

Chapter 10. Implementation

10.1. Background

The culmination of the Calumet City *Natural Hazards Mitigation Plan* is the series of action items presented in this chapter. The goals and priorities of the overall program are outlined here. Specific activities pursuant to the goals and priorities are detailed in Sections 10.2 and 10.3. These sections assign recommended projects and deadlines to the appropriate City offices.

Goals: The overall directions can be summarized under the four goals established by the Planning Committee and listed in Chapter 3:

1. Protect the people of Calumet City, their homes and their health, from the dangers of natural hazards.
2. Place a priority on protecting public services, including critical facilities, utilities and schools.
3. Inform residents and businesses about the hazards they face and the ways they can protect themselves and their properties from those hazards.
4. Protect open space, wetlands and natural areas for the public to enjoy and to prevent inappropriate development in hazardous areas.

General recommendations appear at the end of Chapters 4 – 9 for each of the six mitigation strategies. This chapter converts those general recommendations to specific action items, for the most part following the same order as Chapters 4 – 9.

Priorities: The Planning Committee reviewed and discussed many things that can be done to protect people and property from the natural hazards introduced in Chapter 2. It was recognized that priorities must be set so the City's resources can focus on those activities that will do the most good. Accordingly, four factors were used to prioritize what should be pursued:

1. **The greatest threats:** Efforts should focus on those hazards that present the greatest threats to the City. Chapter 2 reviewed the City's vulnerability to the eight hazards and concluded in section 2.13:
 - a. Of the eight natural hazards faced by Calumet City, the 100-year flood has the potential to cause the greatest amount of property damage over time. Earthquakes and extreme heat pose little threat to structures.
 - b. The 100-year flood and tornadoes have the greatest economic impact from a single occurrence. However, over the long run, local drainage problems, winter storms, severe storms, and extreme heat are more economically disruptive.
 - c. Extreme heat poses the greatest threat to life and health in an average year. Winter storms are the second greatest threat.

- d. While less frequent, the impact of overbank flooding from the Little Calumet River in the southern portion of the City can have a much greater impact on property and the economy of Calumet City. Although much of the floodplain is protected by a levee, it would be overtopped by a 100-year flood and would cause over \$45 million in direct property damage.
 - e. People have died during area floods and other natural disasters. All of the hazards have short and long-term impacts on health and mental health. A mitigation program should address safety, health and mental health aspects in addition to protecting buildings, streets, and public facilities.
 - f. Except for overbank flooding and sewer backup, the City's exposure to these hazards has not been reduced. A mitigation program should include measures to protect new construction from increased damage expected from disasters.
2. **Appropriate measures:** The recommended action items need to be appropriate for the type of threat presented. For example, Chapter 2's analysis notes that the major threat presented by floods is property damage, so property protection and preventive measures, such as retrofitting and code enforcement should be directed toward those hazards.

On the other hand, the threat presented by heat and winter storms is a life safety one. Appropriate measures for life safety threats are emergency warning and public information activities.

3. **Costs and benefits:** The Committee considered the costs and relative benefits of alternative measures. These factors are listed in the description of each action item. It is desirable to list costs in terms of dollars, but most of the recommendations involve staff time rather than the purchase of equipment or services that can be readily measured in dollars.

In many cases, benefits, such as lives saved or future damage prevented, are hard to measure in dollars, so narrative discussions are provided. In all cases, the Committee concluded that the benefits (in terms of reduced property damage, economic harm prevented lives saved, and/or health problems averted) outweighed the costs for the recommended action items.

4. **Affordability:** Not only must the benefits exceed the costs, the projects must be affordable given the City's available resources and staffing. Projects such as acquiring and clearing large floodprone areas were discarded because they did not meet these criteria.

Based on these factors, the Committee prioritized the possible activities that could be pursued. Some possible projects, such as replacing the Little Calumet River levee with a higher concrete floodwall, were not pursued because they did not meet the above criteria. The result is 14 action items that address the major hazards, are appropriate for those hazards, are cost-effective, and are affordable.

Action items: Fourteen action items are recommended in the following pages. Each action item starts with a short description. The next four subheadings identify

- the agency responsible for implementing the action item,
- the deadline for accomplishing the action item,
- the cost of implementation, and
- the benefits of implementing the action item.

All of the action items can be tied to the above listed goals and the recommendations in Chapters 4 – 9. These relationships are shown in the table on the next page. The recommendations and the discussions in the earlier chapters provide more background and direction on each action item.

Section 10.2 addresses general program items and projects. Section 10.3 lists the public information action items that form the public information program strategy credited separately by the Community Rating System.

Many action items that were in the 1999 floodplain management plan are not included here because they have been completed, such as drafting the stream dumping ordinance and applying to the Community Rating System. Some action items from 1999 are still relevant, including the flood response plan and the levee evaluation.

Floodplain Management Committee: Several action items refer to the Floodplain Management Committee. A plan is worthless if there is no instrument for ensuring that it is carried out. Accordingly, the Floodplain Management Committee should continue to monitor the implementation of this *Plan*, as it did with the 1999 floodplain management plan. The Committee is to report to the City Council on implementation and recommend revisions to this *Plan* as needed.

10.2. Program Action Items

1. Floodplain Management Committee: The Floodplain Management Committee will continue its work as a permanent advisory body to the City Council. It will:

- Act as a forum for hazard mitigation issues,
- Disseminate hazard mitigation ideas and activities to all participants,
- Review proposed changes to ordinances and mitigation programs,
- Monitor implementation of this *Plan*, and
- Report on progress and recommended changes to the City Council.

The Committee's primary duty is to collect information and report to the City Council, the participating offices, and the public on how well this *Plan* is being implemented. The Floodplain Management Committee will be, in effect, Calumet City's hazard mitigation conscience, reminding the staff and City Council that they are all stakeholders in the plan's success. The 1999 resolution creating the Committee charges it with seeing the *Plan* carried out and recommending changes that may be needed. While it has no formal powers, its work should act as a strong incentive for the offices responsible for the action items to meet their deadlines.

Action Items, Goals, and Recommendations

Action Item	Goal 1. Protect people, homes and health	Goal 2. Protect public services and utilities	Goal 3. Inform residents and businesses	Goal 4. Protect natural areas	Chapter – Recommendation	Deadline
10.2. Program Action Items						
1. Floodplain Management Committee	X	X	X	X		Annual report
2. Program Reviews	X	X			4-1, 4-2	December 2005
3. Floodplain Regulations	X	X		X	4-1, 6-1	After FEMA CAV
4. Mobile Home Regulations	X				4-3	December 2005
5. Mitigation Audits	X	X	X		5-2	July 2006
6. Mitigation Rebates	X				5-3	Ongoing
7. Urban Forestry	X	X	X	X	6-2	After FY06 budget
8. Flood Response Plan	X	X			7-1, 7-2	After new FIRM
9. Critical Facilities Response Plans	X	X			7-3	July 2006
10. Levee Evaluation	X	X			8-1	After new FIRM
11. Drainage System Maintenance	X	X		X	8-2, 8-3, 8-4	July 2006
10.2. Public Information Action Items						
12. Flood Insurance Rate Map	X	X	X		7-1, 8-1, 9-1	Ongoing
13. Outreach Projects	X	X	X	X	5-1, 5-4, 6-3, 7-4, 8-5, 9-2, 9-3, 9-4	Ongoing
14. Special Public Information Projects	X		X	X	4-4, 5-1, 9-5, 9-6	Annual report

This table relates the 14 action items to the 4 goals of this *Plan*. The goals are stated in full on pages 3-4 and 10-1. The table also shows the relation between the action items and the recommendations at the end of chapters 4 – 9. For example action item 2, Program Reviews, supports recommendations 1 and 2 at the end of chapter 4. It is scheduled to be initiated by December 2005.

Responsible office: Staff support for the Committee will be provided by the Department of Inspectional Services.

Deadline: The progress reports are due on the anniversary of the date this *Plan* is adopted by the City Council. An annual evaluation of the plan's implementation is required for credit under the Community Rating System. A five year update is required for continuing credit of this *Plan* under the Community Rating System and FEMA's mitigation funding programs.

Cost: Staff time

Benefits: Those responsible for implementing the various recommendations have many other jobs to do. A monitoring system helps ensure that they don't forget their assignments or fall behind in working on them. The *Plan* will be evaluated in light of progress, changed conditions, and new opportunities.

2. Program Reviews: The Department of Inspectional Services will undergo three reviews of its hazard mitigation activities over the next few years:

- A review of its building code program to improve its BCEGS classification,
- A community assistance visit (CAV) by FEMA, and
- The cycle verification visit for the Community Rating System.

Each of these visits will evaluate regulatory language and procedures followed to manage new construction, building additions and improvements, and development in the floodplain. The results of the reviews are to be reported to the Floodplain Management Committee. The Department will also provide its conclusions and recommendations for changes based on the reviews.

Responsible office: Department of Inspectional Services

Deadline: Request the BCEGS visit by December 2005. The timing of other two visits are set by FEMA.

Cost: Staff time

Benefits: These third party evaluations of the City's activities identify where changes in standards and procedures are needed and provide ideas for improvement. The City's program will be strengthened and the cost of property insurance in Calumet City may be reduced through better BCEGS and/or CRS classifications.

3. Floodplain Regulations: The Floodplain Management Committee will review changes in the floodplain and stormwater management ordinances proposed by FEMA after its program review and will consider revising the wetlands jurisdiction with input from the Department of Inspectional Services. Recommendations will be made to the City Council for adoption.

Responsible office: Floodplain Management Committee, Department of Inspectional Services

Deadline: Within six months of FEMA's community assistance visit.

Cost: Staff time

Benefits: This will bring the City's floodplain management regulations into compliance with FEMA criteria, an important step to getting a new Flood Insurance Rate Map adopted. The wetlands revision will remove confusion over the City's jurisdiction, as was experienced recently.

4. Mobile Home Regulations: The Department of Inspectional Services will draft appropriate regulatory language to give staff clear authority over mobile home installation and mobile home and mobile home park maintenance. The language should specify any additional requirements (above state standards) that the City should include.

Responsible office: Department of Inspectional Services

Deadline: December 2005

Cost: Staff time. As the City already has a rental reinspection program, this new authority will not add much to existing workloads. The City should charge a fee for inspections, such as when a mobile home is resold or rented to a new tenant, to cover some or all of the inspection costs.

Benefits: This regulatory revision will keep City staff abreast of new installations and will allow the City to act quickly when there are problems with new or existing homes.

5. Mitigation Audits: The Department of Inspectional Services will visit selected properties, conduct a review of the hazards they are exposed to, and recommend appropriate property protection measures. Short reports will be provided to the property owners. The priority properties to be reviewed are (in order):

- Buildings in the repetitive loss area,
- City owned properties, and
- Interested critical facilities.

Responsible office: Department of Inspectional Services, with support from the floodplain management consultant.

Deadline: Review the repetitive loss area by July 2006. Critique and revise the procedures before visiting other sites.

Cost: Staff time

Benefits: Reducing repetitive losses is important to prevent deterioration of the repetitively flooded neighborhood and is a priority for FEMA to help stabilize the National Flood Insurance Program. Keeping City buildings and critical facilities operational during and after a natural disaster is vital to public health and safety.

This action item would provide a summary for each facility on its exposure to damage by natural hazards and a general blueprint of what could be done to reduce that exposure. It is hard to put a dollar value on potential damage averted, but damage to even one facility could exceed \$100,000 in repair costs and have a ripple effect on other people and property.

6. Mitigation Rebates: The Department of Inspectional Services will continue to administer the rebate program to encourage and assist property owners with protecting their properties from sewer backup.

Responsible office: Department of Inspectional Services

Deadline: The current rebate program is ongoing. The review by the Committee will be included in the 2006 annual progress report.

Cost: The City should continue to budget \$30,000 for the rebate program.

Benefits: Under the current 50% rebate level, for every dollar spent by the City, \$2 will be spent to protect a property from damage. Other communities have found this approach to be a real cost saver compared to public works projects to control drainage or replace sewer pipes.

7. Urban Forestry: The City will investigate starting a formal urban forestry program that qualifies Calumet City to become a Tree City USA. To qualify for Tree City USA, the City must meet four standards, which are explained in more detail on page 6-9:

- A tree board or department
- A tree care ordinance
- A community forestry program with an annual budget of at least \$2 per capita
- An Arbor Day observance and proclamation

Responsible agency: Department of Public Works

Deadline: Incorporate the expense into the fiscal year 2006 budget and apply after the budget is approved.

Cost: \$2 per capita, i.e., \$70,000. Note that this is not all new money as some of this amount is already spent each year on tree maintenance.

Benefits: In addition to improving the City's appearance, an active urban forestry program will address the major problems caused by winter storms and high winds – loss of power, telephone and cable services and damage to vehicles and buildings due to falling trees or limbs.

8. Flood Response Plan: With support from the City Engineer and the floodplain management consultant, the ESDA Coordinator will prepare a flood stage forecast map and new flood response procedures. The procedures will identify specific actions to be taken at different predicted flood levels of the Little Calumet River.

Responsible office: ESDA Coordinator

Deadline: A flood stage forecast map will be prepared within six months of a locally available GIS system that includes flood levels and topography (see action item #12). The flood response plan will be prepared within 12 months of having an accurate and effective flood stage forecast map.

Cost: Staff time

Benefits: A flood response plan that has been carefully prepared, that utilizes all available data on the hazard and its potential impact, and that is regularly exercised will greatly improve local disaster response capabilities. The result will be a lowered threat to people and property.

9. Critical Facilities Response Plans: The ESDA Coordinator will work with the managers of interested critical facilities to provide advice and assistance on developing emergency response plans for the appropriate hazards. This work will also include City-owned properties and those repetitive loss properties where the audits (action item #5) determine that a flood response plan would be beneficial.

Responsible office: ESDA Coordinator

Deadline: Offers to help facilities will be sent out by July 2006. Work for floodprone facilities should wait until the flood stage forecast map and flood response procedures are completed (action item #8).

Cost: Staff time

Benefits: As with the audits and the flood response plan, this work will better prepare the facilities to avoid damage from natural hazards. By focusing on the critical and public facilities, properties that are vital for life safety are given priority for protection assistance.

10. Levee Evaluation: The City Engineer will review the condition of the Little Calumet River levee and identify what is needed to bring it up to its design protection level. He will also compare the protection level with the new post-Thornton Transitional Reservoir flood elevations to see if the levee can be improved to a level recognized by the Flood Insurance Rate Map or the Community Rating System.

Responsible office: City Engineer

Deadline: Within one year of release of new flood elevations by FEMA.

Cost: Staff time

Benefits: Should the revised FEMA flood elevations leave areas of the City subject to the 100-year flood, this evaluation will determine whether and how the levee system should be repaired and improved to protect these areas. The City should not spend funds to do more than maintain the current levee until it is determined whether it is needed and the costs and benefits of an improvement project can be measured.

11. Drainage System Maintenance: The Sewer Department will continue to maintain the drainage channels and the Little Calumet River levee. The Sewer Department and the Department of Inspectional Services will review maintenance procedures and identify how retention basins and storm sewer inlets can best be maintained. The Departments will develop a program that includes inspections, enforcement, maintenance, record keeping, reporting, and public information activities that will receive the maximum possible CRS credit for drainage maintenance.

Responsible offices: The Sewer Department and the Department of Inspectional Services will prepare the procedures.

Deadline: The Departments will submit their recommendations to the Floodplain Management Committee by July 2006.

Cost: Staff time

Benefits: A plugged culvert or storm sewer inlet can result in flooding during a small rainstorm. By inspecting and maintaining the drainage system, potential flood problems can be identified and corrected before the next big rain. By incorporating an effective public information program, much preventive maintenance can be done by property owners at no direct expense to the City. A proactive activity like this can prevent \$1,000's in flood damage, closed streets and threat to people.

10.3. Public Information Action Items

These action items focus on public information activities that support all mitigation measures and help Calumet City's residents and businesses know how to protect themselves.

12. Flood Insurance Rate Map: The City will work with FEMA, the Illinois Department of Natural Resources, and other local agencies and communities to have a revised Cook County Flood Insurance Rate Map reflect the Thornton Transitional Reservoir. Once it is prepared, the Department of Inspectional Services will make sure that it can use its GIS capabilities and will provide improved map information services for the City's regulatory, public information, and emergency management programs.

Responsible offices: Department of Inspectional Services, City Engineer

Deadline: Ongoing

Cost: Staff time

Benefits: An accurate, up to date FIRM is a prerequisite for other action items, including the levee evaluation, flood stage forecast map, flood response plan, and providing map information to citizens. As noted by the South Suburban Mayors and Managers Association (page 9-2), the cost of preparing the map is less than half the flood insurance premiums that can be saved each year after the map is published.

13. Outreach Projects: The City will continue to implement the following projects and receive CRS credit for them.

- Articles in the *Calumet City Review* on hazards and protection and mitigation measures
- An annual mailing on flood protection to all residents of the floodplain
- Appropriate handouts at the Department of Inspectional Services for permit applicants and other interested parties
- References in the Calumet City Public Library
- Information and links on the City's website
- Helping people obtain information from the Flood Insurance Rate Map
- Providing technical advice to people interested in retrofitting
- Advising people during permit review, field inspections, and other times staff comes in contact with the public
- Making site visits to review drainage and other problems facing a property
- Notices on the cable television public access channel
- Showing the flood protection video on the cable television public access channel

These projects will convey the messages identified in section 9.8.2 of Chapter 9, i.e.:

- Hazard warnings and the appropriate safety precautions that should be taken after a warning
- How people can protect their homes and businesses
- Where to get advice and assistance
- Causes, extent, and what is being done about flooding
- How people can protect wetlands, natural and beneficial floodplain functions, and trees
- Insurance
- Maintenance of channels, retention basins, and storm sewer inlets
- Construction regulations
- Working with mitigation contractors
- Things to look for when buying property

Responsible office: Department of Inspectional Services

Deadline: Ongoing

Cost: Staff time

Benefits: There are many benefits to having a well-informed public. For example, deaths from lightning have steadily decreased over the years because people are more aware of what they should and should not do. More self-help and self-protection measures will be implemented if people know about them and are motivated to pursue them.

14. Special Public Information Projects: The Floodplain Management Committee will propose additional public information projects each year. These may vary from year to year and each year's activities will be evaluated before the next year's projects are proposed. They will include:

- An annual meeting with Lansing and South Holland to decide on joint flood awareness week activities.
- Preparation of materials and meetings with real estate agents, lenders, and private and public land developers to inform them of the flood hazard areas and pertinent hazard mitigation development regulations.
- A meeting with insurance agents on the impact of the new FIRM and how to encourage residents to purchase and keep appropriate hazard insurance (including low cost flood insurance for non-floodplain areas).
- Meetings with contractors and home improvement stores to explain property protection measures, the rebate program, and construction regulations and to investigate coordinated public information efforts.
- A meeting with the school districts to explore hazard protection activities appropriate for elementary and high school students.

Responsible office: Department of Inspectional Services, Floodplain Management Committee

Deadline: Each year's annual progress report from the Floodplain Management Committee to the City Council will include the recommended special projects for the following year.

Cost: Staff time

Benefits: Each project will have different benefits. Some will result in more effective programs to reach property owners and some will advise all citizens of safety and health precautions. The work with real estate agents and land developers may prevent loss of time and money for developers wanting to improve Calumet City. Projects for school children will focus on life safety issues and may save a life someday.

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