

# Part II

## *Community- Level Tools and Techniques*

The first part of this guide reviewed the problems created by localized flooding and the reasons why a community should take actions to protect people and property from the hazard. Chapter 2 noted that actions can be taken at three different levels: community-wide, neighborhood, and individual structures.

Part II addresses the broadest of these levels: techniques for coping with flooding that are appropriate for community-wide action. First, Part II describes a community planning process that will help determine and build support for appropriate flood mitigation activities. It will also meet the planning prerequisite for several Federal funding programs. Next, various regulations are discussed that a community can apply to its flood-prone areas. The usefulness and potential of public information campaigns and projects are presented. Finally, Part II explores what a community should do to improve its warnings for localized flooding, as well as its preparedness for a flood emergency.

### **Part II:**

#### **Chapter 3. Community-Level Activities**

#### **Chapter 4. Regulatory Tools**

#### **Chapter 5. Public Information and Awareness**

#### **Chapter 6. Warning and Emergency Service**



# Community- Level Activities



*This chapter reviews the three parts to organizing community-level activities: (1) determining an overall strategy, (2) preparing a more detailed plan, and (3) building capabilities to implement flood-protection actions. As used in this guide, a “community” is any city, village, town, county, or other local government with authority to enact floodplain management measures.*

## **The Strategy**

A community should have an overall strategy that outlines how it will address its localized flooding problems. It may be as simple as doing nothing or funding drainage improvements in response to complaints. The more the community intends to do, the more involved the strategy must become.

### **The Document**

Many communities have unwritten strategies or strategies that change when leadership changes. To be effective, the strategy should be written. A written document provides a clear statement that will be consistent over time. It also shows how individual actions fit in the bigger picture. The best approach would be a document adopted by the governing board, such as a resolution.

A strategy or resolution can be as short as one page. No special format is needed, but it should recognize that there is a problem and identify the key policies and actions that will be pursued. An example is on pages 3-4 and 3-5. Circulating a draft for comments by the appropriate staff will help gain their support and ensure that the policies and actions are realistic.

### **Strategy Statements**

Strategy statements will depend on the problems, resources, and the community’s level of commitment to take action. Examples include:

- All reports of localized flooding problems will be investigated by municipal engineering, utility, or public works staff to determine the cause and most appropriate solution.
- New buildings constructed in flood problem areas must be protected to the highest recorded flood level, even if they are not in the Special Flood Hazard Area (SFHA) mapped on the community's adopted Flood Insurance Rate Map (FIRM).
- Land development regulations will be reviewed to determine if revisions would help prevent localized flooding problems or exacerbate existing problems in the future.
- All residents in areas with localized flooding problems will be encouraged to purchase and maintain flood insurance.
- All buildings will be constructed with positive drainage away from the building.

The rest of the chapters in this book can be used as a checklist to identify actions that can be pursued by the community and included in the strategy document. The more time spent reviewing what should be done, the more detailed the strategy can be. However, there comes a point at which the level of detail is sufficient for the community plan to be prepared, reviewed, and adopted.

### **Long-Term Strategies**

Some communities have short-term and long-term strategies. Short-term strategies might include small-scale drainage modifications and encouraging people to buy flood insurance. The long-term strategy could be to prepare a flood mitigation plan that sets out a more comprehensive approach to the problem.

## **A Community Plan**

A community-level plan is more formal and detailed than a strategy statement. It summarizes the problem(s), sets goals, reviews alternative actions, and selects those actions that will best reduce the problem. It is a systematic and thorough review of what can be done. It should take more time and involve more people than a simple strategy.

### **Benefits**

A well-prepared plan will:

- Ensure that all possible activities are reviewed and implemented so the local problem is addressed by the most appropriate and efficient solutions;
- Ensure that individual activities are coordinated with other community goals and activities, preventing conflicts and reducing the costs of implementing each activity;
- Coordinate local activities with Federal, State, and regional programs;

- Educate residents on flood problems, flood insurance, and loss-reduction measures;
- Build public and political support for mitigation projects; and
- Fulfill planning requirements for State or Federal mitigation grant funds.

### The Process

Plans can come in a variety of formats and organizational styles. The format and organization of a plan is not important, but the process of planning is.

The planning process provides a framework within which planners, local officials, residents, engineers, technical experts, stakeholders, and others can work out the details and reach a consensus on what should be done. The process works for all types of plans, such as comprehensive plans, land use plans, capital improvement plans, neighborhood redevelopment plans, hazard mitigation plans, stormwater management plans, and floodplain management plans.

### Planning Guidance

The Federal Emergency Management Agency (FEMA) has published various guidance documents over the years, and they all agree on four basic phases to developing a mitigation plan:

1. Organize for the effort and involve affected parties, especially the public;
2. Assess the hazard and the community's exposure to damage by the hazard;
3. Set goals and review and select appropriate measures to reach those goals; and
4. Adopt, implement, evaluate, and revise the plan periodically.

There are four FEMA programs with planning criteria: the three major flood mitigation funding programs require a plan as an application prerequisite, and the Community Rating System (CRS) has credit criteria for floodplain management planning. The chart on page 3-6 shows that the planning process the community uses can meet the prerequisites of all these programs.

These programs have published guidance documents that are listed in the last section of this chapter. Furthermore, flood control assistance from the U.S. Army Corps of Engineers also has a floodplain management plan requirement. The Corps of Engineers' guidance states that a plan that meets the CRS criteria under Floodplain Management Planning, Activity 510, will fulfill this requirement.

**The City of Conway, South Carolina**, was severely flooded by Hurricane Floyd in September 1999. The Waccamaw River and its tributaries flooded areas that were mapped as X Zones on the community's FIRM. Acting quickly, before the waters receded, the City Council passed a resolution that spelled out its strategy:

- All properties, including those not in the SFHA, would be inspected and subject to the same reconstruction requirements.
- A mitigation plan would be prepared to identify a long-term solution.
- Residents would be helped with information and financial assistance.

The resolution appears on the next two pages.

**One planning effort can meet the community's needs** and meet the criteria of several different programs, including hazard mitigation grants, the CRS, the Natural Resources Conservation Service, and the Corps of Engineers' project prerequisite. Planners should review the criteria of each program to ensure that their efforts will qualify for all the programs' benefits.

### Resolution by the City of Conway, South Carolina, After Flooding from Hurricane Floyd in 1999

WHEREAS, properties along the Waccamaw River and its tributaries in the City of Conway have been severely flooded, are currently uninhabitable, and according to the best available information, may be substantially damaged;

WHEREAS, the floodplain ordinance of the City requires substantially damaged residences to be either elevated or demolished and either option can place a hardship upon the owners;

WHEREAS, the City Council has discussed various alternative ways to redevelop the area but none has yet been reviewed in depth and none has been based on full knowledge of the condition of the buildings or the desires or financial conditions of the owners; and

WHEREAS, several of the redevelopment alternatives reviewed to date may conflict with each other, may jeopardize the availability of flood insurance to residents, and/or may not be in the long term best interests of the residents or the community;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Conway that:

It is the policy of the City of Conway to:

1. Keep the City in good standing in the National Flood Insurance Program to ensure that all residents can obtain financial assistance and flood insurance to protect their properties from flood damage;
2. Not allow any reconstruction or reoccupation of flooded buildings or homes until the City Building Official or his duly authorized representative has inspected the site and issued a building permit;
3. Carefully develop a mitigation plan for the affected area after a review of all options (including flood control, reconstruction, elevation,

floodproofing and relocation) based on building conditions, the desires of the property owners, and funding sources that are available to assist the property owners; and

4. Assist residents with information on relocation and other flood protection measures and help them obtain financial assistance.

To implement this policy, be it hereby resolved that:

1. Every building that has been flooded must have an inspection by the Building Official or his duly authorized representative before it is repaired or reoccupied. If the level of damage is minor, the Building Official may issue a letter saying that clean up may proceed without a permit. There is no fee for such inspection or for the subsequent permit to repair or rebuild a flooded building.
2. A Mitigation Planning Committee is hereby established. Its members shall be:

(The City of Conway citizens' names have been removed, but their representation on the committee is the following)

Chair – banker, floodplain resident and former city manager  
 Vice-chair – floodplain resident  
 Floodplain resident  
 Floodplain resident  
 Floodplain resident  
 Council member, floodplain resident  
 Council member, floodplain resident  
 Director of Planning  
 Building official, floodplain resident  
 Floodplain resident  
 Grants/special projects coordinator  
 Floodplain resident

3. The Mitigation Planning Committee is charged with the following:

*(continued on facing page)*

(continued from page 3-4)

- a. Collect data on building conditions, the desires of the property owners, and funding sources for reconstruction and redevelopment in the flooded area;
  - b. Recommend reconstruction and redevelopment policies and procedures to be followed by the City;
  - c. Identify particularly hard hit areas that could be designated as target areas appropriate for acquisition, clearance and conversion to open space;
  - d. Prepare a post-flood hazard mitigation plan for the City that designates target areas and recommends mitigation measures appropriate for the flood hazard facing the City; and
  - e. Keep the public informed of its deliberations and recommendations.
4. Upon the advice of the mitigation planning committee, the City Council may adopt a moratorium to prohibit reconstruction of buildings in certain target areas until the mitigation plan is adopted.
  5. Owners of property in the affected area are encouraged to:
    - a. Attend public meetings to review the City's mitigation planning activities and recommendations;
    - b. Cooperate with the building inspectors in order to help determine the condition of their buildings and to collect accurate data as quickly as possible; and
    - c. Assist in the preparation of the mitigation plan by providing information on the condition of their buildings and whether they are interested in relocating to a flood free location.
- Passed this 27th day of September 1999.*

## Building Capabilities

Once the strategy has been decided or the plan has been drafted, the community should prepare to implement it. A formal plan will identify who is responsible for each action item, when it will be accomplished, and what will be the source of funding. A strategy may not be so specific; however, certain activities should be pursued in a strategy.

### Assign Staff Responsibilities

An activity identified in a strategy or an action item in a plan will not be implemented if no one is responsible for it. The strategy resolution or the mayor should designate offices or individual staff members as the lead for each activity.

In most cases, the responsibility will be obvious: the public works department is responsible for drainage maintenance and the planner is responsible for plans. The discussion in the following chapters includes typical contacts and responsible offices for the various mitigation tools and techniques.

FEMA How-to Series		Hazard Mitigation Grant and Pre-Disaster Mitigation Program (DMA 2000 Plan Criteria)	Flood Mitigation Assistance Program	Community Rating System Floodplain Management Planning (10-Step Process)
Planning Requirements	Phase 1 Organize Resources	Coordination among agencies	Coordination with other agencies or organizations.	Coordination with other agencies
		Integration with other planning efforts	Involve the public, including a description of the planning process. Public involvement may include workshops, public meetings, or public hearings.	Involve the public
		Involve the public throughout the planning process		Organize to prepare the plan
		State coordination of local mitigation planning		
	Phase 2 Assess Risks	Identify all hazards	Flood hazard area inventory that identifies the flood risk, including estimates of the number and types of structures at risk and repetitive loss properties.	Assess the flooding hazard
		Profile hazard events		
		Assess vulnerability	Problem identification, including a description of the existing flood hazard, the extent of flood depth and damage potential, and the applicant's floodplain management goals.	Assess the problem
		Estimate potential losses		
	Phase 3 Develop the Mitigation Plan	Documentation of planning process	Review of possible mitigation actions, including the identification and evaluation of cost-effective and technically feasible mitigation actions.	Set goals
		Capability assessment		Review possible activities
		Develop hazard mitigation goals		Draft an action plan
		Identification and analysis of mitigation measures		
		Funding sources		
	Phase 4 Implement and Monitor Progress	Adoption	Documentation of the formal plan adoption by the legal entity submitting the plan (e.g., Governor, mayor, county executive).	Adopt the plan
		Implementation of mitigation measures		Implement, evaluate, and revise the plan
		Implementation through existing programs		
Monitoring, evaluation, and updating the plan				
Continued public involvement				

FEMA 386-3 (2000, p. xi)

*The planning requirements and processes that are used for FEMA programs and described in various guidance documents coincide as shown in this chart. It should be noted that a CRS publication, Example Plans, provides guidance that will meet all three programs' criteria. It is available at <http://training.fema.gov/emiweb/CRS/>.*

### **Educate Staff**

Although it may be obvious that the planner is responsible for plans, the community's planner may not be familiar with flood mitigation planning. There are many publications and training programs, as well as references in this guide, that can help educate or train staff on flood protection tools and techniques.

### **Get Help**

A community should not duplicate the efforts of others. Nor should it try to solve all its problems by itself. Other government agencies and private organizations may be implementing activities that can affect flooding in the community. Many agencies and organizations can provide:

- Flood hazard data and maps;
- Technical information on flood mitigation tools and techniques;
- Guidance on regulatory requirements;
- Advice and assistance in the planning effort;
- Staff training;
- Implementation of an activity; and/or
- Financial assistance.

The lists in Appendixes A and B give agencies, organizations, and other resources that can be consulted for help in planning and conducting local flood mitigation activities.

Help can also be hired. A community may turn to a consultant if it concludes that:

- It does not have enough staff;
- It does not want to hire staff for a short-term project; or
- It wants help from someone with specialized knowledge.

At the end of each chapter of this guide is a section called “Where to Get Help,” which lists relevant and helpful agencies and organizations. Those entities should be contacted for assistance or for information on qualified consultants who can help the community's efforts.

### **Integrate Activities**

The best way to ensure that an activity will be implemented is to incorporate it into existing programs and activities. If staff members modify their work or accept assignments as part of their regular duties, the activity will become part of the community's routine responsibilities. Integrating the flood protection tools and techniques into ongoing activities also reduces the financial impact on the community.

### A Planning Success Story

After a flood in 1990, Village officials of **South Holland, Illinois**, were faced with many angry residents who were convinced that the Village was not doing enough to protect them from flooding. The Village formed a Flood Liaison Committee so residents and staff would work together.

The Committee spent a year preparing a floodplain management plan that reviewed all the alternatives and recommended 31 action items. The Village began providing technical assistance and a floodproofing rebate program that has helped fund 450 self-help retrofitting projects to protect homes from local flooding.

Residents are now active participants in the Village mitigation program. South Holland has since received one of the highest ratings in the CRS (Class 5), has received state and national awards, and has played a lead role in the initiation of a watershed-wide flood and stormwater mitigation planning effort.

The Flood Liaison Committee still meets to provide oversight of the staff's activities and to monitor, evaluate and recommend revisions to the plan.

Wetmore and Jamieson (1999)

The integration of activities is discussed in the chapters that follow. Examples include:

- Modifying subdivision regulations to include stronger drainage and stormwater management standards, rather than adopting a new set of regulations;
- Adding flood protection topics to water quality public information materials instead of creating and printing new brochures;
- Coordinating park and open space planning with floodplain property acquisition efforts, using Federal mitigation funds to help expand recreation lands; and
- Using experienced housing rehabilitation staff to provide retrofitting advice and/or administer retrofitting financial assistance funds.

### Evaluate

A periodic review of activities included in the strategy or plan can be helpful. The community should determine if the activities are being implemented and, if so, whether they are effective. At the same time, the basis for the strategy or plan should be evaluated to determine if they are still relevant and whether new activities are needed.

Periodic monitoring, evaluating, and, if necessary, revising the activities recommended by a floodplain management or hazard mitigation plan are requirements of the FEMA planning programs. They are good measures to include in a strategy.

### Where to Get Help

- FEMA's Planning Resource Page at <http://www.fema.gov/fima/planresource.shtm>.
- *Flood Mitigation Planning—The First Steps*, Association of State Floodplain Managers (ASFPM), 2001, is a floodplain management planning kit consisting of reference materials, masters that can be duplicated for handouts, and a 2-part video that explains the 10-step process to the general public. It is designed to be shown at the first meeting of a planning committee. Order through the ASFPM Web site at <http://www.floods.org> or call 608-274-0123.
- FEMA Regional Offices (see Appendix A).

- State National Flood Insurance Program coordinating office and the State emergency management agency's mitigation office can be located at <http://www.floods.org/StatePOCs/map.asp> and <http://www.fema.gov/fema/statedr.shtm>, respectively.
- American Planning Association at <http://www.planning.org>.
- The Insurance Services Office (ISO) administers the Community Rating System on behalf of FEMA. For technical assistance in preparing a floodplain management plan, contact [NFIPCRS@ISO.com](mailto:NFIPCRS@ISO.com).
- Publications and other information about the CRS, including its planning components, are available at <http://training.fema.gov/emiweb/CRS/>.
- Regional planning commissions and councils of government often help communities with planning or prepare plans for them.
- Training courses in floodplain management, flood insurance, the CRS, building protection, and other matters are offered by the Emergency Management Institute. Tuition is usually free to local government staff. The schedule and course descriptions can be found at <http://www.fema.gov/emi/>.
- If there is a State-level professional association for floodplain managers, wetlands managers, stormwater managers, or others, it can be a resource for technical training opportunities for local staff. Floodplain management associations can be found at <http://www.floods.org/StatePOCs/stchoff.asp>.
- The State emergency management agency can be contacted for technical training schedules for local staff.
- Three FEMA programs provide financial assistance for flood or hazard mitigation planning on a 75%/25% cost share:
  - ▶ Flood Mitigation Assistance program (FMA)
  - ▶ Pre-Disaster Mitigation program (PDM)
    - ▶ In the PDM grant program, special consideration will be given to small and impoverished communities and they may be eligible for a 90%/10% split.
  - ▶ Hazard Mitigation Grant Program (HMGP).

The State emergency management agency and the FEMA Regional Offices have more information about these funding programs. (Note that the Flood Insurance Reform Act of 2004 has a special provision under which the cost share for mitigating repetitive loss properties may be 90%/10%, but regulations to implement this change have not yet been finalized.)

- Many States have prepared their own floodplain management or mitigation planning guidance. It is usually found at the State's emergency management or National Flood Insurance Program (NFIP) coordinating office. The user should verify that the State guidance includes the latest criteria from the CRS Coordinator's Manual and the Disaster Mitigation Act of 2000.

Additional resources are listed in Appendixes A and B.