

Hazard Mitigation Strategy

FEMA-4195-DR-MI

Designated September 25, 2014 (Individual Assistance and Public Assistance): Macomb, Oakland and Wayne Counties and Hazard Mitigation statewide



FEMA



HAZARD MITIGATION STRATEGY
OBJECTIVES AND PRIORITIES
FEMA-4195-DR-MI
Declared September 25, 2014

Declaration

On September 25, 2014, President Barack Obama issued a major disaster declaration for the State of Michigan, making available federal Individual Assistance (IA) and Public Assistance (PA) to eligible applicants in Macomb, Oakland and Wayne counties due to severe storms and flood damage that occurred between August 11 and August 13, 2014. In addition, federal Hazard Mitigation Grant Program (HMGP) funding was made available statewide. On October 3, 2014, a FEMA/Michigan Joint Field Office (JFO) was established in Warren, Michigan.

Purpose

This joint Hazard Mitigation Strategy identifies action items and plans for activities following the disaster declaration for FEMA-4195-DR-MI. It provides the steps for implementing short- and long-term cost-effective solutions to reduce statewide disaster damage from future events and provides guidance to the JFO and state hazard mitigation staff. The priorities listed here are consistent with Michigan Hazard Mitigation Plan, approved by FEMA on April 23, 2014, as a Standard State Mitigation Plan under the Disaster Mitigation Act of 2000.

Background of Flooding Event

Flash flooding was caused by a low pressure storm system that moved across southeast Lower Michigan in the early evening hours of August 11, 2014. This storm system produced historically heavy rainfall – four to six inches in less than four hours in parts of Macomb, Oakland, and Wayne counties – resulting in severe flash flooding and widespread sewer back-ups in many communities. Officials from the National Weather Service indicate that existing one-day rainfall totals were broken or nearly broken in several areas. For example, at 4.57 inches of rainfall, metropolitan Detroit experienced its second highest rainfall total ever recorded in a single day, falling just short of the all-time record of 4.74 inches set back on July 31, 1925.

According to the National Weather Service, the City of Dearborn in Wayne County received the highest rainfall total for the storm, 6.31 inches, during a 12-hour period. In the City of Southfield in Oakland County, 6.25 inches of rainfall occurred during a 12-hour period, while in the City of Berkley, also in Oakland County, 6.00 inches of rainfall occurred in a 9-hour period. In the City of Troy in Oakland County, the rainfall total for the storm measured 5.46 inches. In the City of Warren in Macomb County, particularly hard-hit in this flood disaster, 5.20 inches of rainfall was recorded in a 13-hour period. Three other Macomb County communities (i.e., the cities of Fraser and Rochester, and Shelby Township) exceeded four inches of rainfall for the storm. In Wayne County, a total of 14 communities, including the aforementioned City of Dearborn, received four inches or more of rainfall during the storm. The City of Dearborn

Heights, immediately adjacent to the City of Dearborn, was also particularly hard-hit, at 4.97 inches of rainfall over a 12-hour period.

Across the area, the heavy rainfall overwhelmed creeks and tributaries, municipal and county storm drains, and pumping stations for area roadways; caused flash flooding and sewer back-ups that flooded thousands of homes and businesses; stranded hundreds of motorists in up to head-deep water; and forced the closure of major sections of area interstate and state highways for several days. The National Weather Service reported that at least three bodies of water in the impacted counties flooded in the hours and days immediately after the August 11 heavy rainfall: the lower Rouge River in the City of Dearborn in Wayne County; Ecorse Creek in the City of Dearborn Heights, also in Wayne County; and the Clinton River in Clinton Township and the City of Sterling Heights, in Macomb County. In fact, the Clinton River set an all-time record with a crest of 20.8 feet on August 12, eclipsing the previous record crest of 20.0 feet set 67 years ago on April 5, 1947.

Damage to flooded homes and businesses was particularly severe. The damage typically resulted from a few inches to several feet of water in basements, to water above the first finished floor causing significant damage to foundations and other structural elements. In addition, water on the first finished floor damaged interior finishes and personal property. Many basements incurred substantial damage to the foundation walls and footings, to electrical and mechanical systems, to finished living spaces, and to personal property. A significant number of the homes that incurred substantial basement damage had finished essential interior living spaces in the basement, such as an occupied bedroom, a bathroom, or in some cases the home's only kitchen and food storage area.

Additionally, flood damage caused by sewer back-ups into basements is not covered under a standard flood insurance policy. Rather, a separate sewer back-up rider must be purchased (where available) as part of a homeowner's insurance policy. Unfortunately, damage surveys indicate that more than 80-percent of households in the affected area do not have such coverage and therefore are left to absorb whatever losses they incurred out-of-pocket. For most affected households, sewer back-ups resulting from the historic rainfall caused the majority of the flood damage to their homes. Although some households may potentially be eligible for limited financial compensation for sewer back-up damage under Michigan's Governmental Liability of Negligence Act (1964 Public Act 170, as amended, MCL 691.1401 to 691.1419), the amount received, in most cases, will not begin to cover the entirety of their losses.

Damage surveys indicated that many homes are in areas that have experienced repetitive flooding, and this factor coupled with the age and condition of the dwellings means that many flooded homes may have incurred damage that meets or exceeds federal and state substantial damage criteria. An instructive example of this was found in the City of Dearborn Heights in Wayne County, where a damage survey conducted by a team of Michigan Department of Environmental Quality and Federal Emergency Management Agency flood specialists identified an area of older homes particularly hard-hit by flooding of Ecorse Creek caused by the unusually heavy rainfall. This team identified at least 84 damaged homes in one neighborhood that exceed federal and state substantial damage criteria for flood-damaged structures, meaning that these homes will likely have to be demolished or entirely rebuilt to meet Michigan Construction Code and floodplain protection provisions. Unfortunately, the percentage of households in this area with flood insurance is low (just slightly over 40-percent), and the area was characterized as

lower income where most residents are older and have limited financial resources. Although this was just one neighborhood in one community, this situation is not uncommon throughout the three-county area. Without significant assistance from the federal government, these and other households like them will experience severe financial hardship for years as they attempt to recover from this flood disaster.

Although numerous local jurisdictions in the three-county area were severely impacted by the flooding and over 118,000 homes and businesses were damaged or affected in some significant way, damages were particularly concentrated in the cities of Warren, Sterling Heights and Centerline, and Clinton Township in Macomb County; the cities of Oak Park, Royal Oak and Southfield in Oakland County; and the cities of Dearborn, Dearborn Heights and Detroit in Wayne County. These areas had particularly notable concentrations of public and/or private damage. For example, in the City of Warren in Macomb County, nearly 23,000 homes incurred damage, representing approximately 40-percent of the city's housing stock. In the City of Dearborn, over 7,600 homes incurred damage, representing approximately 20-percent of that city's nearly 38,000 housing units. The City of Detroit suffered damage to 7-percent of its housing stock. Similar concentrations of damage were experienced in the other aforementioned communities.

Strategic Goals

Goals, objectives and tasks have been established for this disaster for Hazard Mitigation Branch Management: Floodplain Management and Insurance (Goal 1); Grants and Planning (Goal 2); Community Education and Outreach (Goal 3); and Hazards and Performance Analysis (Goal 4).

The goals of the FEMA Hazard Mitigation Branch are based on the current State Hazard Mitigation Plan, the conditions in the State and the priorities of the Federal Coordinating Officer (FCO), and are as follows:

- GOAL 1: FEMA will provide technical assistance to the State of Michigan and communities for post-disaster National Flood Insurance Program (NFIP) compliance and insurance issues and opportunities
- GOAL 2: FEMA will partner with the State of Michigan to assist communities in the development of cost-effective and technically feasible mitigation projects
- GOAL 3: FEMA will promote effective hazard mitigation through community education, outreach, training, and coordination with the public and private sectors
- GOAL 4: FEMA will partner with the State to provide technical assistance on Hazards Performance Analysis

HAZARD MITIGATION BRANCH MANAGEMENT

FEMA Hazard Mitigation Branch Management advises the FCO on all hazard mitigation issues, manages the Hazard Mitigation Branch operation in the JFO, provides Federal leadership by forging partnerships to provide effective planning and recovery strategies at the State, Tribal and local levels, and assures the public gets timely and effective information to mitigate the effects of future hazard events.

I. FLOODPLAIN MANAGEMENT AND INSURANCE

Long-term mitigation can best be achieved through consistent enforcement of comprehensive local floodplain management regulations. Thorough enforcement of local floodplain regulations and aggressive hazard mitigation projects for acquisition of flood prone structures have significantly reduced the exposure to flood damage. In support of local officials' important work, Michigan Department of Environmental Quality (MDEQ) and FEMA will provide technical assistance and training to affected communities in meeting NFIP requirements. FEMA targeted outreach will be conducted to reduce myths about flood insurance availability and coverage. FEMA workshops and outreach materials will also be developed to educate insurance agents about basement flooding and provide information about the differences in coverage between flood insurance, homeowners insurance and sewer backup insurance.

GOAL 1: FEMA will provide technical assistance to the State of Michigan and communities for post-disaster NFIP compliance and insurance issues and opportunities.

Objective 1.1 – FEMA will assist state and local efforts regarding post-disaster NFIP compliance

- FEMA will conduct NFIP outreach to non-participating communities
- FEMA will provide technical assistance and training regarding floodplain regulations, Elevation Certificates and Substantial Damage to state, local and tribal agencies
- FEMA will provide technical assistance and training on FEMA's Elevation Certificate to local surveyors and engineers
- FEMA will provide insurance data and analysis, as requested, to state, local and tribal agencies
- FEMA will facilitate the coordination between the State and the Association of State Floodplain Managers (ASFPM) to pursue field-deploying L273 "Managing Floodplain Development Through the NFIP" to train local floodplain administrators post-JFO
- FEMA will advertise State's October 22, 2014, webinar *Understanding the National Flood Insurance Program and Local Floodplain Building Code Requirements* in the designated area and to staff of other branches within the Joint Field Office and Disaster Recovery Centers
- FEMA will provide FEMA, NFIP and Michigan-specific floodplain management training for State and JFO staff

Objective 1.2 – FEMA will target insurance outreach to the needs of affected individuals and communities in the affected area.

- FEMA assist the State in providing targeted outreach to insurance agents and the public in the designated area. This activity will include agent visits and an agent workshop on basement flooding and updates to the NFIP from the Homeowner Flood Insurance Affordability Act

- FEMA will provide or develop outreach materials addressing how compliance with NFIP regulations and rating factors impact flood insurance premiums

II. GRANTS AND PLANNING

The State of Michigan has an approved Multi-Hazard, Standard Mitigation Plan (approved on April 23, 2014) as outlined in Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Stafford Act). Per the guidelines established under Section 404 of the Stafford Act, the State is eligible to receive funding under the Hazard Mitigation Grant Program (HMGP). This funding is based on 15 percent of the total estimated federal disaster assistance and is available to all eligible applicants statewide. All submitted project applications will be rated and ranked by Michigan based on the State's funding priorities.

GOAL 2: FEMA will partner with the State of Michigan to assist communities in the development of cost effective and technically feasible mitigation projects.

Objective 2.1- FEMA will implement the HMGP with the Michigan State Police/Emergency Management and Homeland Security Division (MSP/EMHSD)

State Responsibilities

- Submit the Disaster Administrative Plan*
- Provide Technical assistance on HMGP for local officials using the 2013 Hazard Mitigation Assistance Unified Guidance
- Perform the initial review of the HMGP applications to ensure that all information and documentation is provided
- Submit SF 424 and Assurances for the Disaster*

*Needs to be submitted/approved before any obligations occur

FEMA Responsibilities

- Review and approve the Disaster Administrative Plan
- Provide technical assistance to the State, as necessary
- Provide State with 30-day and 6-month estimate, and 1-year lock-in amounts
- Review and approve eligible and complete applications submitted by the State

Objective 2.2- FEMA will assist the State in solicitation of quality Hazard Mitigation Assistance applications from eligible communities by conducting training, seminars and technical assistance.

- FEMA will provide the initial estimate of State Management Costs to MSP/EMHSD, who will submit a request for State Management Costs in accordance with 44 CFR Section 207

- FEMA will provide consultation to MSP/EMHSD regarding appropriate elements from The Sandy Recovery and Improvement Act (SRIA) of 2013, directing FEMA to streamline HMGP activities and implement the program in a timelier manner. Some specific SRIA items to be incorporated into the administrative plan include:
 - Program Administration by State (PAS)
 - Advance Assistance
 - Promote streamlining of HMGP
 - HMGP ceiling changes
- At the request of the State of Michigan, FEMA will coordinate the delivery of the full suite of available HMA Grants Management training, post JFO, to allow for more complete HMGP applications to be submitted to the State
- MSP/EMHSD will solicit Notices of Intent (to Apply) from eligible applicants throughout the state. MSP/EMHSD will review HMGP Notices of Intent
- FEMA and MSP/EMHSD will work together to explore what actions would be eligible as a 5% HMGP state-designated priority application to update the Michigan Repetitive Loss data base with property specific data including pictures, first floor elevations and base flood elevations
- FEMA will provide support to MSP/EMHSD in establishing processes and procedures for soliciting interest from eligible sub-applicants to apply for HMGP and HMA funds
- FEMA will provide assistance to the MSP/EMHSD with application process from development through submission

Objective 2.3 – FEMA in coordination with the State will conduct outreach and prioritize planning projects for designated communities regarding Hazard Mitigation planning.

- FEMA and MSP/EMHSD will contact jurisdictions statewide lacking current Hazard Mitigation plans, or at risk of current plans expiring, to encourage participation in the planning process
- FEMA and MSP/EMHSD will determine the best method of providing technical assistance to those counties in the State without plans, or that have plans that will expire within the next 2 years
- FEMA and MSP/EMHSD will visit those communities in the designated area that do not have plans, or that have plans that will expire within the year, to provide technical assistance as needed
- FEMA and MSP/EMHSD will provide application information for Hazard Mitigation planning to county emergency managers statewide

III. COMMUNITY EDUCATION AND OUTREACH (CEO)

Individuals and communities must understand the hazards that pose a risk to them and the options for reducing those risks in order to make informed decisions not only about mitigation but also about where to live or purchase property. Individuals are often unaware of the risks they face.

When disasters occur, local jurisdictions face numerous challenges. One of these challenges is creating an awareness of how to properly recover from and mitigate against future disaster events. The FEMA Hazard Mitigation CEO team can assist communities with this challenge by designing and implementing an intensive public awareness and education campaign geared toward disaster-specific issues.

GOAL 3: FEMA will promote effective hazard mitigation through community education, outreach, training and coordination with the public and private sectors.

Objective 3.1 – FEMA will explore various methods of delivery of the mitigation message to the citizens of Michigan.

- FEMA will capture and develop Best Practice story opportunities including those based on past Hazard Mitigation projects implemented in designated areas that performed well
 - The development and dissemination of Hazard Mitigation Best Practices is identified as an objective in the Michigan Hazard Mitigation Plan (Hazard Mitigation objective 4.12, p. 600).
 - FEMA will provide completed Best Practices for the State to use in the update of Publication 106a, Michigan Hazard Mitigation Success Stories
- FEMA will identify and provide Hazard Mitigation resources and/or staff to support functional needs groups
- FEMA Hazard Mitigation will coordinate with FEMA Individual Assistance to provide a briefing for Michigan Voluntary Organizations Active in Disasters to incorporate mitigation methods and techniques in rebuilding and repair of damaged structures

Objective 3.2 – FEMA will offer outreach information on insurance and mitigation measures that may be taken to minimize damage from future disasters at commonly-visited locations during the recovery period.

- FEMA will provide staffing and resources to deliver hazard mitigation, NFIP and information on sewer back-up insurance rider policies to visitors at all Disaster Recovery Centers, Outreach locations and special events
- FEMA will develop and implement a plan to staff mitigation tables at various home improvement and other retail stores and special events across the disaster area to make additional contact with residents in impacted areas

IV. HAZARD PERFORMANCE ANALYSIS (HPA)

The FEMA HPA Section provides engineering, economic and scientific analysis in support of hazard mitigation programs. It is the focal point for data collection and analysis in support of hazard mitigation initiatives for all disaster services.

FEMA HPA will utilize a quantitative Best Practice methodology that was developed in a previous disaster and will apply that model to produce a Best Practice report within

Michigan. This report will successfully demonstrate the value inherent in mitigating various structures, prone to flooding or sewage back-up, through elevation, acquisition or other appropriate flood proofing measure. The documentation of successful mitigation projects and practices implemented after a disaster may encourage communities and individuals to implement new mitigation efforts to prevent future damages.

GOAL 4: FEMA will partner with the State to provide technical assistance on Hazards Performance Analysis.

Objective 4.1 – FEMA will coordinate with Public Assistance (PA) in providing and advocating technical assistance on Section 406 Mitigation Opportunities for implementation on all appropriate PA Projects.

- FEMA will determine if the State is interested in a Section 406 Mitigation Briefing as part of the PA Training at the JFO
- FEMA will support PA in the identification and review of mitigation opportunities on PA Projects

Objective 4.2 – FEMA will provide technical assistance on issues related to floodplain mapping and the mitigation Best Practices initiative as needed

- FEMA will attend public meetings, in coordination with the State, where the potential exists for questions concerning floodplain mapping or other engineering concerns
- As requested, FEMA will support potential state and local governments with trainings, workshops and/or meetings to encourage adoption/use of techniques to reduce sewer back-up, basement flooding and/or road flooding
- FEMA Hazard Mitigation will disseminate an information project sheet to state and federal JFO officials and Region V programs regarding newly awarded grants with the MDEQ for Community Action Engagement for urban reduction of flood risk in City of Detroit
 - This initiative is a 2-year pilot funded under FEMA's Risk MAP Program

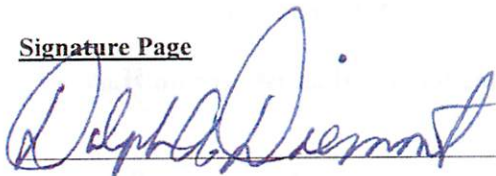
Objective 4.3 – FEMA will compile record collection to include high water marks, or other scientific data where gathered by local, state and federal agencies during the flood event.

- FEMA will develop a process to collect and review this technical data for any possible future use

SUMMARY

The mitigation objectives and activities identified in this Hazard Mitigation strategy will be implemented through a strong FEMA/State partnership dedicated to preventing loss of life and property to the citizens of Michigan. The FEMA-4195-DR-MI JFO staff will provide a smooth transition to Region 5 office personnel at the point when coordination with MSP/EMHSD is optimal.

Signature Page



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Federal Coordinating Officer

FEMA-4195-DR-MI

10/16/14

Date




Captain Chris A. Kelenske, State Coordinating Officer

FEMA-4195-DR-MI

10/24/14

Date



Christine Stack, Mitigation Division Director

U.S. Department of Homeland Security

FEMA Region V

10/15/2014

Date