

Hazard Mitigation Strategy for Federal Disaster #1527: **2004 Southern Michigan Severe Storms / Flooding**

The objective of mitigation is to reduce future disaster losses through acquisition and relocation of hazard-prone property, structural retrofitting, mitigation education of community officials and residents, wise land use and land development practices, prudent use of resources and funding, and encouragement of National Flood Insurance Program (NFIP) implementation and compliance, to name just a few measures that have been successful. To assist communities in Michigan with mitigation efforts so that the environment is safer and has a reduced risk from disaster damage, the following objectives must be accomplished:

The initial mitigation opportunities and recommendations identified during the damage assessment process in many of the affected communities include the following (not listed in any particular order):

- Acquisition and relocation or retrofitting and floodproofing (including elevation) of substantially damaged structures located in flood prone areas.
- Applying the best methods to properly anchor and/or elevate or floodproof fuel oil tanks or propane gas tanks at homes and businesses.
- Floodproofing roads, bridges, culverts and other public facilities located in floodplains or other flood prone areas.
- Armoring erosion prone streambanks to prevent sedimentation and to otherwise ensure maximum hydraulic capacity is maintained.
- Community outreach and education to promote flood proofing methods in residential and commercial structures, focusing on elevation and/or relocation of utilities and mechanical systems in basements or other vulnerable areas. Resource packets of information about flood mitigation will be put together and mailed out to 858 state and university libraries in Michigan. The information packets will be publicized by press release so that the public knows the information is available for review. Additionally, a FEMA flood proofing flyer will be posted on the Emergency Management Division web site with a link to additional information on FEMA's web site.
- Completion of all-hazard mitigation plans as required under the federal Disaster Mitigation Act of 2000.
- Retrofitting of public and private facilities to reduce future wind damage through the application of proper structural wind engineering measures or construction of "safe rooms" and shelters.
- Vegetation management, with an emphasis on the establishment and/or improvement of community urban forestry measures.
- Community outreach and education to promote wind resistant building practices, the construction of "safe rooms" and community shelters, and proper urban forestry techniques and practices. Resource packets of information about wind mitigation will be put together and mailed out to 858 state and university libraries in Michigan. The information packets will be publicized by press release so that the public knows the information is available for review.

Financial resources, including disaster assistance programs such as the HMGP, and funds from other state and federal programs, will be maximized:

- If the minimum threshold for the Federal Highway Administration (FHWA) Emergency Relief Program is met, inspectors will make every effort to include appropriate mitigation measures in restoring damaged Federal-Aid roads and bridges.
- Under the Small Business Administration (SBA) disaster loan program, low interest loans will be made available for repairs and mitigation upgrades to damaged structures.
- Under the Natural Resource Conservation Service (NRCS) Emergency Watershed Protection Program, appropriate mitigation measures will be implemented to remove any and all threats (urgent and compelling) resulting from sudden watershed impairment. In addition, supplemental funding will be requested to implement appropriate mitigation measures at other damaged, impacted or threatened sites (not considered urgent and compelling) in the absence of funding under the FEMA Public Assistance Grant Program.
- Under the U.S. Army Corps of Engineers (USACE), Continuing Authorities Program (CAP) and other post-flood damage and shoreline erosion (Section 14) mitigation/protection authorities and programs, appropriate mitigation may be implemented to assist the affected local governments in reducing or eliminating future damage and impacts caused by flooding and/or shoreline erosion.
- At the State's discretion, up to seven percent (7%) of available HMGP funds will be earmarked to facilitate the development of local hazard mitigation plans in the declared disaster area and in other communities in the region.
- Under the HMGP, funds will be earmarked as appropriate to acquire and relocate substantially damaged structures located in flood prone areas.
- Under the Pre-Disaster Mitigation Program—Competitive (PDMP-C), funding opportunities may be made available to support mitigation efforts in the declared area and elsewhere throughout the State of Michigan.

- Under the Flood Mitigation Assistance Program (FMAP), funds will be made available to eligible applicants as appropriate (at the discretion of the State) to support mitigation planning as well as projects designed to acquire and demolish / relocate repetitive flood loss structures under the National Flood Insurance Program (NFIP).
- Voluntary organizations (i.e., Red Cross, Salvation Army, etc.) will be requested to provide (as appropriate and in keeping with their organizational mission) financial and other resources to promote and facilitate the implementation of mitigation measures in individual damaged homes.
- Long-term mitigation will be ensured through comprehensive and prudent public health and safety measures (i.e., floodproofing utilities, mechanical systems, and fuel oil / propane tanks at residences and businesses), local building practices, and floodplain management.

The mitigation strategy for promoting and achieving hazard mitigation in this disaster will be focused on the following areas (not listed in any particular order):

- Public health and safety measures.
- Coordination with the FEMA HMGP and ONA, the FHWA Emergency Relief Program, the NRCS Emergency Watershed Protection Program, and the USACE Advance Measures Program and other flood repair and mitigation authorities.
- Community administered floodproofing measures.
- Mitigation project development.
- National Flood Insurance Program promotion and flood hazard identification.
- Promoting disaster resistant communities through the Pre-Disaster Mitigation Program, Flood Mitigation Assistance Program, the NFIP Community Rating System, and through local mitigation plan development.
- Community mitigation education and outreach.

Public health and safety measures

- Assist community officials and residents in identifying appropriate floodproofing solutions for furnaces, water heaters, fuel oil and propane tanks, utilities and other mechanical systems that will ensure public health, safety and general welfare. FEMA Mitigation Disaster Assistance Employees (DAEs) can provide written guidance materials directly to individual homeowners through community outreach at Disaster Recovery Centers (DRCs), through the media, through the dissemination of information packets being made available at 858 Michigan libraries, or through other appropriate avenues.
- Assist community officials and residents in identifying appropriate structural wind engineering and vegetation management solutions that will reduce future wind damage to homes, businesses and community facilities. FEMA Mitigation DAEs can provide written guidance materials directly to individual homeowners through community outreach at Disaster Recovery Centers (DRCs), through the media, through the dissemination of information packets being made available at 858 Michigan libraries, or through other appropriate avenues.
- The MHMCC will meet on August 18, 2004 to discuss issues associated with this disaster and possible opportunities to mitigate threats to public health and safety through the grant programs administered by the EMD/MSP. The MHMCC has a representative from the Michigan Department of Environmental Quality (MDEQ) floodplain management program. Public health and safety issues pertaining to the flood damages in individual homes and businesses related to this disaster can be discussed and suggestions taken from the MDEQ representative. The MHMCC has a representative from the Michigan Department of Natural Resources (MDNR), which administers the statewide urban forestry program. Public safety issues related to tree damage within public rights-of-way from this disaster can be discussed and suggestions taken from the MDNR representative. The MHMCC can also solicit suggestions pertaining to structural wind engineering measures from the Michigan Department of Labor and Economic Growth (MDLEG), which oversees the statewide implementation of the State Construction Code.

Coordination with the other active relief programs

- Coordinate with FHWA inspectors to ensure that appropriate mitigation measures are being considered for damaged Federal-Aid roads and bridges being repaired under the FHWA Emergency Relief Program. This is best achieved by having the Michigan Department of Transportation (MDOT) Emergency Manager monitor and evaluate the decisions being made by FHWA inspectors in the field. If mitigation measures are not being considered, the FEMA Deputy FCO for Mitigation should contact the FHWA and request that mitigation be considered where appropriate and cost-effective.
- Coordinate with NRCS inspectors to ensure that appropriate mitigation measures are being considered on all sites being restored under the NRCS Emergency Watershed Protection Program and other activated programs. This is best achieved by having state mitigation staff monitor and evaluate the decisions being made by NRCS inspectors in the field and central office program staff in Lansing. If mitigation measures are not being considered, the FEMA Deputy FCO for Hazard Mitigation should contact the NRCS and request that mitigation be considered where appropriate and cost-effective.

- Coordinate with the U.S. Army Corp of Engineers (USACE) on the possible development of flood control projects within or benefiting the declared area.

Community-administered floodproofing and structural retrofitting measures

- Invite communities to establish and administer a locally based floodproofing program that would provide public education on proper floodproofing techniques, and provide grants to individual home and business owners wishing to retrofit their structures to reduce future flood damage. This is best achieved by encouraging communities to develop such a program by participation in the local hazard mitigation planning process. Appropriate projects identified in the plan (or in some instances, for participation in 1527-DR-MI HMGP, FY04 FMAP, or FY04/05 PDM-C, before the plan is complete) may be proposed under future grant cycles of the HMGP, FMAP, and PDM-C. The program could be implemented and administered by an existing local department, such as the building, planning or public works department, who would be responsible for disbursing grants, monitoring work, providing technical assistance, and providing program status to the State.

Note: floodproofing methods could include but are not limited to the following:

- ✓ Acquisition and demolition / relocation of floodprone structures.
 - ✓ Elevation of floodprone structures above the base flood level (1% chance of occurrence).
 - ✓ Elevation and secure mounting (as appropriate) of basement fuel oil tanks to prevent tank ruptures during flooding.
 - ✓ Elevation and secure mounting (as appropriate) of backyard propane tanks to prevent tank ruptures during flooding.
 - ✓ Installation of standpipes, sewer backflow (check) valves, or revised plumbing to include an ejector or sump pump for basements.
 - ✓ Elevation of electrical system components including service panels, meters, switches, and outlets that may easily be damaged by floodwater.
 - ✓ Elevation or relocation of HVAC equipment, water heater, and washer / dryer.
- Invite communities to establish and administer a locally based structural retrofitting program that would provide public education on proper wind engineering techniques and components, and provide grants to individual home and business owners wishing to retrofit their structures to reduce future wind damage. This is best achieved by encouraging communities to develop such a program by participation in the local hazard mitigation planning process. Appropriate projects identified in the plan may be proposed under future grant cycles of the HMGP, FMAP, and PDM-C. The program could be implemented and administered by an existing local department, such as the building, planning or public works department, who would be responsible for disbursing grants, monitoring work, providing technical assistance, and providing program status to the State.

Mitigation project development

Information from the PDA, the Michigan Hazard Mitigation Plan (MHMP) and local mitigation plans the NFIP, and other state agencies will be used to help identify the communities that should be contacted concerning the possibility of mitigation opportunities under the HMGP and other state and federal programs.

- FEMA Mitigation DAEs will review the PDA damaged structure inventory to identify structures that may have been substantially damaged. Those structures will be (at the State's discretion) specifically targeted for mitigation assistance.
- Acquisition of substantially damaged structures will be the top priority mitigation project type under the HMGP for this disaster. Based on information provided by local units of government on substantially damaged structures, state mitigation staff and/or FEMA Mitigation DAEs will coordinate with communities to determine interest in the HMGP and, where appropriate, help to develop project applications for acquisition of substantially damaged structures. The MHMCC and state mitigation staff will immediately review and evaluate proposed mitigation projects for the acquisition of substantially damaged structures and submit them to FEMA for funding consideration under the HMGP for this disaster.
- The MHMCC will coordinate with the Michigan Economic Development Corporation, the Michigan State Housing Development Authority, and other appropriate state agencies concerning communities with a substantial investment of state financial resources, in order to determine if additional mitigation partnering opportunities are available.
- Upon identification of communities particularly suitable for mitigation, federal and state time and resources permitting, local officials will be contacted to determine the level of local interest in developing a partnership to reduce the community's future risk from flooding and severe storms. FEMA Mitigation DAEs and/or state mitigation staff will conduct site visits with interested communities, at the State's discretion and within available personnel resources, to gain commitment in developing projects and implementing appropriate mitigation measures. The DAEs and/or state mitigation staff will function as a technical resource to the community to help identify problems that should be addressed by each mitigation measure, and financial assistance opportunities through federal, state and private sector programs.

- For HMGP funds not allocated to projects for the acquisition of substantially damaged structures, the MHMCC and state mitigation staff will review, evaluate, and prioritize proposed mitigation projects and select those projects that will be submitted to FEMA for funding consideration under the HMGP for this disaster.
- To ensure that the State has appropriate administrative mechanisms in place to implement the HMGP in a timely manner, FEMA will make an initial review of Michigan’s existing HMGP State Administrative Plan (approved for 1413-DR-MI) to identify areas that may require an update due to recent changes in federal laws, regulations, rules, policies, and program guidance. FEMA should also consider recent audit findings within the region that may be important to consider during the plan update.

NFIP promotion and flood hazard identification

- FEMA Mitigation DAEs and the Michigan Department of Environmental Quality (MDEQ) will review the NFIP participation status of the declared counties in order to determine if additional NFIP promotion opportunities exist.
- Six of the listed affected counties (Berrien, Kent, Macomb, Oakland, Ottawa, and Wayne) are currently undergoing county wide flood insurance map reviews for updating and new map production under Michigan's business plan for the current FEMA Map Modernization initiative. Six other affected counties (Cass, Genesee, Livingston, Sanilac, St. Clair, and St. Joseph) are identified as priority counties for conducting flood insurance reviews, studies and updates. Agency coordination will occur through consultation with the NFIP State coordinator when flood damaged areas are identified and that information should be considered during the current and future county wide studies under the Map Modernization initiative. Additional coordination between FEMA and the state will occur when flood damaged areas are identified and need to be considered during plan development activities under the federal Disaster Mitigation Act of 2000, project development activities under the HMGP, FMAP, and PDMP-C, and disaster rebuilding efforts that comply with minimum state and federal flood damage prevention standards.
- FEMA will identify (with MDEQ input) priorities for possible enforcement actions regarding floodplain management under the NFIP.
- MDEQ, EMD/MSP and FEMA will review repetitive flood loss data for potential acquisition, elevation or floodproofing sites.
- There are four communities located in the 19-county disaster area that have special flood hazard areas identified but either have withdrawn from or are not participating in the NFIP. Those communities are: Village of Stevensville (Berrien County); Township of LaGrange (Cass County) – withdrawn from program; Village of Silver Creek (Cass County) – withdrawn from program; Village of New Lothrop (Shiawassee County). The FEMA Mitigation DAEs and the MDEQ will contact these communities to inquire about their interest in joining the NFIP.

Promoting disaster resistant communities through the PDMP-C, FMAP, CRS and mitigation plan development

- State mitigation staff and the MHMCC will coordinate the use of PDMP-C funds, as appropriate, to promote mitigation plan development and project development in the declared counties to reduce future risk from flooding and severe storms.
- State mitigation staff and the MHMCC will coordinate the use of FMAP funds, as appropriate, to promote mitigation plan development and project development in the declared counties to reduce future risk from flooding.
- The MDEQ will coordinate and promote community participation in the NFIP Community Rating System program to reduce future risk from flooding.
- State mitigation staff and the MHMCC will coordinate and promote the development of local mitigation plans (that are compliant with the federal Disaster Mitigation Act of 2000 and the FMAP) to reduce future risk from flooding and severe storms.
- State mitigation staff and the MHMCC will coordinate the development of the Michigan Hazard Mitigation Plan (MHMP) and ensure that it is compliant with the federal Disaster Mitigation Act of 2000 to reduce the State’s overall risk from flooding, severe storms and other natural hazards.
- As staff time, resources, and DAE expertise allows, FEMA Mitigation DAEs will support the state and local mitigation planning efforts by collecting / compiling risk assessment data for flooding and severe storm hazards for the 19-county declared area, sufficient to meet the risk assessment planning requirements for state mitigation plans found in Sections 201.4 / c / 2 / ii and iii of the Disaster Mitigation Act of 2000.
- For the purposes of promoting hazard mitigation in general, FEMA Mitigation DAEs will develop mitigation “success stories” associated with this disaster. The FEMA Mitigation DAEs will work with state mitigation staff to identify communities in the declared area that have implemented mitigation measures in the past which may have prevented damage during this disaster. The DAEs will then interview local officials and/or visit those communities to collect relevant information and write success stories about the mitigation activities.

Community mitigation education and outreach

- FEMA Mitigation DAEs should consider partnering with the SBA to provide information on the NFIP and appropriate floodproofing techniques for residential and commercial structures. This could be done at the DFO and/or through one-on-one meetings with applicants and community officials.

- State mitigation staff and the MHMCC will continue to conduct coordination meetings and provide technical assistance on the federal Disaster Mitigation Act of 2000 planning requirements and mitigation plan development with regional and local planning agencies.
- If a mitigation component is established within the Disaster Field Office (DFO), the EMD/MSP will supply staff, as appropriate and within personnel limitations, to support the DFO mitigation efforts and to monitor disaster-related mitigation activities.

The State of Michigan recommends the following work priorities for the FEMA Mitigation DAEs assigned to this disaster (listed in order of priority):

Immediate Priorities (to be completed or substantially completed by 7/30/04)

- Review the PDA damaged structure inventory to identify structures that may have been substantially damaged. Mail letters to those affected communities regarding immediate substantial damage determinations.
- Review Michigan's existing HMGP State Administrative Plan (approved for 1413-DR-MI) to identify areas that may require an update due to recent changes in federal laws, regulations, rules, policies, and program guidance. FEMA should also consider recent audit findings within the region that may be important to consider during the plan update.

High Priorities (to be completed or substantially completed by 8/31/04, after the Immediate Priorities have been addressed)

- Provide guidance to applicants, other community residents, and community officials (through DRCs, the media and other appropriate avenues) that identifies and promotes mitigation measures for individual homes, businesses and community facilities to reduce or eliminate future flood and wind damage. Topics should include:
- If possible, collect and compile risk assessment data for flooding and severe storm hazards for the 19-county declared area, sufficient to meet the risk assessment planning requirements for state mitigation plans found in Sections 201.4/c/2/ii and iii of the Disaster Mitigation Act of 2000.
- Upon identification of communities particularly suitable for mitigation, contact local officials to determine the level of local interest in developing a partnership to reduce the community's future risk from flooding and severe storms. Conduct site visits with interested communities to gain commitment in developing projects and implementing appropriate mitigation measures.

With the assistance of the Michigan Department of Environmental Quality, promote NFIP participation among non-participating communities located within the declared area.