

Step 4

Select Evaluation Criteria

Overview

This section focuses on the selection of appropriate criteria against which the proposed alternatives will be evaluated.

Selecting a set of criteria

Criteria that support the goals of mitigation planning, as well as the goals of other community planning efforts, must be selected. Criteria should be determined by generating a range of options, analyzing each, and selecting the preferred choices. A common method of selection is to determine the probable consequences associated with one set of criteria over another.

The acceptability of the proposed alternative mitigation measures can then be judged and selected against the chosen criteria.



Common mitigation criteria stipulate that selected measures be: 1) economically justifiable; 2) technically feasible; 3) socially equitable; and 4) environmentally sound. If, for example, relocation of structures is the chosen mitigation measure, the following conditions would have to be met in order to satisfy these criteria:

- The cost of relocation must be less than the cost of the repetitive repairs that would be necessary (along with other costs from displacement, loss of services, etc.) if there were no relocation.
- The structures must be able to be moved from their present location to a suitable site.
- The relocation must be acceptable to those who are to participate.
- The relocation must be affordable to all it affects, and not discriminate against those who are unable to bear the cost of either moving the structure, or finding comparable housing.
- In the case of a public facility, such as a fire station, the relocation should not result in an inequitable distribution of fire protection services.
- The relocation project must meet appropriate environmental regulations, and not cause any adverse effects.

Summary

Selecting the appropriate evaluation criteria will help ensure that the proposed range of alternative mitigation measures will be evaluated in a manner that best reflects the values, policies and desires of the community. Once these criteria have been applied, community officials should have a better idea as to which alternatives are the most meritorious and desirable.

Where are we now?



- Step 1: Identify hazards and risks**
- Step 2: Define goals and objectives**
- Step 3: Identify alternatives for solving problems**

- Step 4: Select evaluation criteria**

- Step 5: Select feasible mitigation strategies**
- Step 6: Prepare a draft plan**
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Step 5

Select Feasible Mitigation Strategies

Overview

After comparing the preferred alternatives against the criteria to ensure that they will achieve the chosen goals and objectives, the preferred alternatives should be recommended to the appropriate governing officials in the community. These officials can then conduct both in-house and public reviews, incorporate suitable recommendations, and formally adopt the necessary activities. After the preferred alternatives have been selected and approved, the draft mitigation plan can then be prepared. The plan should lay out detailed steps to achieve objectives and support each goal.

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Selection matrix for decision makers

Perhaps one of the best ways to compare alternatives for solving hazard-related problems is to display the information in table format. For example:

Evaluation Table for Alternative Mitigation Strategies

GOAL: To reduce loss of life and property due to flooding. OBJECTIVE(s): Reduce structural losses associated with Poseidon River flooding. RANGE OF ALTERNATIVE SOLUTIONS:	EVALUATION CRITERIA						
	Cost Effectiveness: (expressed in terms of dollar amounts)			Technically Feasible? (Y/N)	Acceptable to Community/ Potential Participants? (Y/N)	Non-Discriminatory (EO 12898-Compliant)? (Y/N)	Results in Equitable Distribution of Services? (Y/N)
	Costs \$	Benefits \$	Net \$				
<u>ALTERNATIVE 1</u> Acquire floodway buildings/properties.							
<u>ALTERNATIVE 2</u> Elevate floodway buildings/properties.							
<u>ALTERNATIVE 3</u> Wet floodproof floodway buildings/properties.							
<u>ALTERNATIVE 4</u> Dry floodproof floodway buildings/properties.							
<u>ALTERNATIVE 5</u> Dredge/widen the Poseidon River to increase water flow.							
<u>ALTERNATIVE 6</u> Relocate the Poseidon River by altering its present course.							
<u>ALTERNATIVE 7</u> Build a floodwall or dike levee to protect floodway buildings/properties.							
<u>ALTERNATIVE 8</u> Join the National Flood Insurance Program to provide limited financial relief for flood victims.							
<u>ALTERNATIVE 9</u> Do nothing and absorb flood losses as they occur.							

Step 6

Prepare a Draft Plan

The beginning sections of a plan will typically include all the information that has led to the mitigation actions that the plan is recommending. This means that a version of your hazard analysis document will either be included in the hazard mitigation plan, or will be referred to by the plan. Having separate documents, with the most current version of the hazard analysis linked to the plan as an attachment, may make it easier for each document to receive community support and official approval. If something needs to be revised in one of the documents, it is usually easier to gain official adoption of separate documents with limited changes than it is to gain approval for a larger, combined document with many changes throughout.

Where are we now?

- Step 1:** Identify hazards and risks
- Step 2:** Define goals and objectives
- Step 3:** Identify alternatives for solving problems
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- Step 5:** Select feasible mitigation strategies

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The draft mitigation plan will be written based on the community's hazard analysis, and will also usually have incorporated various recommendations and input from those who helped review the hazard analysis. The plan puts the various goals, objectives, and action steps into a clearly written format, which will be submitted to the governing body of the community for official adoption. In certain cases, the plan may also serve as the basis for the selection and approval of specific projects for funding under grant programs such as the Flood Mitigation Assistance Program (FMAP), Hazard Mitigation Grant Program (HMGP), or contributions from corporate/private or nonprofit organizations.

Through feedback and revisions, the draft plan will be refined into a final plan.

What constitutes a plan?

A plan documents:

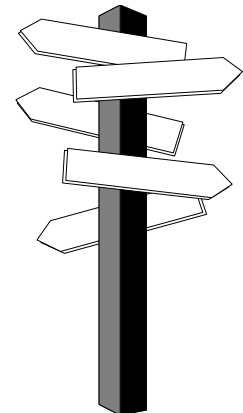
What is (the present)
(see Step 1)



What ought to be (the desired future),
(see Step 2)



How you get there?
(see Steps 3-9)



A helpful way to create an organized plan could be to adapt the Vulnerability Assessment Table, if you have used that format (see page 60) with extra spaces containing objectives that match each of the identified issues. An example appears below.

(name of community) Action Steps Development: (year)
(FOR EXAMPLE)

HAZARD	Sector Issues	Sector Actions Needed	Life Safety Issues	Life Safety Actions Needed
1. (FOR EXAMPLE): Riverine Flooding	a. 80% of Pine Twp. residents are elderly b. Only bridge in Village of Stormy is floodprone c. Seafarer Twp. has summer population increase of 35,000 people d. City of Rolling Hills has many businesses in Pine River floodplain	a. Door-to-door warning of elderly and tourists/seasonal residents b. Stage emergency equipment on both sides of river in Village of Stormy c. Volunteer assistance to assist Rolling Hills businesses in elevating essential items	a. Flash flood on Pine River could result in many deaths and injuries b. Large number of elderly residents in county makes warning difficult c. County has limited water rescue capability d. Propane tanks in floodplain not anchored	a. Develop river monitoring system b. Work with aging network to warn elderly residents of flooding c. Develop better water rescue capability within Sheriff Dept. and local fire departments d. Inspect propane tanks to ensure proper

Loss of Function Issues	Loss of Function Actions Needed	Recovery Issues	Recovery Actions Needed
a. No backup generator in police station in City of Rolling Hills b. Rolling Hills fire station located in floodplain c. Several sewage lift stations in Pine Twp. are prone to flood damage d. Gas main under Pine River bridge	a. Backup generator for Rolling Hills police station b. Pre-stage fire equipment out of floodplain in Rolling Hills/sandbag station c. Floodproof sewage lift stations in Pine Twp. d. Floodproof Pine River bridge gas main	a. Damaged public facilities cannot be used for up to two weeks after flood b. Flooded residents must be temporarily housed for up to two weeks c. Potential for business closures due to repetitive flood damage	a. Floodproof, elevate or relocate floodprone public facilities b. Develop post-flood temporary housing plan c. Assist businesses in implementing flood mitigation measures to prevent repetitive flood damage

Public Health Issues	Public Health Actions Needed	Economic Issues	Economic Actions Needed
a. Flooding contaminates private wells in Pine Twp. b. Flooded buildings become contaminated c. Mosquito, rodent and snake populations swell after flooding d. Flood-soaked debris gets piled up for long periods of time	a. Post-flood well monitoring program b. Post-flood advisories on how to decontaminate buildings c. Post-flood vector control program d. Expedited post-flood debris pickup program, to include private haulers	a. Businesses in Pine River floodplain must close for up to two weeks b. Post-flood recovery and cleanup costs are very high c. Public facilities in Rolling Hills incur repetitive damage	a. Develop flood mitigation plan to reduce future flood losses b. Budget for flood recovery and cleanup c. Floodproof, elevate or relocate floodprone public facilities d. Maximize participation in NFIP

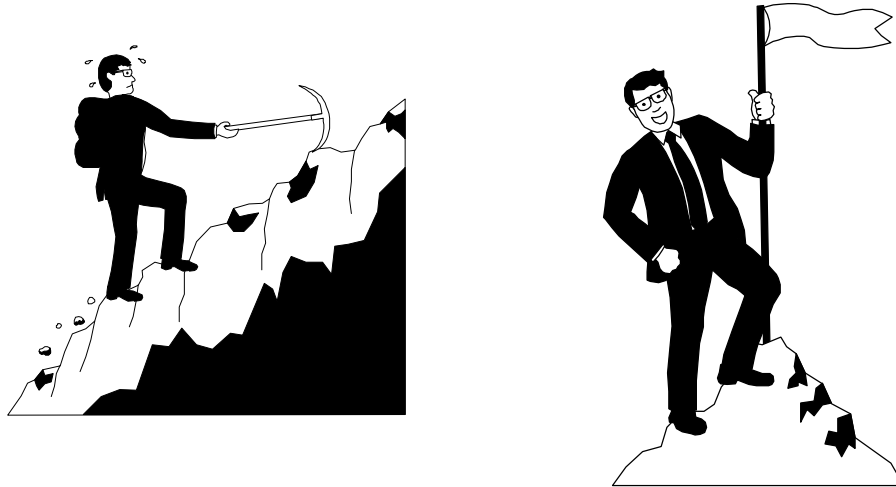
Each action item can in turn be placed into a table or list, which would have additional information added about all the steps required to actually implement the actions that will mitigate community hazards. Such a section would constitute the community's actual hazard mitigation plan, since it would explain **WHO** will implement each action, **HOW** such implementation will be accomplished, and **WHEN** the activity is expected to be completed and thus benefit the community. For examples of this sort of detail, please refer to Step 8, and to the sample hazard mitigation plan that appears in Appendix A of this workbook (see pages 96 and 107+). The actual names and/or positions of who will implement each mitigation action item, and the how and when of such activities, will need to be determined by discussion within your community, based on your community's collective assessments of who has the resources and when they can be successfully mobilized in hazard mitigation activities.

Preparing the draft plan

Referring back to page 87, Step 1 covered the "What Is" portion of the plan. Problems were identified, assessed, and prioritized through the completion of a community hazard analysis. In Step 2, the "What Ought to Be" portion of the plan was addressed. Goals and objectives were defined so as to improve current conditions and reshape them toward a vision of the way things should be in the future. The "How To Get There" portion of the plan followed in successive steps 3-9. Alternatives were identified for solving the community's problems, evaluation criteria were selected and applied, the best alternatives were selected for implementation from that formal analysis. Now all of this information must be presented and approved by those who can actually implement these mitigation strategies in the community. A draft plan will be reviewed by all these actors and stakeholders, and revised into a form that they can agree to take action upon. Such revisions are part of the next step in the mitigation planning process – the preparation of a final plan.

NOTE ON FORMAT ALTERNATIVES:

See Appendix A for a possible format that can be used for a stand-alone mitigation plan. The sample plan in Appendix A will also illustrate the amount of detail that may exist in a good mitigation plan. The Appendix A format is well suited for many communities, as it can be developed in segments over time. If your plan is being developed for any of the federal hazard mitigation grant programs, see Appendix C for additional guidance. Appendix D outlines a format for integrating hazard mitigation concepts and strategies into the community's Comprehensive Plan structure. Such integration may be the highest level of hazard mitigation planning, as it integrates hazard mitigation into the many other functional elements in the plan that collectively help shape and mold a community's development pattern. A mitigation plan developed in this manner stands the greatest chance of making a lasting mark on the community. However, it is also the most difficult plan development method due to the many organizations involved and the many different functional areas that must be addressed. Hazard mitigation is one of many subjects dealt with in the comprehensive plan; hence, the completion time frame is often much longer than it would be for a stand-alone document. However, the fact that this method effectively "institutionalizes" hazard mitigation into the community planning and development process makes this format an attractive one for many communities—especially those that are rapidly growing. See page 10 for information on additional planning resources available at the regional level.



**POSITIVE ATTITUDE, PERSEVERANCE, AND HARD WORK ARE
KEY COMPONENTS OF ANY SUCCESSFUL PLANNING EFFORT!**

Summary

In this section, specific alternatives were selected and a draft plan format was suggested. (Note: the format chosen for the draft plan may change as the final document is prepared.)

Step 7

Prepare Final Plan

Overview

The final plan is the document explaining present issues (“what is”), what you would like to do to resolve the issues (“the desired future”) and how you will achieve that desired future. Since the plan is to be adopted by the governing body, it will become official policy.

The draft plan needs to be revised into a final plan that can be adopted by the community or communities it represents. It will be revised based on the feedback received from participating communities, officials, and subject experts. In addition, a public input process will again need to be used. All of this is necessary to ensure that the final plan is one that can withstand scrutiny and receive approval from the appropriate governing body or bodies. Multi-jurisdictional plans will need to fine-tune their community subsections as well.

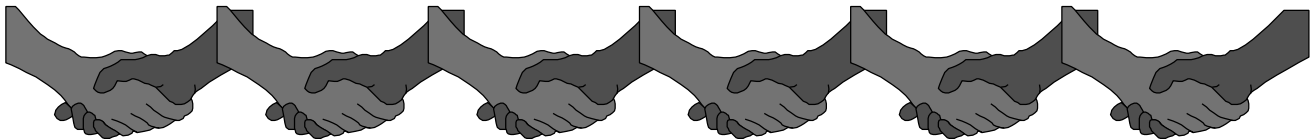
Where are we now?



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This represents the most critical stage of the entire planning process. The political leaders and the public will either agree with your plan and approve it, or disagree with it and reject it. The main difference between the draft and final plan is that the final plan includes public involvement activities (please refer again to the section about getting public input) and the processes used to select and implement specific mitigation alternatives.

Planning priorities

The final plan includes priorities for specific hazards and mitigation measures, according to the community's chosen evaluation process. Mitigation measures that complement other community planning activities (e.g., park land acquisition) may be given higher priority than those that do not. Priorities will also be based on available sources of funding (refer specifically to these in the plan) and the stipulations attached to them.

“Who writes the final plan?”

This is one place where the involvement of community planners can have a big impact. The planner will look at everything you've completed so far and tie it all together in the final plan. The final document should include not only the technical information in assessing hazard risks but also should incorporate and address all the issues, ideas and perceptions which the planning team and the public have raised. Your chances for gaining the consent of the community and plan approval will obviously be much greater if issues have been addressed up-front, which means having the public and community officials actively participating. Most planners have good access to local officials at all levels, information sources and the means to process such data, mapmaking abilities, meeting facilitation skills and the means to obtain and organize community feedback and concerns.

Summary

Finalizing the plan is the stage of the planning process in which community leaders, home and business owners, and other citizens agree that the plan will be the local policy shaping the direction of local development processes and practices. The plan will be officially adopted by the community or communities it represents.

Step 8

Implement Plan

Overview

Simply stated, if a plan cannot be put into action, it's virtually worthless!

This chapter recommends strategies to take the planning concepts and make them work. It also suggests practical ideas used by other communities to implement hazard mitigation plans.

“What good is a plan if it just sits on the shelf and collects dust?”

The plan won't work unless it can be implemented effectively. This section suggests ways to do just that—to translate goals and objectives into actions.

Suggestion No. 1

Develop an Action Agenda that contains the following information:

WHAT

Identify specific actions that need to be taken to achieve the goals and objectives and implement the recommended alternatives in the plan.

WHO

Identify who is responsible for initiating and implementing each action. One person or department could take the lead role (zoning administrator, planning department or public works department), but often the work will be shared by a number of other individuals, and agencies.

Identify all of the involved individuals and agencies up front and designate their responsibilities in the process. In addition, make sure each is informed of the project and the project timeline.

HOW

Identify how each action will be taken. Include a list of potential funding sources. This helps allow the community to be notified when funds become available from Federal, State, foundations, corporations, or other sources that have been researched and identified. If matching funds are needed, potential sources might have already been identified in this section of the plan, and can therefore be contacted when assistance is needed.

Identify the tool or method for implementing the action. For example, floodproofing a commercial building means hiring an engineering or architectural consultant develop floodproofing concepts for each building, meetings with the property owner, regulatory review of each design concept, developing final plans and specifications for the concept, and implementing the concept through construction.

WHEN

Identify when to take each action. Determine the timeframe and the sequence of events, particularly if there are fixed deadlines. For example, a hearing date may be scheduled to gather public comments on an environmental impact statement for a proposed water treatment facility to be located on the watershed. In other cases, you may only need to set general deadlines. One action may not begin until another is completed. A general plan or guide, which considers all the timeframes, will help plan and implement work.

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(Note: A table format can be used to organize the information, if so desired.) For example:

Action	Who	How	When
Seek state and national historic designation for businesses.	Planning Director Historical Society Consultant	Develop inventory of structures and submit to State Historical Office	Spring 1999
Seek federal \$\$\$ assistance for floodproofing downtown businesses.	Mayor Community Dev. Director EMD/MSP Emergency Manager	Develop and submit application	Application deadline August 22, 1999
Revise zoning ordinance to include more restrictive river protection measures.	Planning Director Zoning Administrator Mayor MDNR	Prepare analysis of zoning options and recommendations	Summer, 1999
Seek \$\$\$ assistance from MDNR to create more open space and parks along riverfront.	Planning Director Community Dev. Director Mayor MDNR	Prepare open space study. Develop and submit application.	Summer, 1999 Application deadline September 3, 1999
Seek federal \$\$\$ assistance to acquire fire station subject to repetitive flooding.	Mayor Community Dev. Director EMD/MSP Emergency Manager	Develop and submit application.	Application deadline August 22, 1999

An Action Agenda (whether in table or narrative format) is vitally important to the successful implementation of the plan. If the person(s) and/or agency(ies) responsible for implementing parts of the plan are identified, and general completion timeframes for actions are established, implementation will be smoother and more effective. It may be necessary to make adjustments as issues come up, but at least there will be a general strategic framework to work from.

Suggestion No. 2

Implement some inexpensive, short-term, and highly-visible **demonstration** projects to get the mitigation effort moving.

After you have developed and adopted your Action Agenda, select a few easy projects to implement quickly. Such tangible results will demonstrate to the community that the plan is being taken seriously by community leaders. This strategy was used successfully in the City of Vassar. A few residential flood acquisitions were funded and implemented quickly to overcome public skepticism and to create interest and induce more people to support the program.

Although quickly implementing some inexpensive and visible projects makes good political sense in helping the mitigation effort progress, make sure that you don't lose sight of more complex projects. These may be more important in reducing the community's overall risk and vulnerability.

Suggestion No. 3

Develop a **newsletter** or a **periodic news release plan** to inform citizens of the mitigation program as projects are implemented or completed. When implementing a hazard mitigation program, keep the flow of communication open between government and the affected and interested public. The public needs to know how regulations affect their property. A newsletter or news release strategy can help communication with the community, thereby precluding the need to visit each individual property owner personally on each issue.



Suggestion No. 4

Hire or appoint a **Hazard Mitigation Coordinator**.

As your community begins to implement numerous mitigation projects, consideration should be given to hiring or appointing a Hazard Mitigation Coordinator to manage and oversee the flow of work. This coordinator would work with contractors, act as liaison between property owners and government, write newsletters and conduct other public information duties, and perform other duties related to project development and implementation.

The Coordinator selected should have good facilitating skills and understand the goals and objectives of the community-wide hazard mitigation program. Understanding the program's overall goals and objectives and believing in the underlying principles of hazard risk management are key for the person in this position because he or she will have to personally communicate these concepts to members of the community.

Summary of suggestions to help implement the plan:

- Develop an **Action Agenda** within the plan to better focus your plan implementation strategies.
- Implement some inexpensive and/or visible **demonstration** projects to overcome skepticism to get the whole mitigation effort moving.
- Develop a **newsletter** or a **periodic news release plan** to inform citizens once you begin implementing or finish completing various aspects of the mitigation program.
- Hire a **Hazard Mitigation Coordinator** to facilitate your mitigation projects.



Step 9

Monitor and Periodically Revise Plan

Overview

“Why monitor the plan?”

Communities and plans are both dynamic entities. Communities grow and change over time. In order to be effective, plans must also grow and evolve to avoid becoming void and obsolete. Planning doesn't stop once the plan is initiated. If a hazard mitigation program is to succeed, it is important to update the plan periodically.

This section suggests how to develop a monitoring system to update the community hazard mitigation plan. A monitoring system also helps keep your plan running on schedule even when there are other jobs or duties to perform.

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“I don't have the time to monitor plans; I have other things to do!”

Local officials wear different hats and are responsible for multiple assignments. Few have the luxury of focusing on one assignment, task or plan. Therefore, the community must adopt a monitoring system to keep people, and the plan, on task and on time.

One popular system uses a project work schedule to identify the steps and timeline for implementing the mitigation project as well as people's contribution to project implementation (known as the “critical path method”). While you may make adjustments throughout the process as new issues emerge and evolve, this method ensures that you remain on course in implementing your program. The person responsible for overseeing the mitigation program can maintain the work schedule.

Annual reports can help chart progress

Another suggestion would be to write a brief progress report annually to present to the governing body. This could include recommendations to achieve goals and objectives of the plan, or explain the need to change them in light of new issues and circumstances.

The Community Planner or Hazard Mitigation Coordinator can prepare the report. The National Flood Insurance Program (NFIP)/Community Rating System (CRS) progress report format provides a simple outline that can be followed in preparing an annual progress report.

Community Rating System report format:

- A review of the goals and objectives of original plan.
- A review of any disasters or emergencies that occurred during the year.
- A review of each element or objective of the original plan, including what was accomplished the previous year.
- A discussion of why any objectives were not reached or why implementation is behind schedule.
- Recommendation for new projects or revised objectives.

Federal Requirements for updating the plan

FEMA recommends that the hazard mitigation plan be reviewed annually. Even if your community is unable to monitor and update the plan annually, it is required by FEMA to review the plan every five years and update it if necessary. Projects that have been completed over that time should be replaced with new ones. Priorities may have changed and will therefore need to be re-assessed. Development patterns may have rendered the previous hazard analysis out-of-date. These are just a few of the items that may need to be re-visited when your plan is reviewed down the road.

Your local hazard mitigation plan must document the methods by which it will be monitored, evaluated and updated. This means that an actual description of the process must be included in the text of the plan, and one or more of the action steps in the plan will identify who will carry this out, what process will be used, and what the timeframe for it will be. These items are critical for meeting federal standards for plan review: **how** the plan will be evaluated, **when** the plan will be evaluated, and **by whom** the plan will be evaluated. A set timeline or schedule for plan review (with reasons to explain it) must be included. The personnel, cooperative agencies, and other partners in reviewing the plan must also be listed. If you are not updating your plan annually, an explanation should be provided along with the details of the plan review schedule that your community has selected. Federal regulations require the review process to occur no less than once every five years.

The mandatory five-year review and update of the community mitigation plan is necessary because of ever-changing circumstances in your community. Risks may change, areas may have increased or decreased risks and vulnerabilities, and therefore the community's goals and priorities will probably have to be altered at least slightly. There may even be new hazards that appear in that time. Evaluations of the plan should also assess how well the plan is working and if there are problems (financial, legal, coordination, etc.) with implementing the action items in the document.

In addition to the mandatory update and evaluation of the plan, your community's current plan must also include a description of the process by which public involvement can continue to occur as the hazard mitigation plan is updated in the future. Public outreach projects for the review and updating of the plan can be in the form of scheduled meetings, informational postings on your community's web site, public presentations, etc. Details of this type of continued public involvement with the plan review must be included in this original plan.

Summary of suggestions for monitoring and evaluating the Hazard Mitigation Plan:

- Because the local community is often involved in administering numerous other programs, it is important to develop a monitoring system (e.g. project work schedule) to help remind each participant of their part in carrying out the plan as well as when associated tasks should be completed.
- Have the Community Planner, Hazard Mitigation Coordinator, or other appropriate individual prepare a brief, annual progress report to the governing body, with recommendations on how progress can be made to achieve goals and objectives of the plan or whether they should be changed based on new issues or new information (see CRS format).
- Federal regulations require the local hazard mitigation plan to be updated every five years, or sooner. A description of the process by which your plan will be reviewed and updated must be included in your current plan. That description will tell who will be involved, how, and in what time-frame.

