of the nation's top agricultural communities. Most of the audience had no idea of how large our agricultural community is.

The next meeting of the LMS Working Group will be December 15, 2004 at 9:30 AM in the auditorium of the Miami Museum of Science.

The Working Group meeting was adjourned at approximately 11:45 AM.

The Local Mitigation Strategy Working Group

Minutes of the December 15, 2004 meeting

Held at the Miami Museum of Science, Miami, Florida

Municipalities in attendance:

Aventura
Bay Harbor Islands
Biscayne Park
Coral Gables
Florida City
Golden Beach
Homestead
Indian Creek Village
Key Biscayne
Medley
Miami
Miami Beach
Miami Gardens
Miami Shores
Miami Springs
North Miami
North Miami Beach
Opa-locka
Palmetto Bay
Pinecrest
South Miami
Sunny Isles Beach
Sweetwater
Virginia Gardens
West Miami

Miami-Dade County departments in attendance:

Aviation
Cooperative Extension Service
Environmental Resources Management
General Services Administration
Human Services
Port of Miami
Strategic Business Management
Water & Sewer
Community Action Agency
Emergency Management
Expressway Authority
Housing Agency
Police
Public Works
Transit Agency

Others in attendance:

American Muslim Association
Baptist Health South Florida
C3TS Engineering
City of Marathon, Florida
Exeter Architectural Products
FL Division of Emergency Management
Florida International University
Florida Power & Light
H.J. Ross & Associates
Hurst Awing Co.
Jackson Health System
Mercy Hospital
Miami Children's Hospital
Miami Dade College
American Red Cross
Barry University
Citrus Health Network
Disaster Management, Inc.
Federal Emergency Management Agency
Florida Atlantic University
Florida Memorial College
Florida Sea Grant Program
Hurricane Protection Industries, Inc.
Independent Insurance Agents of Dade
Jackson Memorial Hospital
Miami Bridge Youth & Family Services
Miami Christian School
Miami-Dade County Public Schools

Miami Jewish Home & Hospital	Mount Sinai Medical Center
Museum Consultants	Pristine Power
RO Architects – Planners	St. Thomas University
Office of Senator Bob Graham	South Florida Regional Planning Council
South Florida Water Management District	University of Florida, IFAS
University of Miami	University of Miami Medical School
URS Corporation	U.S. Department of Agriculture
Villanueva & Associates	WFOR-CBS-4

We welcome for the first time: Miami-Dade Human Services, Miami Jewish Home & Hospital and Pristine Power.

The meeting called to order at approximately 9:40 A.M. by LMS Coordinator, Frank Reddish who reminded everyone to get his or her updates to the LMS Master Document in because it is for publication December 31, 2004. Frank also brought up the fact the CBIR or legislative member projects must now be listed in the LMS as well.

Frank covered other LMS old business noting that the Pet Shelter plan was complete except for a location and asked everyone to help find a site. He also mentioned that over 1,000 homes have been shuttered in the residential shuttering program.

At this point Frank introduced Michael Nardone, vice president of URS Corporation and manager of their Miami office. Michael and URS are our sponsors for this meeting and provided the refreshments and highly engineered coffee mugs. Mr. Nardone then introduced Gillian Thomas, president of the Miami Museum of Science and our host for this meeting. She gave a short briefing on the museum and invited everyone to take a tour following the LMS meeting.

Erin Mohres, Community Preparedness Coordinator for OEM repeated what she had requested at the last meeting and asked that members of the group contribute to the development of the program that has been under consideration at LMS for years; namely the "Mitigation for Misers" concept or, to gather together a collection of mitigation efforts that may be done by virtually anyone and don't cost very much money. Erin already has a number of excellent concepts and would like some more.

Next, Marella Crane of the Florida Sea Grant Program spoke to the group with some interesting statistics about the boating industry in south Florida. Marella is producing a DVD similar to the booklet she compiled, the *Hurricane Manual for Marine Interests.*

Hugh Gladwin, from Florida International University's Institute for Public Opinion Research brought us up to date on the goings on at the Institute. He gave a presentation concerning wind monitoring research done during the recent rash of hurricanes. They placed monitoring equipment at various point around the state and took actual, real time reading of wind speeds.

Niel Batista, Domestic Preparedness Bureau manager for Miami-Dade Office of Emergency Management (OEM) was introduced and Niel explained that projects listed in the Domestic Preparedness Strategy are considered to be part of the Local Mitigation Strategy and vice versa. He gave an overview of the various domestic preparedness grant programs

At this point in the meeting Frank Reddish gave an overview of the various grant programs in open cycle at this time, namely the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation Program (PDM), the Flood Mitigation Assistance Program (FMA) and the Residential Construction Mitigation Program (RCMP). Frank reported that he and several others from the LMS Working Group had attended a HMGP workshop on December 10th in Hobe Sound, Florida.

Our final presentation was an overview of the grant funding process by Lawrence Frank of URS Corporation. Lawrence covered the dos and don'ts of successfully getting a grant funded by FEMA. He also covered benefit/cost analysis, which is required for all the EMA grants. The benefit/cost analysis must now be done by the applicant. FEMA has set up a hotline at (866) 222-3580 or on line at bchelpline@urscorp.com. The hotline is run, of course, by our friends at URS Corporation.

A benefit/cost analysis training course will be conducted at the Miami-Dade EOC on January 20 and 21, 2005.

The next meeting of the LMS Working Group will be March 16, 2005 at 9:30 A.M. at the Graham Center at Florida International University.

The Working Group meeting was adjourned at approximately 11:45 A.M. and was followed by a tour of the museum for interested parties.

The Local Mitigation Strategy Working Group

Minutes of the March 16, 2005 Meeting

Held at the Graham Center, Florida International University, Miami, Florida

Municipalities in attendance:

Bay Harbor Islands	Key Biscayne	Miami Shores
Biscayne Park	Medley	North Miami
Coral Gables	Miami	Palmetto Bay
Doral	Miami Beach	Pinecrest
Golden Beach	Miami Gardens	Sweetwater
Homestead	Miami Lakes	West Miami
Indian Creek Village		

Miami-Dade County departments in attendance:

311 Center	Animal Services
Aviation	Community Action Agency
Emergency Management	Environmental Resources Management
Fire Rescue	General Services Administration
Housing Agency	Police
Port of Miami	Public Works
Solid Waste Management	Strategic Business Management
Transit Agency	Water & Sewer

Others in attendance:

American Muslim Association	American Red Cross
Baptist Health South Florida	C3TS Engineering
CDS Technologies	Citrus Health Network
City of Deerfield Beach	Family Resource Center
Federal Emergency Management Agency	FL Division of Emergency Management
Florida International University	Florida Memorial College
H.J. Ross & Associates	Hialeah Housing Authority
Hurst Awing Co	James Lee Witt & Associates
Jackson Health System	Macy's Florida
Mercy Hospital	Miami Bridge Youth & Family Services
Miami Children's Hospital	Miami Jewish Home & Hospital
Mount Sinai Medical Center	Palm Gardens of Aventura
RO Architects – Planners	St. Thomas University
South Florida Regional Planning Council	South Florida Water Management District
University of Miami	University of Miami Medical School
U.S. Small Business Administration	WFOR-CBS-4

Special Guest: City of Deerfield Beach, Florida, Hurricane Warning Project

We welcome for the first time: CDS Technologies, Family Resource Center, Macy's Florida, Palm Gardens of Aventura and the U.S. Small Business Administration.

The meeting called to order at approximately 9:40 A.M. by LMS Coordinator, Frank Reddish. For the first order of business, Frank awarded the prizes for the "Name the Book" contest to runners up Peter Kory of Key Biscayne, Ed Robinson of FEMA, Marta Silva of Miami-Dade Transit Agency and Frances Spiegel of Florida International University and to the contest winner, Liz Gutierrez, of Miami-Dade Office of Emergency Management. Liz's winning title for the booklet containing an outline of the completed projects of the Miami-Dade Local Mitigation Strategy is: *Ready, Set, Mitigated*.

It was announced that the House passed H.R. 1134, which forbids the IRS from taxing hazard mitigation proceeds or gains due to retrofits.

Frank reminded everyone that the HMGP grants are open and that county departments can't wait until the last day if they want an official signature on the grant application. The deadline for HMGP under Hurricanes Charley, Frances and Jeanne has been extended until May 2, 2005.

Erin Mohres, Community Preparedness Coordinator for OEM, announced that there will be a free seminar on business preparedness at the Miami branch of Florida Atlantic University.

At this point Frank introduced Carolyn Robertson of the International Hurricane Research Center at Florida International University and our sponsor for today's meeting. We thank Carolyn and IHRC for their hospitality and also for the refreshments served prior to the meeting. Carolyn told the group that FIU is now participating in FEMA's Disaster Resistant Universities program. Carolyn then introduced Forrest Masters, a wind engineer at FIU.

Forrest Masters delivered a presentation concerning research conducted during the 2004 hurricane season using wind speed recording instrumentation placed within the wind fields of the various hurricanes. This research indicated that most of time total duration of these storms the wind was hardly out of Category I range. This indicates that much must be done to strengthen buildings in Central Florida.

Hugh Gladwin, from Florida International University's Institute for Public Opinion Research brought us up to date on the goings on at the Laboratory for Social and Behavioral Research. He gave a presentation concerning the rate of recovery following Hurricane Andrew as looked at from a standpoint of race and ethnic and economic background.

Bill Moriarty gave a recap on the Residential Shuttering Program and stated that we have been having all sorts of problems with FEMA bureaucratic red tape. It has delayed the program for over a year.

Jim Mathie of the city of Deerfield Beach Fire Rescue Department gave a presentation on the program called the "Hurricane Warning Project" being developed in Deerfield Beach to build a hurricane warning demonstration facility. Jim introduced Erik Salva who is now the director of the project.

Mike Gambino of Miami-Dade Department of Environmental Resources Management gave an update on the Flood Insurance Rate Map (FIRM) remapping project that is well underway in Miami-Dade.

The final speaker in today's meeting was Jeff Crews, a structural engineer from the firm of C3TS and a member for Florida Task Force 2 USAR Team who gave a pictorial presentation on urban search and rescue with emphasis on the World Trade Tower mission.

The next meeting of the LMS Working Group will be June 15, 2005 at 9:30 A.M. at the auditorium of Miami Children's Hospital.

The Working Group meeting was adjourned at approximately 11:45 A.M.

The Local Mitigation Strategy Working Group

Minutes of the June 15, 2005 Meeting

Held at Miami Children's Hospital, Miami, Florida

Municipalities in attendance:

Aventura
Bay Harbor Islands
Biscayne Park
Coral Gables
Florida City
Hialeah Gardens
Homestead
Key Biscayne
Medley
Miami
Miami Beach
Miami Gardens
Miami Springs
North Bay Village
North Miami Beach
Opa-locka
Palmetto Bay
Pinecrest
Sunny Isles Beach
Sweetwater
West Miami

Miami-Dade County departments in attendance:

Community Action Agency
Elections
Housing Agency
Park & Recreation
Port of Miami
Solid Waste Management
Transit Agency
Cooperative Extension Service
Emergency Management
Mosquito Control
Planning and Zoning
Public Works
Strategic Business Management

Others in attendance:

American Muslim Association
American Red Cross
Baptist Health South Florida
C3TS Engineering
CHARLEE of Dade County
Citrus Health Network
Florida Atlantic University
Florida International University
Florida Sea Grant
Hialeah Housing Authority
Inframetrix, LLC
Jackson Health System
Malcolm Pirnie, Inc.
Miami Children's Hospital
Miami-Dade County Public Schools
Mount Sinai Medical Center
Alliance for Aging
Baljet Environmental, Inc.
Barry University
Centurion Security Screens
Exeter Architectural Products, Inc.
Federal Alliance for Safe Homes
FL Division of Emergency Management
Florida Memorial University
H.J. Ross & Associates
Hurricane Protection Industries, Inc.
Jones Lang LsSalle
Loomis & Associates
Mercy Hospital
Miami Dade College
Miami Jewish Home & Hospital
Neighbors 4 Neighbors

The Miami-Dade Local Mitigation Strategy
June 30, 2007

PAWA Engineering	RO Architects – Planners
St. Thomas University	South Florida Regional Planning Council
South Florida Water Management District	Southwest Social Services
University of Florida	University of Miami
U.S. Small Business Administration	WFOR-CBS-4

Special Guest: Bill York, Federal Alliance for Safe Homes and Ilene Rubio, U.S. Small Business Administration

We welcome for the first time: Inframetrix, Malcolm Pirnie, Inc., Miami-Dade Elections Department

Prior to the start of the Working Group meeting, our host, Miami Children's Hospital served an excellent array of refreshments. Thank you, MCH.

The meeting called to order at approximately 9:30 A.M. by LMS Coordinator, Frank Reddish who introduce Tom Rosek, President and CEO of Miami Children's Hospital. Mr. Rosek welcomed the LMS Working Group to Miami Children's Hospital and gave the group and brief history of the hospital including details of the encapsulation project that was partially funded through the Local Mitigation Strategy. He presented Frank with a plaque as a thank you.

Frank reminded everyone that the next publication date for the Local Mitigation Strategy is in two weeks on June 30th and that everyone who hasn't done so should get their project list updates in as soon as possible. Frank also reminded everyone of the "rules" for submitting projects.

At this point Frank introduced John Hulsey of the South Florida Regional Planning Council who invited members of the Working Group to participate in a Special High Hazard Areas task force to discuss items such as evacuations and post disaster redevelopment.

The next speaker was Bill York from the Federal Alliance for Safe Homes – FLASH – who gave a presentation that outlined all the latest efforts of FLASH including excellent animated short subjects on various building issues. He also spoke about all the new *"Flashcard"* subjects. Thank you Bill and thank you FLASH.

Bill was followed by Ilene Rubio from the U.S. Small Business Administration (SBA) who spoke to us about the SBA disaster loan program. She outlined the program and informed everyone of the benefits to be gained and the eligibility requirements of the program. It was a very informative presentation and we thank Ilene very much.

Ricardo Alvarez of FIU and FAU informed the Working Group of the results of wind pressure test recently performed on Exeter Storm Shield perforated metal window protection. A window with the product was mounted in a mockup wall with sensors in place and subjected to hurricane force winds generated by an airboat. Preliminary analysis demonstrates

that there is a measurable decline in wind pressure behind the metal panel.

The final speaker in today's meeting was Alex Sera, health and medical coordinator of the Miami-Dade Office of Emergency Management. When a hurricane threatens, Alex coordinates the medical management facilities (MMF) of which Miami Children's Hospital is one. The MMF are shelters for those with certain medical problems that preclude them from using a general purpose evacuation center. Alex explained how the program works and how one participates.

The next meeting of the LMS Working Group will be September 14, 2005 at 9:30 A.M. at the auditorium of Miami-Dade Fire Rescue headquarters.

The Working Group meeting was adjourned at approximately 11:40 A.M. and was followed by a tour of the hospital, which looks really great. Thanks to Miami Children's Hospital for being our host today.

The Local Mitigation Strategy Working Group

Minutes of the September 14, 2005 Meeting

Held at Miami-Dade Fire Rescue Headquarters Auditorium, Doral, Florida

Municipalities in attendance:

Aventura
Biscayne Park
Coral Gables
Doral
Golden Beach
Hialeah Gardens
Key Biscayne
Miami
Miami Beach
Miami Gardens
Miami Shores
North Bay Village
North Miami
Pinecrest
Sunny Isles Beach
Sweetwater
West Miami

Miami-Dade County departments in attendance:

311 Center
Community Action Agency
Emergency Management
Fire Rescue
Housing Agency
Mosquito Control
Police
Public Works
Strategic Business Management
Aviation
Elections
Environmental Resources Management
General Service Administration
Library System
Planning and Zoning
Port of Miami
Solid Waste Management
Transit Agency

Others in attendance:

Baptist Health South Florida
Catholic Charities
Community Partnership for the Homeless
Eco-Urban, Inc.
Florida International University
Hialeah Housing Authority
Inframetrix, LLC
Jackson Health System
Mercy Hospital
Miami Christian School
Miami-Dade County Public Schools
Mount Sinai Medical Center
Phoenix Architectural Products
St. Lawrence School
South Florida Regional Planning Council
Barry University
CHARLEE of Dade County
Citrus Health Network
FL Division of Emergency Management
Florida Memorial University
Hurricane Protection Industries, Inc.
Jones Lang LaSalle
Malcolm Pirnie, Inc.
Miami Children's Hospital
Miami Dade College
Miami Jewish Home & Hospital
Neighbors 4 Neighbors
RO Architects – Planners
St. Thomas University
South Florida Water Management District

Southwest Social Services	University of Miami
URS Corporation	WFOR-CBS-4

We welcome for the first time: Eco-Urban, Inc., Miami-Dade Elections Department

Prior to the start of the Working Group meeting, our friends at Malcolm Pirnie, Inc. served an excellent array of refreshments. Thank you.

The meeting called to order at approximately 9:30 A.M. by LMS Coordinator, Frank Reddish. Frank opened by discussing the routine business of the Working Group.

He announced that Miami-Dade LMS Working Group Members have been awarded twenty of the twenty-two 2005 Pre-Disaster Mitigation Grant Program (PDM) grants awarded in the state of Florida. The big winners were Jackson Health System, the University of Miami, the Miami-Dade Police Department, Miami Children's Hospital, and the city of Miami with awards totaling over $14 million.

It was also announced that the 2006 PDM program will open for applications very soon and the deadline is midnight, Tuesday, January 17, 2006. It was mentioned that Hurricane Katrina (Disaster 1602) will generate funds for the Hazard Mitigation Grant Program (HMGP).

A reminder was given that the Community Budget Issue Requests for funding by the state legislature must once again be included in the LMS projects list.

Frank announced that a Presidential Emergency Declaration has been made to cover the costs to house or otherwise assist those displaced by Hurricane Katrina from Alabama, Louisiana and Mississippi – FEMA-3220-EM-FL.

At this point Frank introduced Mike Gambino of the Miami-Dade Department of Environmental Resources Management, the county's flood plane manager, who discussed the ongoing update to the Miami-Dade Flood Insurance Rate Maps. Draft maps will be released soon for public commentary. Mike also discussed the National Flood Insurance Program's Community Rating System and encouraged those municipalities that do not participate to do so.

Our next speaker was Dr. Hugh Gladwin from the Institute of Public Opinion Research at Florida International University. Dr. Gladwin presented historical data concerning evacuation for the recent hurricanes that have affected the United States.

Sam Rosania from Malcolm Pirnie, Inc. gave a presentation entitled "Effective Strategies for Disaster Preparation" that reviewed all of the recommended objectives in, as the title suggests, disaster preparation.

Clay Pacheco, vulnerability reduction coordinator from the Miami-Dade Office of Emergency Management, presented an overview of the Vulnerability Reduction Program and how it affects our community.

Finally, Frank Reddish gave a PowerPoint presentation showing the completed projects of the Miami-Dade Local Mitigation Strategy. These projects, which cost over $150 million, represent only those completed under the auspices of the LMS and do not included the Public Assistance Enhancements (406 mitigation) being done following Hurricane Irene and the No-Name storm of 2000 nor any mitigation done prior to the formation of the Local Mitigation Strategy; and there was a lot.

The next meeting of the LMS Working Group will be December 14, 2005 at the north campus of Miami Dade College.

The Working Group meeting was adjourned at approximately 11:40 A.M. and was followed by lunch, which was provided, like brunch was, by those excellent people at Malcolm Pirnie, Inc. Thank you, Malcolm Pirnie.

The Local Mitigation Strategy Working Group

Minutes of the December 14, 2005 Meeting

Held at the Lehman Theater, Miami Dade College, North Campus

Municipalities in attendance:

Aventura	Medley	North Miami
Bay Harbor Islands	Miami	North Miami Beach
Biscayne Park	Miami Beach	Opa-locka
Coral Gables	Miami Gardens	Palmetto Bay
Florida City	Miami Lakes	Pinecrest
Golden Beach	Miami Shores	Sweetwater
Homestead	Miami Springs	Virginia Gardens
Key Biscayne	North Bay Village	West Miami

Miami-Dade County departments in attendance:

Administrative Office of the Courts	Emergency Management
Finance	General Service Administration
Housing Agency	Police
Port of Miami	Public Works
Solid Waste Management	Transit Agency
Water & Sewer	

Others in attendance:

American Muslim Association	Baptist Health South Florida
Barry University	C3TS Consulting
Camillus House	Care Resource
Catholic Charities	Citrus Health Network
Coral Gables Hospital	Equal Opportunity Family Health Center
Exeter Architectural Products	Federal Emergency Management Agency
Fellowship House	FL Division of Emergency Management
Florida International University	Florida Memorial University
Greater Miami Jewish Community Services	Hebrew Homes Foundation
Hialeah Housing Authority	J.B. Mathews Company
Jackson Health System	Johnson & Wales University
Mercy Hospital	Miami Children's Hospital
Miami Dade College	Miami Jewish Home & Hospital
Mount Sinai Medical Center	Partnership for Recovery
RO Architects – Planners	St. Lawrence School
St. Thomas University	South Florida SPCA
Tylin-H.J.Ross	University of Miami
The Village	

We welcome for the first time: Administrative Office of the Courts, Camillus House, Care Resource, Coral Gables Hospital, Equal Opportunity Family Health Center, Fellowship House, Hebrew Homes Foundation, J.B. Mathews Company, Partnership for Recovery and, the South Florida Society for the Prevention of Cruelty to Animals.

Prior to the start of the Working Group meeting, our friends from Miami Dade College served coffee and bagels. We thank you.

The meeting was called to order at approximately 9:30 A.M. by LMS Coordinator, Frank Reddish. Frank opened by discussing the routine business of the Working Group.

He announced that Miami-Dade LMS Working Group members have been awarded twenty-three of the twenty-six 2005 Pre-Disaster Mitigation Grant Program (PDM) grants awarded in the state of Florida, an increase of three since our last meeting. The big winners were Jackson Health System, the University of Miami, the Miami-Dade Police Department, Miami Children's Hospital, and the city of Miami with awards totaling over $18 million.

It was also announced that the 2006 PDM program is open for applications. Because of the recent hurricanes, the deadline to send applications to the state of Florida is now February 3, 2006.

A reminder was given that the Community Budget Issue Requests for funding by the state legislature must once again be included in the LMS projects list.

The EMPA (Emergency Management Preparedness and Assistance Trust Fund) grants program window is open and bonus points are awarded to projects included in the Local Mitigation Strategy. Information on the EMPA program is available at www.floridadisaster.org. The EMPA window closes February 7, 2006.

At this point Frank noted that the update to the Miami-Dade Flood Insurance Rate Maps is complete and that the maps will be distributed to the municipalities for comment very soon. Everyone is encouraged to carefully check them out.

Ricardo Alvarez and Hugh Gladwin of Florida International University, along with Tim Reinhold of the Institute for Business and Home Safety, recently traveled to Cancun, Mexico at the invitation of the Mexican Government to study the effects of Hurricane Wilma. Ricardo gave a presentation on the effects of the hurricane on the structures of Cancun, especially the hotels and the beaches. Hugh followed with a presentation on the effects of the hurricane on the population of Cancun. Both presentations were excellent with much positive feedback.

Frank Reddish gave a short PowerPoint presentation highlighting those members of the LMS Working Group that have received multiple grant awards. This was followed by an in-depth discussion on the Hazard Mitigation Grant Program (HMGP). Included in the dis-

cussion was information on pending legislation that may impact HMGP and the Miami-Dade County mitigation program. One such item is a bill before congress to return the HMGP funding percentage to the original number of 15% from the current 7.5%. This would have a dramatic affect on our program; however, passage does not seem promising. Regardless of the percentage, the hurricanes of 2006 will generate a large amount of mitigation funds available to the LMS Working Group members.

Frank went over the Local Mitigation Strategy of Miami-Dade and all the rules and regulations that govern applicant and project eligibility. He also discussed ways that may increase an applicant's chances of success by improving the grant applications.

The meeting adjured at approximately 11:30 AM. The next meeting of the LMS Working Group will be at 9:30 A.M. on March 15, 2006 in the auditorium of the Miami Heart Institute, which is part of Mount Sinai Medical Center.

The Local Mitigation Strategy Working Group

Minutes of the March 15, 2006 Meeting

Held at the Miami Heart Institute, Mount Sinai Medical Center

Municipalities in attendance:

Bay Harbor Islands
Biscayne Park
Coral Gables
Doral
Florida City
Golden Beach
Hialeah
Hialeah Gardens
Homestead
Key Biscayne
Medley
Miami
Miami Beach
Miami Gardens
Miami Lakes
Miami Shores
Miami Springs
North Bay Village
North Miami
North Miami Beach
Opa-locka
Palmetto Bay
Pinecrest
South Miami
Sweetwater
Virginia Gardens
West Miami

Miami-Dade County departments in attendance:

Administrative Office of the Courts
Animal Services
Aviation
Community Action Agency
Elections
Emergency Management
Environmental Resources Management
Finance
Fire Rescue
General Service Administration
Housing Agency
Library System
Mayor's Office
Park & Recreation
Planning & Zoning
Police
Public Works
Seaport
Solid Waste Management
Strategic Business Management
Transit Agency
Vizcaya

Colleges & Universities in attendance:

Barry University
Florida International University
Miami Dade College
University of Miami
Florida Atlantic University
Florida Memorial University
St. Thomas University

Others in attendance:

American Red Cross
Better Way of Miami
Camillus House
Catholic Charities
Citrus Health Network
Baptist Health South Florida
C3TS Consulting
Care Resource
CHARLEE of Miami-Dade
Community Health of South Dade

Community Partnership for the Homeless
Family Resource Center
Fellowship House
Greater Miami Jewish Community Services
Hialeah Housing Authority
Jackson Health System
Little Haiti Center for Disaster Resources
Mercy Hospital
Miami Beach Community Health Center
Miami Dade County Public Schools
Mount Sinai Medical Center
Night Runners Mobile Crisis Services
Phoenix Architectural Products
Ryder System, Inc.
Solid Resources, Inc.
South Florida Water Management District
United Cerebral Palsy of Miami
WFOR-CBS-4
Economic Opportunity Family Health Ctr
Federal Emergency Management Agency
FL Division of Emergency Management
Hebrew Homes Foundation
Hurricane Protection Industries, Inc.
Lanza Batista and Peterson
Malcolm Pirnie, Inc.
Miami Children's Hospital
Miami Beach Housing Authority
Miami Jewish Home & Hospital
National Weather Service
Partnership for Recovery
RO Architects – Planners
St. Lawrence School
South Florida Regional Planning Council
Southwest Social Services
The Village

Special guests: From the Monroe County Local Mitigation Strategy, Rose Ann Hightower from the city of Marathon and Jerry O'Cathey from Monroe County Emergency Management

We welcome for the first time: Better Way, Comcast, Lanza Batista and Peterson, Miami Beach Community Health Center, Miami Beach Housing Authority and United Cerebral Palsy.

Prior to the start of the Working Group meeting, our friends from Mount Sinai Medical Center served an excellent continental breakfast. We thank you.

The meeting was called to order at approximately 9:40 A.M. by LMS Coordinator, Frank Reddish. Frank opened by discussing the routine business of the Working Group.

He announced that Miami-Dade LMS Working Group members have received their contracts for the 2005 Pre-Disaster Mitigation Grant Program (PDM) in an award amount totaling over $18 million.

It was also announced that the Hazard Mitigation Grant Program (HMGP) for Hurricane Dennis and Katrina are now open for applications. While Miami-Dade is a Tier 3 county for Dennis, we have a Tier 1 funds availability from Katrina of over $5 million. The deadline to send applications to the state of Florida is June 7, 2006. Details of the program and application forms may be found on-line at www.floridadisaster.org.

Erin Mohres, of the Miami-Dade Office of Emergency Management, gave a presentation on PODS – Points of Distribution – that are set up following a disaster event to dis-

tribute goods such as ice and water. Erin described what constituted the ideal POD and asked that anyone with a possibly suitable site to contact her.

Sherry Capers, also from the Miami-Dade Office of Emergency Management, gave a talk on Incident Command and the National Incident Management System (NIMS). While the incident command system has been around quite awhile, it is only recently being mandated by the federal government for emergency response to all types of situations and is tied to many funding sources as a requirement. Sherry suggested that all interested parties take the on-line courses offered by the FEMA Emergency Management Institute, especially ICS 100, ICS 200 and ICS 700.

Dr. Hugh Gladwin, director of the Institute for Public Opinion Research at Florida International University gave a presentation on warning messages and evacuation times and practices comparing Hurricanes Katrina in the Gulf Coast and Hurricanes Andrew, Opal and Floyd. He discussed which people are more likely to evacuate and others that are less likely. The size of the storm and whether landfall is during the day or night are also factors.

Rob Molleda, warning coordination meteorologist from the National Weather Service's Miami Forecast Office, told us what the differences are between what the National Hurricane Center and the Miami Forecast Office even though both are located in the same building on the FIU campus. The National Hurricane Center, also known as the Tropical Prediction Center, looks at hurricanes in the Atlantic, the Caribbean and the western Pacific from a global perspective while the Forecast Office studies what will happen here in South Florida.

Bryan Norcross, director of meteorology at CBS affiliate station WFOR, spoke about what the real message might be that the public gets from various sources such as television and the National Weather Service.

The meeting adjured at approximately 11:30 AM. The next meeting of the LMS Working Group will be June, 2006 at the Graham Center on the University Park Campus of Florida International University.

The Local Mitigation Strategy Working Group

Minutes of the June 14, 2006 Meeting

Held at the Graham Center, Florida International University

Municipalities in attendance:

Aventura
Biscayne Park
Doral
Florida City
Golden Beach
Homestead
Miami
Miami Beach
Miami Gardens
Miami Lakes
Miami Shores
North Miami
Opa-locka
Palmetto Bay
Pinecrest
Sunny Isles Beach
Sweetwater

Miami-Dade County departments in attendance:

Animal Services
Capital Improvements
Community Action Agency
Community & Economic Development
Cooperative Extension Service
Elections
Emergency Management
Environmental Resources Management
Enterprise Technology Services
Fire Rescue
Housing Agency
Library System
Park & Recreation
Police
Public Works
Seaport
Solid Waste Management
Strategic Business Management
Transit Agency
Vizcaya

Colleges & Universities in attendance:

Barry University
Florida International University
Johnson & Wales University
St. Thomas University
University of Miami
Florida Atlantic University
Florida Memorial University
Miami Dade College
University of Florida

Others in attendance:

American Red Cross
CHARLEE of Miami-Dade
Economic Opportunity Family Health Ctr
FL Department of Financial Services
Hialeah Housing Authority
Hurricane Protection Industries, Inc.
Lanza Batista and Peterson
Baptist Health South Florida
Citrus Health Network
Federal Emergency Management Agency
FL Division of Emergency Management
H.J Ross & Associates
Jackson Health System
Little Haiti Center for Disaster Resources

Mercy Hospital	Miami Bridge
Miami Beach Community Health Center	Miami Beach Housing Authority
Miami Children's Hospital	Miami-Dade County Health Department
Miami Lighthouse for the Blind	Mount Sinai Medical Center
Phoenix Architectural Products	RO Architects – Planners
South Florida Water Management District	United Cerebral Palsy of Miami
United State Department of Agriculture	URS Corporation

Special guests: Michael Schoder from OneStorm and Alina Torres and Maritza Sanchez of the Florida Department of Financial Services.

We welcome for the first time: Sylvia Perez and Cori Ornez from the Miami Lighthouse for the Blind.

Prior to the start of the Working Group meeting, our friends from Florida International University served an excellent continental breakfast. We thank you.

The meeting was called to order at approximately 9:40 A.M. by LMS Coordinator, Frank Reddish. Frank opened by announcing a contest. In 2004 the September LMS meeting was held between hurricanes Frances and Ivan; in 2005 the September LMS meeting was held between hurricanes Katrina and Rita. The contest is to guess which two hurricanes the September 2006 meeting of the LMS will fall between.

Frank discussed some of the routine business of the Working Group including letting everyone know that the HMGP awards for the 2004 storms are finally being issued. Frank assured the group that we would discuss Hurricane Wilma issues at the end of the program.

Frank then introduced Bruce Dunlap and Carolyn Robertson, our FIU hosts, who gave a presentation about the FIU process of joining the FEMA "Disaster Resistant Universities" (DRU) program. The DRU plan is nearing completion and the formal application to become a DRU should take place later this summer. Dr. Dunlap is the chairman of the FIU DRU advisory board and Carolyn is on the board and is also the assistant director of the International Hurricane Research Center at FIU. As a side note, Frank Reddish, the Miami-Dade LMS coordinator is also on the FIU DRU advisory board.

Mike Gambino, from Miami-Dade Department of Environmental Resources Management and the county's flood plain manager, spoke on flood plain management plans including the adaptation of the Miami-Dade LMS as a flood plain management plan that may be used by our municipalities. Mr. Gambino also brought a progress report on repetitive losses in the unincorporated areas of the County, that show what flood mitigation projects have been planned and implemented in repetitive loss areas. This report is available for review after the meeting and any other time by contacting Mr. Gambino at (305) 372-6473.

Hugh Gladwin, director of the Institute for Public Opinion Research at FIU, spoke of his trips to New Orleans and Cancun, Mexico to study the effects of Hurricanes Katrina and Wilma on the residents of those cities.

Alina Torres, from the Florida Department of Financial Services, spoke to the group about insurance issues following a hurricane or other event. She emphasized that the members of the Working Group must be knowledgeable about insurance as individuals as well as representatives of an organization.

Don Pybas, director of the Miami-Dade Cooperative Extension Service, gave a presentation on damages caused by trees that are uprooted during a hurricane. He announced that the annual workshop on the proper way to prune a tree for hurricane survivability will be held on June 28, 2006 at the Miami-Dade fairgrounds.

Mark Schoder of OneStorm explained his program that provides a free family emergency plan. The program is available on-line and is certainly worthwhile to look into: http://www.onestorm.org/ OneStorm will also assist companies in making custom plans for their employees.

Frank Reddish explained the rules that will be in effect for the Hurricane Wilma Hazard Mitigation Grant Program (HMGP) which is to be announced by the state of Florida on Friday, June 16th. The Tier 1 amount for Miami-Dade County is expected to be approximately $18.1 million.

Frank also explained that the LMS project list will close for publication June 30, 2006. Frank also went over the rules for submitting projects for inclusion in the Local Mitigation Strategy and reminded everyone that projects must be included in the list to be eligible for HMGP funding.

Finally, Frank explained the workings of the LMS priority matrix, which is required to be competed and submitted for every HMGP project that will be applied for under Wilma.

The LMS Working Group meeting adjourned at approximately 11:40 AM. The next meeting of the Working Group will be 9:30 A.M., September 13, 2006 at the city of Homestead's city hall.

The Local Mitigation Strategy Working Group

Minutes of the September 13, 2006 Meeting

Held at the city of Homestead City Hall

Municipalities in attendance:

Bay Harbor Islands	Homestead	Miami Springs
Biscayne Park	Key Biscayne	North Miami
Coral Gables	Miami	North Miami Beach
Doral	Miami Beach	Palmetto Bay
El Portal	Miami Gardens	Pinecrest
Florida City	Miami Lakes	Virginia Gardens
Hialeah	Miami Shores	

Miami-Dade County departments in attendance:

Capital Improvements	Police
Community Action Agency	Public Works
Elections	Seaport
Emergency Management	Solid Waste Management
Environmental Resources Management	Strategic Business Management
General Services Administration	Team Metro
Fire Rescue	Transit Agency
Library System	Vizcaya
Mosquito Control	

Colleges & Universities in attendance:

Barry University	Florida Atlantic University
Florida International University	Miami Dade College
St. Thomas University	University of Miami

Others in attendance:

American Red Cross	Alliance for Aging
Alliance for Human Services	Baptist Health South Florida
Biscayne National Park	Camillus House
Catholic Charities	CHARLEE of Dade County
Citrus Health Network	Economic Opportunity Family Health Ctr
Everglades & Dry Tortugas National Park	Federal Emergency Management Agency
FL Division of Emergency Management	Hialeah Housing Authority
Jackson Health System	Lanza Batista and Peterson
Little Haiti Center for Disaster Resources	Mercy Hospital

Miami Bridge	Miami Beach Community Health Center
Miami Beach Housing Authority	Miami Children's Hospital
Miami-Dade County Health Department	Miami Jewish Home & Hospital
Miami Lighthouse for the Blind	Mount Sinai Medical Center
Project H.O.P.E.	RO Architects – Planners
St. Lawrence School	Solid Resources, Inc.
South Florida Water Management District	U.S. Department of Agriculture
URS Corporation	WFOR-CBS-4

Special guests: Jonathan Cadwean-Evans from Loughborough University, UK and representatives from the three national parks headquartered in Miami-Dade County: Biscayne National Park, Everglades National Park and Dry Tortugas National Park

We welcome for the first time: The Alliance for Human Services and Project H.O.P.E.

Prior to the start of the Working Group meeting, our friends from the city of Homestead served an excellent array of donuts and coffee. We thank you.

The meeting was called to order at approximately 9:40 A.M. by LMS Coordinator, Frank Reddish. Frank introduced Curt Ivy, city manager of Homestead who welcomed everyone to Homestead and to the Homestead City Hall.

Frank gave an update for the "Pick the Hurricanes" contest. Remember that in 2004 the September LMS meeting was held between hurricanes Frances and Ivan; in 2005 the September LMS meeting was held between hurricanes Katrina and Rita. The contest was to guess which two hurricanes the September 2006 meeting of the LMS will fall between. Well, the pre-meeting storm was Ernesto which leaves four people still in the running: Willie Duckworth, Lorena Morrison, Remigio Pando and Kathy Erhman.

Frank Reddish noted that applications for the Hurricane Wilma Hazard Mitigation Grant Program (HMGP) must be sent by this Friday (September 15, 2006). The Tier 1 dollar amount for Miami-Dade County is expected to be approximately $18 million.

Bryan Norcross took a few minutes to tell the group about his new book,

Carlos Cardenas, from the Small Business Development Center at Florida Atlantic University, gave a presentation explaining what the Center does and how it works closely with the United Sates Small Business Administration.

Mark Buchbinder, executive director of the Alliance for Human Services then gave a presentation in two parts. The first one explained about his organization, which is the community-wide planning agency for human services charged with developing and updating a "Social Services Master Plan." The second part of his talk was to explain VOAD (Volunteer Agencies Active in Disasters) and what is being done to broaden the scope of VOAD in Miami-Dade County.

Finally, Frank explained the workings of the LMS priority matrix, which is required to be competed and submitted for every HMGP project that will be applied for under Wilma. It was recommended that if you have applied for an HMGP grant under Hurricane Katrina or one of the 2004 storms (Charley, Frances or Jeanne) but still do not have formal notification – a contract or letter from Florida Division of Emergency Management – then go ahead and apply again under Hurricane Wilma, DR-1609. Do not act based a telephone call from some one you don't know.

Frank apologized because two of our scheduled speakers were unable to attend.

The LMS Working Group meeting adjourned at approximately 11:05 AM. The next meeting of the Working Group will be 9:30 A.M., December 13, 2006 at Saint Thomas University in the Moot Court Room of the Law School.

The Local Mitigation Strategy Working Group

Minutes of the December 13, 2006 Meeting

Held at the St. Thomas University Law School

Municipalities in attendance:

Bay Harbor Islands	Homestead	North Miami
Biscayne Park	Key Biscayne	North Miami Beach
Coral Gables	Miami	Palmetto Bay
Doral	Miami Beach	Pinecrest
El Portal	Miami Gardens	South Miami
Golden Beach	Miami Lakes	Sweetwater
Hialeah	Miami Shores	West Miami

Miami-Dade County departments in attendance:

Aviation	Park & Recreation
Capital Improvements	Planning & Zoning
Community Action Agency	Police
Elections	Public Works
Emergency Management	Solid Waste Management
Environmental Resources Management	Strategic Business Management
General Services Administration	Team Metro
Fire Rescue	Transit Agency
Library System	Vizcaya
Mosquito Control	Water & Sewer

Colleges & Universities in attendance:

Barry University	Florida Atlantic University
Florida International University	Johnson & Wales University
Miami Dade College	St. Thomas University
University of Florida	University of Miami

Others in attendance:

American Muslim Association	Baptist Health South Florida
CHARLEE of Dade County	Citrus Health Network
Disaster Management, Inc.	Economic Opportunity Family Health Ctr
Health Law Institute	Hialeah Housing Authority
Hurricane Protection Industries, Inc.	IBM
Intercon ODS	Jackson Health System
Lutheran Services of Florida	Lanza Batista and Peterson

Mercy Hospital	Miami Beach Community Health Center
Miami Beach Housing Authority	Miami Children's Hospital
Miami-Dade County Health Department	Miami Jewish Home & Hospital
Miami Lighthouse for the Blind	Mount Sinai Medical Center
Phoenix Architectural Products	Project H.O.P.E.
RO Architects – Planners	St. Lawrence School
Solid Resources, Inc.	South Florida Regional Planning Council
South Florida Water Management District	United Cerebral Palsy
URS Corporation	WFOR-CBS-4

We welcome for the first time: IBM and Intercon ODS

Prior to the start of the Working Group meeting, our friends from St. Thomas University served an excellent array fruits, pastries and coffee. We thank them.

The meeting was called to order at approximately 9:30 A.M. by LMS Coordinator, Frank Reddish. Frank introduced Beatrix Robinson, vice president of planning for St. Thomas University who welcomed everyone to the university and to the Moot Court Room of the Law School.

Frank gave an update for the "Pick the Hurricanes" contest, namely, no one won because we didn't have any hurricanes.

Frank Reddish noted that applications for the FY 2007 Pre-Disaster Mitigation (PDM) grant program must be at the state of Florida no later than January 12, 2007 and that the 2007 cycle for the Emergency Management Preparedness and Assistance (EMPA) Trust Fund program is also open.

Then Hugh Gladwin, director of the Institute of Public Opinion Research at Florida International University discussed the hurricane evacuation issue for Hurricane Katrina in New Orleans. According to Dr. Gladwin the full evacuation went rather well regardless of how it was presented in the media.

Steve Luis, director of information technologies and business relations at the Florida International University College of Engineering and Computing explained a new program under development called "BCIN: Business Continuity Information Network for Rapid Disaster Recovery" which is designed to assist businesses in the aftermath of a disaster, especially a major hurricane. The program is endorsed by IBM, Office Depot, Florida Power & Light and the Miami-Dade Office of Emergency Management & Homeland Security.

Next, Diego Barrero from Intercon ODS gave a talk on the importance of backing up important data to a distant location rather than to another computer or service at the same location as the user's site.

Evan Skornick, a senior planner with the South Florida Water Management District

announced that the FY 2007 cycle for the Community Budget Issue Request (CBIR) funding is now open and will close January 12, 2007. Application forms will be sent out to everyone during the next couple of days.

Finally, Adrian Hunsberger, an entomologist from the Miami-Dade Cooperative Extension Service and the University of Florida's Institute of Food and Agricultural Sciences gave a talk on Africanized honey bees, which have appeared in Miami-Dade County in growing numbers. She discussed the differences between the Africanized bees and the regular bees and pointed out that the best and perhaps only way to deal with an attack is to run and keep running. She stated that one should not attempt to rescue someone who is being attacked unless you are thoroughly trained. Most might know Adrian from the column she writes that appears in the Miami Herald Home and Garden section on Sundays.

The LMS Working Group meeting adjourned at approximately 11:30 AM. The next meeting of the Working Group will be 9:30 A.M., March 14, 2007 at University of Miami's Rosenstiel School of Marine and Atmospheric Science on Virginia Key.

The Local Mitigation Strategy Working Group

Minutes of the March 14, 2007 Meeting

Held at the University of Miami Rosenstiel School of Marine and Atmospheric Sciences

Municipalities in attendance:

Bay Harbor Islands
Coral Gables
Doral
El Portal
Golden Beach
Hialeah
Hialeah Gardens
Homestead
Key Biscayne
Miami
Miami Beach
Miami Gardens
Miami Shores
Miami Springs
North Miami
North Miami Beach
Palmetto Bay
Pinecrest
South Miami
Sunny Isles Beach
Sweetwater
West Miami

Miami-Dade County departments in attendance:

Aviation
Community Action Agency
Consumer Services
Emergency Management
Environmental Resources Management
General Services Administration
Fire Rescue
Library System
Mosquito Control
Police
Public Works
Seaport
Solid Waste Management
Strategic Business Management
Team Metro
Transit Agency
Vizcaya
Water & Sewer

Colleges & Universities in attendance:

Barry University
Johnson & Wales University
St. Thomas University
University of Miami
Florida International University
Miami Dade College
University of Florida

Others in attendance:

Alliance for Human Services
Baptist Health South Florida
Brevard County LMS
Citrus Health Network
Dutko Worldwide
FPL
American Muslim Association
Beckman Coulter, Inc.
CHARLEE of Dade County
Community Partnership for the Homeless
FEMA
Hialeah Housing Authority

H.J. Ross & Associates
IBM
Mercy Hospital
Miami Bridge
Miami-Dade County Health Department
Mount Sinai Medical Center
Phoenix Architectural Products
South Florida Regional Planning Council
Tylin International
WFOR-CBS-4
Hurricane Protection Industries, Inc.
Jackson Health System
Miami Beach Housing Authority
Miami Children's Hospital
Miami Dade County Public Schools
National Weather Service
Solid Resources, Inc.
South Florida Water Management District
URS Corporation

We welcome for the first time: AdaptiveDB, LLC, Beckman Coulter, Inc., Dutko Worldwide and Patton Harris Rust & Associates and also our special guest, Ann Fosburr, the LMS coordinator for Brevard County.

Prior to the start of the Working Group meeting, our friends from the University of Miami served an excellent array of fruit, pastries, coffee and juice. We thank them.

The meeting was called to order at approximately 9:30 A.M. by LMS Coordinator, Frank Reddish. Frank introduced Ken Capezzuto, director of Environmental Health & Safety and the University of Miami's representative to the LMS who, in turn, introduced our host, Larry Peterson, associate dean of the Rosenstiel School. Dr. Peterson welcomed the members of the LMS Working Group and showed a very informative presentation about the Rosenstiel School and what is done there.

Frank Reddish noted that the United States Congress has appropriated $100,000,000 for the Pre-Disaster Mitigation (PDM) grant program for the 2008 fiscal year. It is still uncertain when the grant cycle will open. He also mentioned that the HMGP awards for the 2004 storms is finally almost concluded.

Then, Hugh Gladwin, director of the Institute of Public Opinion Research at Florida International University discussed hurricane evacuation research and its value to the community.

Next, Brett Bowen, a former FEMA environmentalist now with the engineering firm of Patton Harris Rust & Associates, demonstrated a new software that has been developed by the company AdaptiveDB, known as *PA Tracker*, which allows the user to track FEMA Public Assistance Project Worksheets and other disaster related paperwork in a totally automated manner. Brett gave a full demonstration of every aspect of the program.

Rob Molleda, warning coordination meteorologist from the National Weather Service's Miami Forecast Office gave a presentation showing the difference in the services provided by his office and those provided by the National Hurricane Center, which happens to be located in the same building as the Forecast Office. Basically, Rob explained that the National Hurricane Center (also know as the Tropical Prediction Center) is responsible for the

"big" picture or what hurricanes do on a global level while the Miami Forecast Office explores how a hurricane will affect the area of South Florida mainly Broward, .Miami-Dade, Monroe and Palm Beach counties.

Finally, Mike Gambino of the Miami-Dade Department of Environmental Resources Management and the flood plain manager for Miami-Dade County announced that the new Flood Insurance Rate Maps or FIRMs would be ready in June of this year. The municipalities should check them thoroughly to make sure they are accurate. He also announced that the Association of State Flood Plain Managers was offering a course that could earn one the designation of *Certified Flood Plain Manager*.

The LMS Working Group meeting adjourned at approximately 11:00 AM. followed by a tour of the Rosenstiel School including the grounds and the docks were their research vessel was docked. During the tour the group was able to observe windstorm protection being installed on one of the buildings that was funded through the Pre-Disaster Mitigation grant program and the Local Mitigation Strategy. The Rosenstiel School received just under $500,000 to harden the entire marine campus. The tour was conducted by Ramon Alfonso, the Rosenstiel School's facilities manager.

Following the tour, several of the LMS Working Group members dined in "The Commons," the fine restaurant located on the Rosenstiel campus.

The next meeting of the Local Mitigation Strategy Working Group will be 9:30 AM, June 13, 2007 at the city of Miami Beach's city council chambers located on the 3rd floor of the Miami Beach City Hall at 1700 Convention Center Drive, Miami Beach.

The Local Mitigation Strategy Working Group

Minutes of the June 13, 2007 Meeting

Held at the City of Miami Beach City Hall

Municipalities in attendance:

Aventura	Homestead	Opa-locka
Biscayne Park	Key Biscayne	Palmetto Bay
Coral Gables	Miami	Pinecrest
Cutler Bay	Miami Beach	South Miami
Doral	Miami Gardens	Surfside
Golden Beach	Miami Shores	Sweetwater
Hialeah	North Bay Village	West Miami
Hialeah Gardens	North Miami	

Miami-Dade County departments in attendance:

Animal Services	Public Works
Community Action Agency	Seaport
Emergency Management	Solid Waste Management
Environmental Resources Management	Strategic Business Management
Finance	Team Metro
Fire Rescue	Transit Agency
Housing Agency	Vizcaya
Mosquito Control	Water & Sewer
Planning & Zoning	

Colleges & Universities in attendance:

Barry University	Florida International University
Johnson & Wales University	Miami Dade College
St. Thomas University	University of Miami

Others in attendance:

Alliance for Aging	Alliance for Human Services
American Red Cross	Baptist Health South Florida
Catholic Charities	The Children's Trust
Citrus Health Network	Community Partnership for the Homeless
Economic Opportunity FHC	FEMA
FPL	Hialeah Housing Authority
H.J. Ross & Associates	The Home Depot
Hurricane Protection Industries, Inc.	IBM
Mercy Hospital	Jackson Health System

Miami Children's Hospital
Miami-Dade County Health Department
Mount Sinai Medical Center
Patton Harris Rust & Associates
South Florida Regional Planning Council
United Cerebral Palsy
U.S. Small Business Administration
Wal-Mart Stores
Miami Christian School
Miami Dade County Public Schools
National Weather Service
Phoenix Architectural Products
South Florida Water Management District
URS Corporation
Victim Services Center

We welcome for the first time: Wal-Mart Stores and welcome back after a long absence, the town of Surfside

Prior to the start of the Working Group meeting, our friends from the city of Miami Beach served an excellent array of fruit, pastries and coffee. We thank them.

The meeting was called to order at approximately 9:50 A.M. by LMS Coordinator, Frank Reddish. Frank introduced Don Druitt, Emergency Management Coordinator for the city of Miami Beach who welcomed the members of the LMS Working Group and gave an informal introduction to the city and to the LMS.

Frank Reddish noted that the United States Congress has appropriated $100,000,000 for the Pre-Disaster Mitigation (PDM) grant program for the 2008 fiscal year. It is still uncertain when the grant cycle will open but it could be any time now. He also mentioned that the Hazard Mitigation Grant Program (HMGP) awards for the 2004 storms have not yet concluded and the 2005 storms are just now being addressed. Since there was no declared disaster event for Miami-Dade County, there will be no HMGP program for 2006.

Frank then introduced Ricardo Alvarez, a professor at the School of Construction Management at Florida International University. Professor Alvarez gave a presentation on the implications of climate change on building design. He stated that the two components of climate change that will most affect South Florida are sea level rise and the increase in temperature.

Ricardo also noted that the state's enhanced mitigation plan is now up for review by FEMA. A mitigation committee has been formed to make sure everything is in order.

Then, Hugh Gladwin, director of the Institute of Public Opinion Research at Florida International University discussed hurricane evacuation research and why many people will not or do not evacuate even when they are told to do so by emergency managers. He discussed actual evacuation patterns in Hurricanes Andrew, Katrina and Floyd.

Next, Miguel Gonzalez, Chief of the Lender Relations Division of the United States Small Business Administration (SBA) gave a presentation on the many services provided by SBA following a disaster event such as a hurricane or tornado. He discussed SBA loan programs and which individuals and business are eligible and under what circumstances they are

eligible. He also discussed how SBA works with FEMA and insurance companies to cover shortfalls such as deductibles.

The United States Congress has voted to give 100% reimbursement for Hurricane Wilma for the Public Assistance program. Eligible applicants should automatically receive the additional funding for FEMA Project Worksheets that have already been submitted. Note that this does not apply to the HMGP program where the federal share is set at 75% under Title 44 of the Code of Federal Regulations.

Frank Reddish led a discussion of an issue that has come up concerning a proposed change in Rule 9G-22 of the Florida Administrative Code. Rule 9G-22 is the rule that establishes that the county Local Mitigation Strategy working groups would be the entities that determine how HMGP funds are spent within each county. The new proposal would mandate that over 50% of all HMGP funds must be used to mitigate individual residences regardless of the wishes of the LMS working group in that county. Currently, the LMS working group could, if it wished, use 100% of the HMGP funds for mitigating individual residences. However, it is not forced to so because some distant entity determines that it knows what is best for that county. As an example, if a small, rural county has but one hospital and the county LMS determined to use HMGP funds to harden the hospital then it could do so only if there is enough funding left over after the residences are mitigation. In other words, a facility serving the entire county would go unprotected because houses belonging to a handful must be protected first. The Miami-Dade LMS Working Group voted unanimously to oppose the issue and agreed to jointly sign a letter so stating. Most members agreed to also independently oppose the matter through their lobbyists and legislators.

The LMS Working Group meeting adjourned at approximately 11:15 AM.

The next meeting of the Local Mitigation Strategy Working Group will be 9:30 AM, September 12, 2007 in the auditorium of the **Miami Heart Institute** located at 4701 N. Meridian Avenue, Miami Beach. The Miami Heart Institute is part of Mount Sinai Medical Center.

The Local Mitigation Strategy

Miami-Dade County, Florida

For further information please contact:

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