Using the Hazard Mitigation Plan to Prepare Successful Mitigation Projects

State and Local Mitigation Planning How-To Guide

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FEMA

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BCA	Benefit-Cost Analysis
BCR	Benefit-Cost Ratio
BFE	Base Flood Elevation
CBRA	Coastal Barrier Resources Act
CDBG	Community Development Block Grant
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFDA	Catalog of Federal Domestic Assistance
CFR	Code of Federal Regulations
CID	Community Identification Number
CRS	Community Rating System
DHS	U.S. Department of Homeland Security
DMA	Disaster Mitigation Act of 2000
DOC	U.S. Department of Commerce
DOD	U.S. Department of Defense
DOI	U.S. Department of the Interior
DOL	U.S. Department of Labor
DOT	U.S. Department of Transportation
EDA	Economic Development Administration
EHP	Environmental Planning and Historic Preservation
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRA	Flood Insurance Reform Act of 2004
FIRM	Flood Insurance Rate Map
FMA	Flood Mitigation Assistance
FTA	Federal Transit Administration

FWS	U.S. Fish and Wildlife Service
GIS	Geographic Information System
HAZUS-MH	Hazards U.S. – Multi-Hazard
HMGP	Hazard Mitigation Grant Program
HUD	U.S. Department of Housing and Urban Development
ICC	Increased Cost of Compliance
MEMA	Mississippi Emergency Management Agency
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
PA	Public Assistance
PDM	Pre-Disaster Mitigation
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
RFC	Repetitive Flood Claims
SBA	U.S. Small Business Administration
SPC	Structural Performance Category
SRL	Severe Repetitive Loss
STAPLEE	Social, Technical, Administrative, Political, Legal, Economic, Environmental
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USTREAS	U.S. Department of the Treasury

The Relationship between Hazard Mitigation Planning and Projects

Hazard mitigation means any sustained action taken to reduce or eliminate the long-term risk to life and property from hazards. Experience has demonstrated that hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan.

The primary purpose of mitigation planning is to identify community policies, actions, and tools for implementation that will result in a community-wide reduction in risk of future losses. This is accomplished by understanding the risks and vulnerabilities of the community, setting clear goals, and following through with an effective mitigation strategy. The strategy proposes actions that the community will implement making optimal use of limited resources.

The mitigation strategy section of the plan assigns responsibility for implementing the various actions, defines the implementation time period for each action, and identifies potential sources of funding (Federal, State, local, or private) to support each action. Project-specific details, such as location, design, and costs are generally not included in the hazard mitigation plan. The detailed explanation of exactly how a project will be accomplished is presented in the project scope of work, which is the key component of an application for grant funding.

Background and Resources

The Disaster Mitigation Act of 2000 (DMA 2000) (Public Law 106-390) mandates that States, Tribal governments, and local jurisdictions develop a hazard mitigation plan to be eligible to receive certain funding for mitigation activities. The Federal Emergency Management Agency (FEMA) reviews each mitigation plan to verify that it is compliant with DMA 2000 planning criteria. When a FEMA-approved plan has been adopted, communities are eligible to receive a variety of pre-disaster and post-disaster Federal hazard mitigation funds authorized by the Robert T. Stafford Disaster Assistance and Emergency Relief Act (Stafford Act) (Public Law 93-288).

To assist State, Tribal, and local jurisdictions in preparing plans and in enhancing their mitigation planning capabilities, FEMA has developed a series of guides, called the Mitigation Planning How-To Guides. These guides can be used by States, Tribes, and local jurisdictions of various sizes and with varied ranges of financial and technical resources. The

guides can be ordered free of cost by calling 1-800-480-2520, or they can be downloaded from http://www.fema.gov/plan/mitplanning/planning_resources.shtm.

The How-To series is not intended to be the last word on any of the subject matter covered but to provide easy to understand guidance for the practitioner.

The first four How-To Guides provide instructions for preparing a natural hazards mitigation plan. These are:

- *"How-to Guide #1" Getting Started: Building Support for Mitigation Planning* (FEMA 386-1)

- *"How-to Guide #2" Understanding Your Risks: Identifying Hazards and Estimating Losses* (FEMA 386-2)

- *"How-to Guide #3" Developing the Mitigation Plan: Identifying Mitigation Actions and Implementation Strategies* (FEMA 386-3)

- *"How-to Guide #4" Bringing the Plan to Life: Implementing the Hazard Mitigation Plan* (FEMA 386-4)

The next four How-To Guides provide information on specific mitigation planning approaches. These are:

- *"How-to Guide #5" Using Benefit-Cost Review in Mitigation Planning* (FEMA 386-5)

- *"How-to Guide #6" Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning* (FEMA 386-6)

- *"How-to Guide #7" Integrating Manmade Hazards into Mitigation Planning* (FEMA 386-7)

- *"How-to Guide #8" Multi-Jurisdictional Approaches to Hazard Mitigation Planning* (FEMA 386-8)

How-to Guide #3 (FEMA 386-3) describes the process of proposing mitigation actions in the hazard mitigation plan; How-to Guide #4 (FEMA 386-4) describes the process of implementing proposed actions and discusses, somewhat generally, how to find financial support for them. How-To Guide #9, FEMA 386-9, complements these existing How-To Guides by providing more specific guidance on developing a mitigation project and securing financial support to implement it.

Purpose of this Guide

The purpose of this guide is to help a community move from the hazard mitigation plan to fully developing those mitigation projects that may be implemented using FEMA Hazard Mitigation Assistance as appropriate. This guide explains the process of developing the scope of a project and identifies the key components of a successful mitigation project funding application. It also describes how to identify funding available through FEMA and other agencies, and discusses the process of preparing an application for FEMA grant funding. This How-To Guide shows how valuable information contained in the hazard mitigation plan can be used to fully develop the project scope of work and apply for grant funding, as well as how to use lessons learned through the implementation of mitigation projects to improve the hazard mitigation plan when it is updated.

Mitigation plans typically identify a broad range of mitigation actions. Not all mitigation actions, such as developing of zoning regulations, adopting building codes, or providing public education about protecting lives and property during natural hazard events, are appropriate for funding through FEMA Hazard Mitigation Assistance. Yet, such actions can be very effective in reducing losses. While this guide focuses on securing funding through FEMA Hazard Mitigation Assistance programs, communities are encouraged to continue to develop plans that propose a comprehensive range of hazard mitigation actions.

Audience

This guide is intended for a variety of stakeholders, including grant writers, project developers, planners, emergency managers, and community leaders. It is particularly helpful for State, Tribal, and local, government officials, department heads, nonprofit organizations, and other parties who are identified in the hazard mitigation plan as being responsible for implementing the proposed hazard mitigation actions.

Organization of this Guide

Figure 1: This graphic illustrates the seven steps in the mitigation project lifecycle after a plan is completed.

The introductory section of this guide provides a brief synopsis of mitigation planning expectations and defines "mitigation project." The guide then describes a seven-step process for funding mitigation projects and using the experience of implementing the projects to update the mitigation plan. It explains the work involved in developing the mitigation actions proposed in the hazard mitigation plan into actual projects. The guide emphasizes that there is a great deal of work to be done between planning the mitigation strategy and developing the proposed mitigation actions into actual projects.

It is important to understand that the process described in this guide begins with having a completed hazard mitigation plan and ends with updating that hazard mitigation plan.

Appendix A contains blank worksheets to help communities employ the approaches presented in this guide. Appendix B provides information about Environmental and Historic Preservation studies that may be required when developing a mitigation project. Appendix C indicates circumstances when a proposed mitigation project may necessitate a particular environmental or historic preservation assessment. Appendix D includes a lengthy, but not exhaustive, list of the types of Federal technical assistance and funding programs found in the Catalog of Federal Domestic Assistance. Appendix E identifies the States served by each of the ten FEMA Regional Offices.

What Is a Mitigation Project?

A mitigation project is a specific undertaking by a community to reduce or eliminate long-term risk to people and property from hazards. Examples of mitigation projects that may be funded using FEMA Hazard Mitigation Assistance funds include retrofitting or strengthening a major public building to protect it from seismic damage or elevating a structure to reduce the likelihood of flooding.

The mitigation strategy section of a hazard mitigation plan presents mitigation goals and proposes mitigation actions to achieve those goals. The mitigation strategy should include a wide range of mitigation actions that will reduce vulnerabilities to hazard events. Mitigation actions are typically presented in general terms without specific project details. Developing a mitigation project from these mitigation actions may require a great deal of effort.

For example, a mitigation action proposed in a hazard mitigation plan may involve elevating structures in a floodplain above the Base Flood Elevation (BFE). See Figure 2 for an example of an elevated structure. The plan may include a general implementation strategy including the agency responsible for implementing this action, a project schedule of two years, and a total cost of approximately $45,000. A mitigation project description prepared for an application for funding should be much more comprehensive and identify the project location and the problem the project will solve, and provide documentation and details about how the project will be done, who will do it, when it will be done, and a detailed cost estimate.

Figure 2: This elevated Louisiana home, which was undamaged by Hurricane Katrina's severe flooding, illustrates one type of mitigation project. (FEMA Photo Library)

Moving from Hazard Mitigation Actions to Mitigation Projects

A seven-step process for developing proposed mitigation actions into well-defined mitigation projects is outlined in Table 1.

Table 1: Seven Steps for Developing a Mitigation Project

> **1. Review the mitigation plan for actions specified in the mitigation strategy**
>
> **2. Specify the problem to be addressed and identify alternative solutions**
>
> **3. Conduct a feasibility review to evaluate alternatives**
>
> **4. Select the project and develop the project scope of work**
>
> **5. Obtain sufficient funding to implement and maintain the mitigation project**
>
> **6. Implement, manage, and maintain the proposed mitigation project**
>
> **7. Use the experience to update the plan**

The **first** step in the process is a review of the actions specified in the mitigation strategy and the information contained in the Risk Assessment section of the hazard mitigation plan to identify opportunities to develop mitigation projects.

The **second** step in the process is to specify the problem and identify alternative projects that will solve the problem.

The **third** step is to conduct a feasibility review to identify obstacles to implementing the project and to determine the best alternative for the community. The feasibility review should include a preliminary evaluation of mitigation funding opportunities to determine whether funding beyond existing community resources might be available. Potentially negative environmental impacts of the proposed project should be identified at this stage of the process.

The **fourth** step is to select a project and to fully develop the project scope of work by establishing the exact specifications and costs of the project.

The **fifth** step is to obtain sufficient funding to implement and maintain the proposed mitigation project. This step may entail completing and submitting an application for funding to FEMA or another agency.

The **sixth** step is to implement, manage, and maintain the mitigation project. Communities receiving FEMA Hazard Mitigation Assistance must also comply with all reporting and administrative requirements.

The **seventh** and final step is to update the community's hazard mitigation plan.

Too often communities begin with the fifth step and complete and submit an application for mitigation grant funding. *Without having diligently carried out the first four steps, it is highly unlikely that an application for funding will contain sufficient documentation and detail to receive an award.*

Step 1: Review the Mitigation Plan for Mitigation Project Opportunities

The mitigation plan provides opportunities, through the planning process, to establish goals and objectives that will result in a safer, more economically viable community. The mitigation plan identifies community vulnerabilities to hazards and opportunities for mitigation. The basis of a useful hazard mitigation plan is a comprehensive risk assessment. A comprehensive risk assessment should identify hazards, profile and describe each hazard, and assess vulnerability by identifying community assets and estimating the degree to which individual assets will be damaged by each hazard. Based on the findings of the risk assessment and other community priorities, communities develop a mitigation strategy in which actions that will reduce the community's vulnerability to the identified hazards are proposed.

To turn proposed mitigation actions into funded mitigation projects, such as building a safe room or installing hurricane clips as illustrated in Figures 3 and 4, review the mitigation strategy to determine which actions can be readily implemented by the community using existing capabilities and resources and which will require additional funding outside of the community's resources.

Mitigation Plan Update Tip: Not all mitigation actions identified in the plan will necessarily become fully developed projects. Some actions may be deleted from the mitigation strategy or deferred for implementation when the plan is updated.

Step 1: Review the Mitigation Plan for Mitigation Project Opportunities

Figure 3: This tornado shelter also serves as a multi-purpose room at the Iowa State Fairgrounds. (FEMA Photo Library)

For actions that will require external funding, systematically follow the steps described in this guide to develop a fully scoped project.

As discussed later in this guide, all mitigation projects submitted for FEMA Hazard Mitigation Assistance grants must be consistent with the applicant's[1] State/Tribal Standard or Enhanced Hazard Mitigation Plan, as well as with the sub-applicant's tribal or local hazard mitigation plan.

Figure 4: Hurricane clips, shown circled above, help anchor roofs to the main structure to prevent detachment due to severe wind. (FEMA Photo Library)

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[1] See page 51 of this guide for a discussion of the terms "applicant" and "sub-applicant." Generally, the "applicant" is the State or Tribe and the "sub-applicant" is a local jurisdiction.

Step 2: Specify the Problem to be Addressed and Identify Alternative Solutions
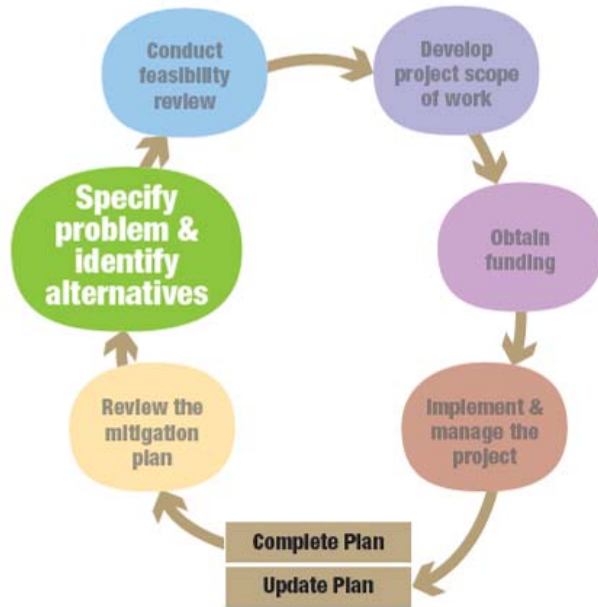
A good mitigation project solves or alleviates a specific problem. Before developing a project, define the problem by writing a problem statement. Then based on this statement, identify alternative solutions. A systematic process for examining the alternatives is presented in step 3; this process will facilitate the selection of the best alternative solution given the existing conditions in the community.

Problem Statement

The hazard mitigation plan identifies hazards and proposes mitigation actions that will reduce the potential for damage that each hazard may cause.

In step 2, before beginning to identify potential solutions, write a problem statement based on findings presented in the hazard mitigation plan, carefully explaining the specific problem to be solved.

Suppose, for example, that one hazard your community faces is earthquake, and that the problem is that a number of the structures are vulnerable to collapse. Then one specific problem statement may be:

- People who are working or using the University Library, which is an un-reinforced masonry public building, are at risk of being hurt or killed during an earthquake.

Other specific problem statements relating to the seismic hazard may, for example, address conditions of other public buildings, as well as the need for community education, difficulties anticipated in maintaining emergency communications, or weaknesses in the water system that will be exacerbated should an earthquake occur. Each problem statement should address a unique vulnerability.

Alternatives

After a problem is clearly stated, brainstorm to identify alternative solutions to the problem. Much of this work may have been done during the mitigation planning process. For additional ideas, consider reviewing successful mitigation projects in the FEMA "Mitigation Best Practices Portfolio" available online at: http://www.fema.gov/plan/prevent/bestpractices/index.shtm.

Alternatives related to the sample problem statement given above may, for example, include:

- Complete a seismic retrofit to improve the Structural Performance Category (SPC) of the library (see Figure 5).

- Secure the filing cabinets and bookcases to the walls or floors so that they will not slide or fall and hurt people during an earthquake (see Figure 6); add bracing for light fixtures and strap computer monitors to desks.

- Demolish the library and construct a new, safer building on the same site.

- Demolish the library, turn the property into campus open space, and construct a new, safer building at another location.

- Do nothing.

Remember that many suggested alternative projects will eventually be discarded as unrealistic, ineffective, or inappropriate for the community for one or more reasons discovered during the feasibility review. To decide if a particular alternative is appropriate for the community, conduct a feasibility review.

> **Mitigation Plan Update Tip: If the plan does not identify alternatives that were reviewed, be sure to identify a range of alternative actions that might mitigate a hazard when the plan is updated. The narrative of the plan should discuss how the alternatives were reviewed with an emphasis on cost effectiveness and explain which alternatives were selected for implementation.**

Figure 5: Unbonded steel braces are used as part of the seismic rehabilitation of the Library on the University of Utah campus. (Courtesy of Kelly Peterson, University of Utah)

Figure 6: Mitigation straps secure a file cabinet to the wall in case of earthquake. (FEMA Photo Library)

Step 3: Conduct a Feasibility Review to Evaluate Alternatives
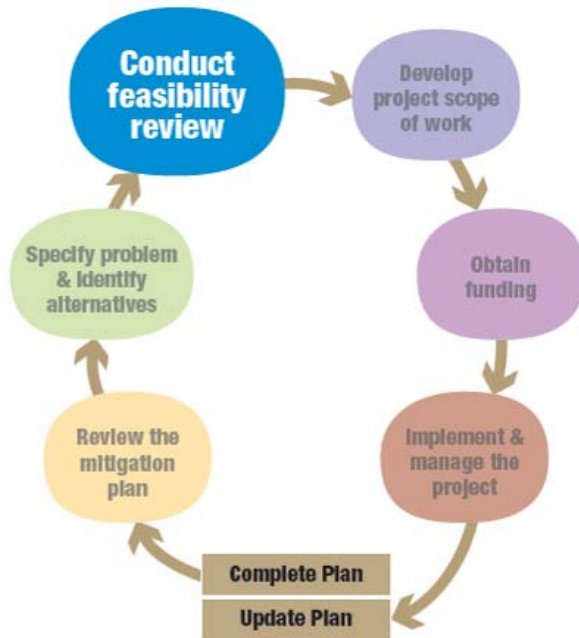
Begin to examine the feasibility of a proposed mitigation project alternative, by asking questions such as:

- Will this alternative present a long-term solution to a specific problem?

- Is this alternative consistent with future development plans, government priorities, environmental and historic preservation goals, and with the local hazard mitigation plan?

If an alternative presents only a short-term or temporary solution, consider a mitigation action that is longer term or eliminates the risk entirely. If an alternative is not consistent with existing plans, priorities, or goals, consider a different solution to the problem that is supported by existing plans.

> **Mitigation Plan Update Tip: If a suggested alternative seems to be an excellent solution to a problem but is not consistent with the current hazard mitigation plan, the plan may need to be revised and updated to include more accurate data.**

As recommended in How-to Guides #3 and #5 (FEMA 386-3 and 386-5), a planning process known as STAPLEE may be used to prioritize mitigation actions in the plan. STAPLEE can also be used to conduct a systematic feasibility review of alternatives that appear to provide a long-term solution to the problem and are consistent with the hazard mitigation plan. STAPLEE is discussed in detail below.

STAPLEE

STAPLEE is an acronym for the seven criteria used to conduct a feasibility review. These criteria are: **S**ocial, **T**echnical, **A**dministrative, **P**olitical, **L**egal, **E**conomic, and **E**nvironmental feasibility.

Step 3: Conduct a Feasibility Review to Evaluate Alternatives

Table 2 suggests questions to pose for each alternative under review and offers comments that may be helpful in identifying the positive and negative consequences associated with an action for each of the STAPLEE criteria.

Table 2: Using the STAPLEE Criteria to Assess the Feasibility of an Alternative

Feasibility Criteria	Questions to Answer and Comments
Social	▪ Is the mitigation action socially acceptable? ▪ Will the action adversely affect any one segment of the population? ▪ What effects will the action have on the social, historic, and cultural environment of the community? Comments: If some of the population may be negatively affected by a proposed mitigation project, it may not be the best solution to the problem. Unless detrimental effects of a project on the disruption of community life can be minimized, the project under consideration may not be a good fit for the community.
Technical	▪ Is the proposed action technically feasible and does it provide the appropriate level of protection? ▪ What types of technical/professional expertise will be required to plan and implement the project? ▪ Will the action create more problems than it solves? ▪ How long will it take to complete the project? Is this a reasonable timeframe? Comments: In developing a mitigation project, the community must ensure that the project will actually mitigate the risk posed by a particular hazard. A project to protect one community asset at the expense of another or a project that will protect a structure from one hazard while making it more vulnerable to another hazard may not benefit the community. Alternatives for flood mitigation projects are presented in *Selecting Appropriate Mitigation Measures for Floodprone Structures,* FEMA 551, which is available through the FEMA online library (http://www.fema.gov/library/index.jsp). The FEMA Technical Assistance Helpline (1-866-222-3580) is available to provide assistance regarding grant requirements, engineering feasibility, cost effectiveness, and environmental/historic preservation compliance. Additional information is available online at: http://www.fema.gov/government/grant/resources/index.shtm#5

Feasibility Criteria	Questions to Answer and Comments
Administrative	▪ Does the community have the capability (staff, expertise, time, funding) to implement the action? ▪ Can the community provide the necessary maintenance of the project? Comments: A complicated project that will demand a great deal of attention from already busy municipal staff will be difficult to implement successfully. If the administrative costs associated with a project are too great, the community can consider hiring additional staff, providing additional training for existing staff, implementing a less complicated project, or implementing a complex project in phases.
Political	▪ Is the mitigation action politically acceptable? ▪ Will the general public support or oppose this project? Comments: A highly visible project that is costly and does not have broad public support will be very difficult to implement. When committing to a controversial project, the community should prepare for the time and expense required to work through the controversy.
Legal	▪ Does the community have the authority to implement the proposed action? ▪ Will the action comply with local, State, and Federal environmental regulations? ▪ Do homeowner association bylaws apply to the project site? ▪ Is the action likely to be challenged by stakeholders whose interests may be adversely affected? Comments: Examine the project relative to Federal, State, Tribal, and local laws to determine whether there is potential for violating a law. If a project has the potential to violate a law, it may not be the best alternative. Model deed restrictions resources that may be helpful for mitigation projects involving voluntary acquisition of real property are available online at: http://www.fema.gov/government/grant/resources/pre-award.shtm.

Feasibility Criteria	Questions to Answer and Comments
Economic	• Do the costs of the action seem reasonable for the size of the problem and the likely benefits? • What burden will be placed on the local economy to implement and maintain the action? • Will the action generate additional jobs locally? Comments: When evaluating capabilities, the community should estimate the long-term annual cost of maintaining the project, such as the costs of mowing grass when property is acquired as part of a buyout project and used as a park (see Figure 7). FEMA will not pay for project maintenance. A project that will endanger public health or reduce employment opportunities is not likely to be widely supported. An action cannot be implemented without sufficient funding. Examine various avenues for funding a mitigation project; a costly mitigation project could be financially feasible if the community applies for and receives grant funds to supplement available community resources.
Environmental	• Is the proposed action in a floodplain or wetland or will it indirectly impact the natural and beneficial functions of a floodplain or wetland? • How will the action affect the natural environment? • How will the action affect utility and transportation systems? Comment: Unless detrimental effects of a project on the natural environment can be minimized, the project under consideration may not be a good fit for the community.

Figure 7: Water stands in a former residential area that State and local officials included in a floodplain buyout program after the 1993 floods in Crystal City, MO. (FEMA Photo Library)

Review Environmental Policies

This stage of the process provides a perfect opportunity for an initial review of applicable national policies such as the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), and Executive Orders concerning Floodplain Management and Wetlands Protection. The review will identify potential environmental impacts that may present obstacles to implementing a proposed alternative.

Federal and State resource agencies can assist in the review by providing information about the alternative's potential impacts to the natural environment or to historic properties. Early coordination with other agencies can contribute valuable information to the feasibility analysis and may identify mitigation strategies that will minimize negative effects. Coordination may also provide opportunities to integrate the goals and principles of other agencies with the mitigation goals of the project.

Engaging the public at this stage can inform the analysis of feasibility. Public involvement is valuable in identifying critical impacts of alternatives on the human environment, suggesting new alternatives or modifications that will reduce negative impacts, and potentially increasing public understanding of hazard mitigation goals and support for mitigation actions.

> **Tip: Documenting the feasibility review of each alternative is an important part of the process of turning mitigation alternatives into mitigation projects. The data gathered during the review will facilitate the process of applying for grant funding and help to justify the selection of the project.**

Example

Scenario

- The problem statement is: Emergency response personnel stationed in Fire Station #3 are at risk from tornadoes because there is no basement for shelter (see Figure 8).

- The fire station is an historic structure.

The following worksheet shows how a community might document a feasibility review for one alternative, the construction of a safe room. Other alternatives, for example, may be to excavate and build a basement under the firehouse or to develop a plan to evacuate personnel should a tornado threaten the location.

Use the Feasibility Review Worksheet as a guide to address how the alternative relates to the hazard mitigation plan and to consider the STAPLEE criteria. A blank worksheet is provided in Appendix A.

If the feasibility reviews reveal serious difficulties or obstacle associated with each of the alternatives, the community should revisit the process to determine whether the problem has been properly defined and whether identified obstacles can be overcome or mitigated.
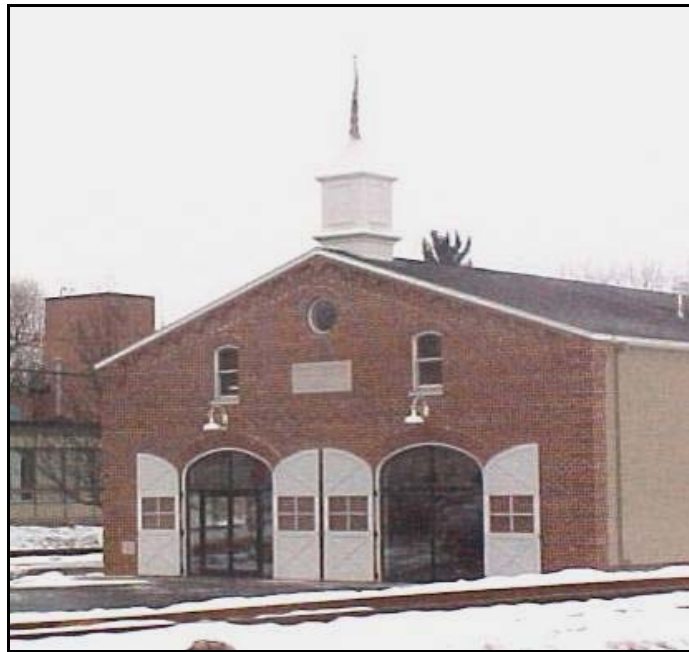
Figure 8: Lewisburg, PA Fire Station. (Courtesy Shubha Shrivastava)

Step 3: Conduct a Feasibility Review to Evaluate Alternatives

Feasibility Review Worksheet   *Example*

Hazard   Tornado

Alternative   Build safe room inside Fire Station #3

Answer the question below. Then fill in each row of the table from left to right. When complete, evaluate responses on this and other feasibility review worksheets to decide if this alternative is the best alternative for the community.

How is this alternative consistent with the local hazard mitigation plan? (Cite specific goals, objectives; give relevant page numbers)

The mitigation plan lists (page 7) tornadoes as a hazard, identifies Fire Station #3 as vulnerable to tornado damage, and includes "building safe rooms in occupied public buildings without basements" (page 55) as a mitigation action that the community will implement.

STAPLEE criteria	First, ask questions	Second, answer questions	Third, note potential negative effects or obstacles	Fourth, note opportunities to mitigate potential negative effects or overcome potential obstacles
Social	Will the project affect one segment of our population unfairly?	No		
Social	Will the project disrupt a historic site?	Possibly	The Fire Station was built in 1880	Work with local historic preservation agency to ensure no loss of historic value. Review How-To Guide #8 (FEMA 386-8) for additional recommendations.
Social Political	Will the project block a beautiful view?	No		
Social Environmental	Will the project decrease the amount of parkland in the community?	No		
Technical	Will the project solve the problem?	Yes		
Technical	Will the project be at risk of loss from any hazard?	Possibly; need to investigate this carefully		

Step 3: Conduct a Feasibility Review to Evaluate Alternatives

STAScriteria	First, ask questions	Second, answer questions	Third, note potential negative effects or obstacles	Fourth, note opportunities to mitigate potential negative effects or overcome potential obstacles
Administrative	Will the project require additional local staff?	No		
Political	Will elected officials support the project?	Yes		
Legal	Will the project violate any laws or regulations?	Possibly		
Economic	Can the community afford to maintain the project?	Yes; it will be maintained as part of the Fire Station and will not significantly increase maintenance costs		
Economic	Can the community afford to implement the project?	No, not without additional funds	No local funding is available for this project	As specified in the hazard mitigation plan, research Federal and State funding opportunities and apply to appropriate programs
Economic	Will the project affect community jobs?	No		
Economic	Can the community match Federal funds to support the project?	Possibly	Funds are not currently available	Consider fundraising and using volunteer labor for construction
Economic	Will the project diminish housing or property values?	No		

Step 3: Conduct a Feasibility Review to Evaluate Alternatives

STAPLEE criteria	First, ask questions	Second, answer questions	Third, note potential negative effects or obstacles	Fourth, note opportunities to mitigate potential negative effects or overcome potential obstacles
Environmental	Will the project affect community health?	No		
Environmental	Will construction or operations pollute surface or ground water?	No		
Environmental	Will the project affect a floodplain?	No		
Environmental	Will the project affect a wetland?	No		
Environmental	Will the project increase the level of flooding?	No		
Environmental	Will the project pollute the air?	No		
Environmental	Will the project affect any identified Federally-listed threatened or endangered species and/or designated critical habitat in the project area?	No		
Environmental Social	Will there be any negative public health effects?	No		
Environmental	Will the project increase demand for water and electricity?	No		

Step 4: Select the Project and Develop the Project Scope of Work
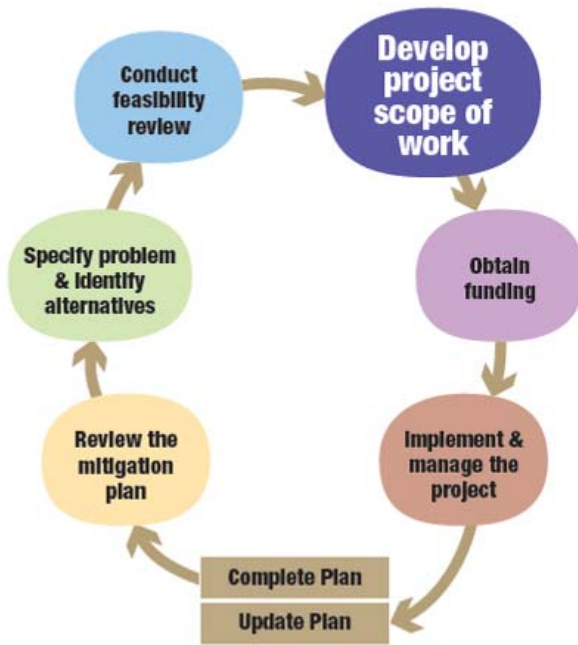
Select the best project for the community based on the feasibility review of each alternative. Once the community has selected an alternative, the next step is to develop the project scope of work. The project scope of work fully defines and documents all associated tasks, costs, and effects of the project. A good deal of information must be gathered before the scope of work can be prepared for the project. Preparing the scope of work including a timeline and budget for a project can be both time consuming and costly, but the scope of work is key to developing a successful application for grant funding.

Preparing to Develop the Scope of Work

The project scope of work describes the proposed activity by answering the questions:

Who?

What?

When?

Where?

Why?

How?

Because developing a scope of work for a project requires a great deal of time and effort, a community should prepare. A simple worksheet for preparing to develop the scope of work for a project is presented below.

A blank worksheet for preparing to develop the scope of a project is included in Appendix A. Use the worksheet as part of the process to

answer the questions of who, what, when, where, why, and how. Answers for many of the questions can be found in the hazard mitigation plan.

Example

Scenario

- The problem statement is: Twenty homes in the Laurel Valley Subdivision flood whenever the area receives more than ½ inch of rain per hour for 3 or more consecutive hours. New development in the area has reduced the ground capacity to absorb the rain water.

- Alternatives considered by the community were to enlarge a culvert under the State Highway adjacent to the subdivision, elevate the homes, or construct a detention pond.

- Consultation with experts in stormwater management determined that a larger culvert would not solve the problem.

- A public meeting revealed a great deal of opposition to the idea of elevating the homes because of the inconvenience to individual homeowners.

- Stormwater management experts agreed that the best solution to the problem is to construct a detention pond that will be connected with the existing system of swales designed for stormwater drainage. Therefore, this project has been selected.

Worksheet for Preparing to Develop the Scope of a Project

Example

Hazard: Flooding
Project: Develop a stormwater detention pond for the Laurel Valley Subdivision

In the middle column, note the pages in the hazard mitigation plan that provide answers to the question posed in the left-hand column. In the right-hand column, provide brief answers.

Question	Where to find answers in the Hazard Mitigation Plan	How will your community answer this question or how does Hazard Mitigation Plan answer this question?
What exactly is the problem?	Hazard Identification page 20 Hazard Profile page 30	Problem is flooding of 20 newer homes developed along Mill Pond Road. Twenty homes in the Laurel Valley Subdivision flood whenever the area receives more than ½ inch of rain per hour for 3 or more consecutive hours.
How often does flooding occur?	Hazard Profile page 30	Flooding occurs an average of twice each year.
What is the extent of flooding?	Hazard Profile page 31	On the average, flood depth is 6 inches above first floor elevations. A hydrologist will do a flood study to determine the discharge and flood depths associated with various rainfall events.
Is the area affected by other hazards?	Hazard Profiles Pages 25-35	The area is also at risk of experiencing tornadoes, hail, and ice storms.
What is the cause of flooding?	Hazard Profile page 31	The affected homes are in a low-lying area. The area has experienced intense development recently and the ground absorbs far less water than in the past.
How will a detention pond solve the problem?	Mitigation Strategy page 99	A pond will provide temporary storage capacity for water that was once absorbed by the farm fields and pastures in the area that are now covered with structures, driveways, sidewalks, and roads.
Where is the best location for a detention pond?		Hydrologists and land surveyors will be consulted so that the pond is fed by the existing system of swales constructed in the subdivision for the purpose of moving excess stormwater away from the homes.
What are the existing soil and development conditions at the best location?		Consult Soil Conservation Maps; current zoning maps; current property assessment data to answer this question.
What alternatives to a detention pond have been considered?		Elevating structures in the area; improving stormwater drainage on the State Highway adjacent to Laurel Valley Subdivision; doing nothing

Question	Where to find answers in the Hazard Mitigation Plan	How will your community answer this question or how does Hazard Mitigation Plan answer this question?
Why is a detention pond the best alternative?	Mitigation Strategy page 98	The mitigation strategy documents that a pond is the preferred alternative. It is far less costly than elevating structures in the area; is better than doing nothing and incurring frequent flood losses. Expert opinion will be obtained regarding the possibility of other alternatives.
What will the impacts be during construction?		The public works department will be consulted to follow standard procedures for minimizing sedimentation, noise, traffic pattern disruption.
Who will implement the detention pond project?		The Department of Public Works will implement the project following established procedures for accepting qualifications and bids.
How will the detention pond be built?		The City Engineer will determine specifications.
When will the detention pond be built?		The City Engineer will be consulted to determine best time of year.
What will the detention pond cost?		Cost will be based on bids submitted by qualified firms. Other communities that have implemented similar projects will be consulted. This depends on the exact size of the pond and construction techniques utilized.
How large will the detention pond be?		A hydrologist or engineer will determine surface area and required depth of the pond.
How will the pond be constructed?		Engineers will determine the best method of construction.
Who will be responsible for maintaining the detention pond?		The Department of Public Works will maintain the pond.
What will the costs of maintaining the detention pond be?		The Department of Public Works will be consulted about maintaining functionality; the Department of Parks will be consulted about mowing grass; the Department of Sanitation will be consulted about removal of litter and debris.
What are the residual risks[2]?	Hazard Profiles pages 31-45	Location is not prone to damage from other hazards. There are no records of heavier rainfall events occurring in this area and rainfall records have been maintained for the past 55 years.

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[2] Residual risk means the risk of flooding remaining after the stormwater detention pond is built.

The worksheet does not result in a complete mitigation project scope of work; it is a tool that communities can use to refine the concept for the project and prepare to write the project scope.

The Scope of Work

The scope of work for a project will contain several components. The contents of the scope of work for a mitigation project will depend upon the nature of the project. Nevertheless, there are some commonalities in a complete scope of work including:

First, the scope of work will include a **detailed description** of the proposed project. This alone is sometimes called the project Scope of Work. To write a detailed description, be prepared to:

- Explain each and every task required to complete the project

- Develop detailed supporting information such as drawings that can be part of the grant application.

- Explain who will do the work and where it will occur.

If the description of the scope of work is vague and that does not clearly define and fully describe a project, the application for funding is generally not approved for an award. The scope of work will describe:

- **The problem** that the project will remediate, including:

  o The numbers of people or the value of property at risk of harm or damage if the problem is not addressed

  o Evidence developed by experts that the project will reduce or eliminate the potential for damage

  o The reasons why this project will successfully protect against future damages

- **The process** undertaken in making the decision to implement this project, such as:

  o The alternatives considered

  o The reasons why this alternative was selected

  o The findings of the feasibility review

- **The work** that will be done, including:

  o Location of the project with full street address as well as latitude and longitude

  o Map(s) showing the project location and important features in the vicinity of the project

  o For construction projects, project dimensions, engineering drawings, a description of the materials that will be used in the project, and a description of the construction techniques that will be used

  o For acquisition projects, copies of the deed restrictions that will be used ensuring that the property will remain as open space in perpetuity

- **Existing conditions**, which may include:

  o The elevation of a structure in a floodplain and ground elevation data

  o The use and occupancy of a structure

  o The size, age, value, and condition of the structure

  o Details about the original construction and any upgrades or additions

  o Information about the hazardous materials used in its construction or stored on site

  o A detailed description of damages sustained in the past

Second, the scope of work will include a **timeline** or work schedule.

- The project timeline should indicate major milestones. Milestones can be used to measure progress and may be tied to reporting requirements for the purpose of receiving reimbursement for project expenditures.

- Milestones are major accomplishments, not the smaller tasks involved in order to achieve them. For example, if a structure has been demolished and a milestone is to prepare the property for use as open space, the tasks involved might include bringing equipment to the location, grading the property, purchasing and delivering ground cover plants and trees, fertilizing, planting, and watering.

- The anticipated work schedule showing the amount of time allocated for each major task or component of the project. For example, for a property acquisition project, the schedule would estimate the amount of time required to:

    o Complete property surveys

    o Obtain property appraisals

    o Conduct title searches

    o Determine purchase offers

    o Implement the offer process

    o Prepare the deeds

    o Complete the transfers of property

    o Demolish and clear debris

    o Grade the property and replant

Third, the scope of work will include a detailed **cost estimate**.

- The cost estimate should provide an itemized project budget showing, for example, the costs of labor, engineering, site acquisition, materials, supplies, equipment, transportation, and communications.

- Costs must be justified and reasonable and the sources used to develop the estimate should be provided.

- The cost estimate should show, depending upon grant program guidelines, the Federal share and the local match, including all public and private financial contributions towards project completion.

    o How matching funds will be applied to the project may be required as part of the cost estimate.

    o Table 3 shows the typical ratio of Federal funds to the local cost share for each of the five FEMA grant programs and for Public Assistance (PA) projects.

Table 3: FEMA Hazard Mitigation Assistance Grant Programs Cost Share

Grant program	Typical ratio of percentage of Federal funds to local funds[3]
Hazard Mitigation Grant Program (HMGP)	75 / 25
Pre-Disaster Mitigation (PDM)	75 / 25
Flood Mitigation Assistance (FMA)	75 / 25
Repetitive Flood Claims (RFC)	100 / 0
Severe Repetitive Loss (SRL)	90 / 10
Public Assistance (PA)	75 / 25

Tip: For additional detail regarding cost share requirements, review specific program guidance before completing an application for Federal funding. Guidance for individual FEMA Hazard Mitigation Assistance programs is available on the following Web sites:

HMGP **http://www.fema.gov/government/grant/hmgp/index**

PDM **http://www.fema.gov/government/grant/pdm/index**

FMA **http://www.fema.gov/government/grant/fma/index**

RFC **http://www.fema.gov/government/grant/rfc/index**

SRL **http://www.fema.gov/government/grant/srl/index**

PA **http://www.fema.gov/government/grant/pa/index**

Information about mitigation programs is also available at: http://www.fema.gov/library/viewRecord.do?id=3309.

- The scope of work will support the estimated cost of the project with detailed **documentation** of the costs of design, construction, materials, and site preparation and landscaping as applicable, as well as legal, permitting, and inspection fees.

  - A cost estimate may be based on a combination of estimates from qualified sources, including firms or professionals qualified to work on the project and published national or local cost estimating guides.

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[3] The ratio of Federal to local funds may differ by declaration and will differ for small and impoverished communities.

- The cost estimate should reference the sources of the figures used.

  o For long term projects, a well-prepared cost estimate will address the potential impact of inflation on future costs.

  o If there is potential for significant adverse effects to environmental, historic, and cultural resources or potential for significant public controversy, projects may require extensive evaluation or assessment.

    - For information about the circumstances that may trigger a thorough environmental or historic preservation assessment and for the typical range of costs for completing such studies, refer to Appendix B in this guide.

When developing the scope of work, consider how Federal and non-Federal funds will be used. In general, the non-Federal **cost share** may not include funds from other Federal agencies. The local or non-Federal cost share may include funds from the State, the local annual budget, or private donations. Depending upon program requirements, the cost share may include the land, equipment, supplies, staff and/or volunteer labor necessary to implement the project. However, some Federal funding programs have authorizing statutes that explicitly allow the funds to be used as a cost share for other Federal grants. These special cases include:

- U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) monies, which may be used as cost share for property acquisition projects as long as the projects are eligible under the CDBG program.

- U.S. Small Business Administration (SBA) loan funds and the U.S. Department of Agriculture's (USDA's) Farm Service Agency loan funds, which lose their Federal identity once the loan is approved and may be used as a cost share.

- Tribal Health Services funds, which may be used as cost share for PDM funds as long as the mitigation activity "contributes to the purposes for which grants…are made" under the Tribal Health Services statute.

- Bureau of Tribal Affairs funds, which may be used as cost share.

- Appalachian Regional Commission funds, which may be used as cost share per Title 40 of the United States Code (U.S.C.) 14321(a)(3).

- Funds derived from Title III of the Secure Rural Schools and Community Self-Determination Act of 2000, 16 U.S.C. 500, which may be used as cost share, as long as the use is consistent with the purposes of that Act.

- The National Flood Insurance Program (NFIP) Increased Cost of Compliance (ICC) claim payment from previous flood events, which may be used to meet the non-Federal cost-share requirements, as long as the period for making such a claim remains open.

Fourth, the scope of work may include a **maintenance plan**.

- For a project that will require indefinite maintenance, the scope of work should include a plan or evidence that the local community has the capacity to maintain the project indefinitely.

- A funding agency may be reluctant to fund a project if a local community does not demonstrate in the scope of work that it will be able to maintain the project in the long term.

- For example, for a property acquisition project, the scope of work should explain how the grass will be mowed routinely in the future as well as a sample deed restriction showing how the community will ensure that the property will remain undeveloped.

Fifth, the scope of work will include sufficient information so that the need for specific consideration of **environmental or historic preservation issues** can be determined. For a list of Public Laws and Executive Orders that a community must comply with when implementing a mitigation project, refer to Appendix C in this guide.

For the purpose of answering questions regarding environmental and historic preservation issues, as well as to fully understand the implications of a project, a complete and accurate project scope of work will clearly indicate:

- Extent and depth of ground disturbance for new construction or structure modification, including laying of utility lines

- Special equipment that will be used, staging areas, and access roads, etc.

- Information about resources in the vicinity of the project, including:

  - Water bodies (rivers, lakes, streams, wetlands, etc.)
  - Historic resources (historic districts, buildings, etc.)
  - Special areas (forests, wildlife refuges, reserves, etc.)
  - Floodplains

Tip: Prepare to develop the scope of work of a mitigation project by reviewing online Environmental and Historic Preservation Resources found at: (http://www.fema.gov/plan/ehp/).

These include:

Environmental and Historic Preservation (EHP) Guidance for FEMA Grant Applicants (http://www.fema.gov/plan/ehp/ehp-applicant-help.shtm), which includes links to:

  Useful Information for Expediting the EHP Review
  eLearning Tool for FEMA Grant Applicants
  Providing Effective Project Descriptions

An online course, IS 253: Coordinating Environmental and Historic Preservation Compliance, is available through FEMA's Knowledge Center at http://training.fema.gov/EMIWeb/IS/is253.asp.

A scope of work that contains accurate and detailed data will facilitate consultation with applicable Federal, State, and Tribal agencies as environmental and historic preservation questions arise during the review of an application for funding. Table 4 summarizes some of the environmental issues associated with various types of projects and indicates the entities that may be consulted while developing the scope of work as well as during the process of reviewing an application for grant funding.

Documentation

Preparing a scope of work that includes sufficient information about project tasks, timelines, budget, and maintenance, requires a great deal of knowledge about the problem, how a community manages projects, and how the necessary tasks can be accomplished. Therefore, a complete scope of work can only be prepared with the cooperation of the individual or department that will implement the project.

When applying for grant funding, a scope of work that is complete and well-documented is critical. Inadequate documentation of any component of the scope of work will significantly delay the approval of an application for grant funding. Securing documentation of all aspects of a project during the process of developing the scope of work is good practice. Adequate documentation will not only facilitate the review process but

will also be very important should the project be challenged through the legal process.

Table 4: Potential Consulting Entities by Type of Project

Type of Project	Project May Affect	Potential Consulting Entities
Acquisition, Demolition	Historic property, historic district Floodplain, wetlands Minority/low-income population	State Historic Preservation Office (SHPO) Tribal Historic Preservation Officer (THPO) U.S. Fish and Wildlife Service (FWS) State Coastal Management Agency State NFIP Coordinator U.S. Environmental Protection Agency (EPA)
Elevation	Historic property, historic district Floodplain, wetlands	SHPO THPO State Environmental Quality Agency State NFIP Coordinator
Minor Flood Control Projects	Wildlife populations, critical habitat Floodplain, wetlands Historic property, historic district	U.S. Army Corps of Engineers (USACE) State Environmental Quality Agency FWS State NFIP Coordinator SHPO
Relocation of a Structure(s)	Historic property, historic district Floodplain, wetlands Minority/low-income population	SHPO THPO FWS EPA
Dry Floodproofing of Non-residential structure(s)	Historic property, historic district	SHPO THPO
Vegetative Management/Soil Stabilization	Wildlife populations, critical habitat Steep or unstable slopes Floodplain, wetlands	State Environmental Quality Agency FWS USDA: Natural Resources Conservation Service State NFIP Coordinator

Mitigation Plan Update Tip: Consider updating the hazard mitigation plan with useful information collected during the scope of work development process as applicable.

FEMA has developed sample scopes of work to assist applicants applying for funding through FEMA's Hazard Mitigation Assistance grant programs in developing a complete scope of work. The purpose of these documents is to provide guidance to applicants regarding the collection of administrative and technical data that FEMA requires. These documents are available from the FEMA Web site at http://www.fema.gov/government/grant/resources/index.shtm#2 and provide guidance for developing the scope of work for the following types of projects:

- Acquisition of Floodprone Properties

- Elevation of Floodprone Structures

- Acquisition and Relocation of Floodprone Structures

- Drainage/Stormwater Management Project

- Protective Measures Retrofit Projects for Utility, Water, and Sanitary Systems and Infrastructure

- Seismic Structural and Non-Structural Retrofit Projects

- Wind Retrofit Projects

Step 5: Obtain Sufficient Funding Based on the Well Developed Scope of Work

Not all mitigation actions proposed in hazard mitigation plans will require new sources of funding. Many actions will be funded through routine annual budgets. These may, for example, include actions to coordinate with other planning mechanisms, such as the general plan or to update or adopt various types of ordinances (zoning, subdivision, floodplain management) and building codes and standards. Other examples of actions that can be funded through routine operating budgets may be modifications to routine maintenance processes such as to schedule more frequent cleaning of culverts or the provision of information on the community Web site to educate the general public about ways to protect homes and businesses from damages. However, many mitigation projects are costly and communities cannot afford to implement them without additional funding. Before beginning to write an application for additional funding to implement a mitigation project, the scope of the project should be fully developed.

Applying for funding follows this three step process:

1. Identify an appropriate source of funding for the proposed mitigation project.

2. Complete an eligibility review using the current year program guidance.

3. Using the fully developed scope of work, complete and submit the application prior to the program deadline.

First: Identify an Appropriate Source of Funding

Communities should consider reviewing potential sources of funding from various Federal or State government sources, private corporations,

or foundations. Requirements are published in the Federal Register and on respective agency Web sites for each Federal grant funding program. Appendix D lists a variety of different types of Federal funding and technical assistance programs that may be suitable for different mitigation projects. For information about specific Federal programs including application deadlines, current and exact eligibility requirements, and information on the application process, consult the Catalog of Federal Domestic Assistance (CFDA) available on online at http://12.46.245.173/cfda/cfda.html, search agency Web sites, or contact regional or local offices of the administering agency. Appendix D provides only a quick summary of some general types of programs, agencies that may administer them, the main purpose, and type of applicant that may be eligible to apply. The organization of Appendix D is explained in Table 5.

Table 5: Information included in Appendix D

Appendix D lists seven categories of Federal assistance in alphabetical order:
1. Conservation and Environment 2. Economic Development 3. Emergency Management 4. Historic Preservation 5. Housing 6. Infrastructure 7. Mitigation
Appendix D includes programs managed by a number of different Federal agencies including:
▪ U.S. Army Corps of Engineers (USACE) ▪ U.S. Department of Agriculture (USDA) ▪ U.S. Department of Commerce (DOC) ▪ U.S. Department of Defense (DOD) ▪ U.S. Department of Homeland Security (DHS) ▪ U.S. Department of Housing and Urban Development (HUD) ▪ U.S. Department of Labor (DOL) ▪ U.S. Department of the Interior (DOI) ▪ U.S. Department of Transportation (DOT) ▪ U.S. Department of the Treasury (USTREAS) ▪ U.S. Environmental Protection Agency (EPA) ▪ U.S. Small Business Administration (SBA) ▪ Economic Development Administration (EDA) ▪ Federal Aviation Administration (FAA) ▪ Federal Highway Administration (FHWA) ▪ Federal Transit Administration (FTA) ▪ U.S. Fish and Wildlife Service (FWS) ▪ National Oceanic and Atmospheric Administration (NOAA)

Potential sources of funding can also be identified by consulting with other communities and contacting FEMA Regional Offices or State

agencies for suggestions. Appendix E identifies the States served by each of the ten FEMA Regional Offices.

FEMA Mitigation Grant Programs

This section provides an overview of the FEMA mitigation grant programs. FEMA currently offers five mitigation grant programs. Although all of the hazard mitigation grant programs have unique statutory authorities and program requirements, the programs have the common goal of providing funds to States, Tribes, and local communities to reduce the loss of life and property from future natural hazard events.

Two programs provide funding to mitigate the effects of any natural hazard and three are specifically designed to mitigate the effects of flooding. The two mitigation grant programs that fund a variety of mitigation projects and planning activities are:

- The **Hazard Mitigation Grant Program** (HMGP), which makes funds available to implement long-term hazard mitigation projects. HMGP funds become available within a State only after a Presidential disaster declaration is issued for the State. The amount of money available through HMGP depends upon the cost of the disaster. Only communities that have adopted a FEMA-approved local hazard mitigation plan and are in a State with an approved State hazard mitigation plan are eligible to receive HMGP project funds. For more information, go to http://www.fema.gov/government/grant/hmgp/index.shtm.

- The **Pre-Disaster Mitigation** (PDM) program, funded by annual Congressional appropriations, competitively awards grants for mitigation planning and projects. PDM awards planning grants for developing new or upgrading existing hazard mitigation plans and project grants to mitigate the risks associated with hazards. Only communities that have adopted a FEMA-approved local hazard mitigation plan and are in a State with an approved State hazard mitigation plan are eligible to apply for and receive PDM project funds. For more information, go to http://www.fema.gov/government/grant/pdm/index.shtm.

The three mitigation programs that fund flood mitigation projects and planning activities are only available to communities that participate in the NFIP. They are:

- The **Flood Mitigation Assistance** (FMA) program, which was authorized in 1994 to reduce or eliminate NFIP flood insurance claims. It provides funds to assist States and communities in

implementing projects that reduce the long-term risk of flood damage to buildings, manufactured homes, and other structures that are insurable under the NFIP. Only communities that are in a State with an approved State hazard mitigation plan are eligible to apply for and receive FMA funds. Local plans prepared for the FMA program need only address flood hazards in order to be eligible for FMA project grants. However, these plans must be clearly identified as being flood mitigation plans, and they will not meet the eligibility criteria for other mitigation grant programs, unless flooding is the only natural hazard the jurisdiction faces. As discussed later in this guide, a multi-hazard mitigation plan and an FMA plan can be developed simultaneously. For more information, go to http://www.fema.gov/government/grant/fma/index.shtm.

- The **Repetitive Flood Claims** (RFC) program, which was authorized in 2004 to assist States and communities in reducing the potential for flood damages to properties that have had one or more claims to the NFIP. Only communities that are in a State with an approved State hazard mitigation plan are eligible to apply for and receive RFC funds. A FEMA-approved local mitigation plan is not currently required. Also, RFC funds may only be awarded to the States and communities that do not have the resources or capacity to manage the projects themselves. For more information, go to http://www.fema.gov/government/grant/rfc/index.shtm.

- The **Severe Repetitive Loss** (SRL) program, which was authorized in 2004 to provide funding to reduce or eliminate the risk of flood damage to structures meeting one of the following criteria:

    o Residential properties with at least four NFIP claim payments over $5,000 each with the cumulative amount of claims exceeding $20,000; or

    o Residential properties with at least two separate NFIP claim payments made within any 10-year period for which the cumulative amount of the building portion of the claims exceeds the value of the property.

Only communities that have adopted a FEMA-approved local hazard mitigation plan and are in a State with an approved State hazard mitigation plan are eligible to apply for and receive SRL funds. For more information, go to http://www.fema.gov/government/grant/srl/index.shtm.

One additional source of funding for mitigation projects that may also be available to communities following a disaster is the **Public Assistance** (PA) grant program. PA provides Federal funding to State and local governments and to some nonprofit organizations to assist them in responding to and recovering from a specific disaster and in mitigating the risk from future hazard events. The primary goal of the program is to help communities recover from a catastrophic disaster. For more information, go to
http://www.fema.gov/government/grant/pa/index.shtm.

Table 6 summarizes some of the characteristics of the FEMA grant programs.

Table 6: FEMA Mitigation Grant Programs

Grant Program	Authorities	Hazard	Funding	Plan requirement
HMGP	Authorized by §404 of the Stafford Act, 42 U.S.C. 5170c	Multiple hazards	Based on disaster funding	Sub-applicants[4] must have a FEMA-approved local mitigation plan to be eligible to receive project grant funding. All activities submitted for consideration must be consistent with the FEMA-approved State/Tribal mitigation plan as well as the local level mitigation plan for the jurisdiction in which the activity is located.
PDM	Authorized by §203 of the Stafford Act, 42 U.S.C. 5133	Multiple hazards	Annual appropriation	In order to receive project grants, all applicants must have a FEMA-approved mitigation plan by the application deadline. In addition, all sub-applicants must have a FEMA-approved mitigation plan.

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[4] See page 51 of this guide for a discussion of the terms "applicant" and "sub-applicant." Generally, the "applicant" is the State or Tribe and the "sub-applicant" is a local jurisdiction.

Grant Program	Authorities	Hazard	Funding	Plan requirement
FMA	Authorized by §1366 of the National Flood Insurance Act of 1968 (the Act), as amended by the National Flood Insurance Reform Act of 1994	Flood	Annual appropriation	Applicants must have a FEMA-approved mitigation plan by the application deadline. Sub-applicants must have a FEMA-approved local mitigation plan by the application deadline that, at a minimum, addresses flood hazards.
RFC	Authorized by §1323 of the Act, as amended by the Flood Insurance Reform Act (FIRA) of 2004, Public Law 108-264	Flood	Annual appropriation	Applicants must have a FEMA-approved mitigation plan by the application deadline.
SRL	Authorized by §1361A of the Act, as amended by the FIRA 2004, Public Law 108-264	Flood	Annual appropriation	Applicants must have a FEMA-approved mitigation plan by the application deadline. Sub-applicants must have a FEMA-approved mitigation plan.

Table 7 may be helpful in deciding which of the FEMA Mitigation Programs may be appropriate for a particular type of mitigation project. Check program guidance documents available on the FEMA Web site each year as funding guidelines may change.

Step 5: Obtain Sufficient Funding Based on the Well Developed Scope of Work

Table 7: Eligible Mitigation Project Types

Eligible Mitigation Project Types	FEMA Hazard Mitigation Assistance Program				
	HMGP	PDM	FMA	RFC	SRL
Voluntary Property Acquisition/Demolition and Conversion to Open Space	√	√	√	√	√
Relocation of structure	√	√	√	√	√
Elevation of Floodprone Structures	√	√	√	√	√
Localized Minor Flood Control Projects	√	√	√	√	√
Dry Floodproofing of Residential Property meeting the definition of Historic Structure in Title 44 of the Code of Federal Regulations (CFR) Section 59.1			√		√
Dry Floodproofing of Non-residential Structures	√		√	√	
Stormwater Management/Drainage	√	√	√		√
Infrastructure Protection Measures	√	√			
Vegetative Management/Soil Stabilization	√	√			
Retrofitting or Rehabilitating Existing Buildings and Facilities (Wind/Earthquake/Wildfire)	√	√			
Safe Room Construction	√	√			
Post-disaster Code Enforcement Activities	√				
All Hazard/Flood Mitigation Planning	√	√	√		

Tip: Search www.fema.gov for "Grant Applicant Resources" for additional information about applying for FEMA funds.

Step 5: Obtain Sufficient Funding Based on the Well Developed Scope of Work

Second: Complete an Eligibility Review

Funding program guidelines are typically published on the funding agency's Web site. The guidelines will explain the program eligibility criteria. The individuals who may be completing applications for funding must read and review the eligibility criteria to determine whether the community is eligible to apply for the program for a particular project. For example, a community that has not adopted a FEMA-approved hazard mitigation plan is ineligible to receive an HMGP award.

The Eligibility Worksheet provides questions to answer before beginning the application process. If the answer to all questions is "yes," beginning the application process is appropriate. The sample Eligibility Worksheet below suggests steps a community can take if the answer is "no." Sometimes a community may be able to ensure eligibility for a particular type of funding in the following year or the next time the funding is available. Communities are highly encouraged to complete a worksheet to ensure that valuable time is not wasted writing an application for grant funding that the community is not eligible to receive. A blank Eligibility Worksheet is included in Appendix A.

Leverage the Mitigation Planning Process

Adopting a FEMA-approved hazard mitigation plan is required for FEMA Hazard Mitigation Assistance programs and may facilitate obtaining other funds that can be used for mitigation projects. Having a plan demonstrates that a community is requesting assistance based on a thorough planning process that included public participation and that determined that the activity for which funding is sought will be effective in solving a problem.

A mitigation plan can also be developed to meet the expectations of the Community Rating System (CRS) program to enhance the CRS rating of a community. The CRS is a voluntary program for communities that participate in the NFIP. A CRS community engages in various activities to reduce flood damages, such as developing a **Floodplain Management Plan**. Depending upon the number and nature of activities, residents and business owners in CRS communities may pay lower flood insurance premiums. For more information about the CRS program, visit the FEMA Web site (http://www.fema.gov/business/nfip/crs.shtm).

Step 5: Obtain Sufficient Funding Based on the Well Developed Scope of Work

Eligibility Worksheet   *Example*

Funding Program _____

Note whether the answer to the question posed in the left-hand column is yes or no.

If the answer is yes to all questions, the community may complete and submit an application for this funding program.

If the answer to a question is no, note what information is needed or what the next step will be so that the community can complete and submit an application for this funding program in the future.

Question	Yes	No	Next step(s) if the answer is no
Does the community meet specified eligibility requirements such as participation in the NFIP and/or having a hazard mitigation plan?		√	• If community is ineligible because it does not participate in the NFIP, consider the possibility of participating in the NFIP by contacting the State NFIP Coordinator.[5] • If the community is ineligible because it does not currently have an approved hazard mitigation plan, begin to prepare a hazard mitigation plan or consider applying for a grant to develop a hazard mitigation plan. • If the answer to this question is unclear, contact the State Hazard Mitigation Officer, FEMA Regional Office or other State or Federal offices for assistance.
Is the funding intended for the type of project I wish to implement?		√	• If the funding program is not intended for the type of project under consideration, look for a different, more appropriate source of funding for the project. • If the funding program is meant for other types of projects, review other actions in the Mitigation Strategy that may fit the funding program and consider developing those actions into specific projects that this funding may support in the future.

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[5] A list of State NFIP Coordinators is available on the Association of State Floodplain Managers Web site, www.floods.org.

Do I have time to complete and submit the application?		√	• If sufficient time to meet the application deadline is not available, look for the announcement of funding availability earlier in the next funding cycle. • If there is no time to develop and document the scope of the project, conduct the feasibility review, and prepare the project scope of work so that there will be time to complete the application before the deadline next year. • If the application seems too complicated to complete by the deadline, contact the agency that administers the project for technical assistance.
Do I have sufficient documentation to complete the application?		√	• If documentation necessary to support an application is not available or the proposed project is not yet adequately developed, identify resources for completing the project scope, such as engineers, builders, and local code enforcement officials.

By carefully considering the watershed resources in a community, a hazard mitigation plan can also be written to meet the requirements of an **EPA Watershed Plan**. An EPA Watershed Plan must, like a hazard mitigation plan, utilize a careful planning process with opportunities for public participation, a careful collection and analysis of data, and an evaluation of feasibility of suggested actions using all of the STAPLEE criteria.

Similarly, a hazard mitigation plan can be developed to meet all of the requirements of a **Community Wildfire Protection Plan**. With a plan for using comprehensive forest planning to reduce the risk of wildfire, communities are given priority for receiving U.S. Forest Service and Bureau of Land Management assistance for implementing forest management and hazardous fuel reduction projects.

Leveraging Funds in the Post-Disaster Environment

Natural hazards do not necessarily lead to natural disasters. Hurricanes and blizzards, for example, can bring much-needed precipitation. But when a natural hazard event interacts with the built environment and causes casualties and damage, the affected area may be declared a disaster area by the President. A Presidential disaster declaration makes additional Federal funds available for restoring essential services in these

communities. In this situation, a community may be able to combine different funding sources to support mitigation projects.

A community that has planned to modify structures and infrastructure to reduce the risk of damage is eligible and prepared to apply for a variety of funds in the post-disaster environment. Such communities may also receive unexpected cash donations to assist in recovery efforts from nonprofit and charitable organizations and corporate foundations. These additional funds may be used for the cost share or local match to Federal funds to further stretch limited local mitigation dollars and rebuild the community so that it is less vulnerable to losses in the future.

Communities that have developed a hazard mitigation plan already know the types of actions that will make them better-prepared to withstand the effects of a natural hazard event in the future. These communities are in a good position to leverage the post-disaster funds to repair damages from the hazard event and to implement mitigation measures to reduce the potential for damage in the future.

> **Tip: Communities may consider using public or private funds such as grants provided by foundations or corporations to achieve multiple objectives in the post-disaster environment.**
>
> **The disaster recovery period can be an opportunity to accomplish economic development, historic preservation, neighborhood revitalization, and other objectives while working on community recovery and mitigation projects.**

After a disaster, FEMA is willing to work with communities to make them safer and more resilient when natural hazards occur. Section 406 of the Stafford Act provides disaster recovery or Public Assistance funding for facilities that were damaged by a disaster. Section 404 of the Stafford Act provides mitigation funding to provide protection from subsequent events. Sometimes a combination of Sections 406 and 404 funding may be appropriate as in some areas affected by Hurricane Katrina as demonstrated by the news release in Table 8. The mitigation projects must be related to eligible disaster-related damages and must directly reduce the potential for future similar disaster damages.

Table 8: Partnered Mitigation Project

Partnered Mitigation Project News Release
FEMA Gives $505,000 to Rebuild Long Beach Firehouse
Release Date: August 31, 2006
Release Number: 1604-431

BILOXI, Miss. -- The Mississippi Emergency Management Agency (MEMA) and the City of Long Beach are beneficiaries of a new way of doing business by the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA).

FEMA is coordinating funding from two of its recovery programs to build a 2,700 square foot firehouse that will also serve as a shelter for emergency personnel. The new facility will replace Fire Station Number 2 that was destroyed by Hurricane Katrina's average 125 mph winds and 25-foot storm surge.

"This project is the first Partnered Mitigation Project that brings together the funding from our Hazard Mitigation Grant Program and Public Assistance programs at the same time to repair or replace public facilities and make them stronger," said Nick Russo, federal coordinating officer for the Mississippi disaster recovery. The project funds are administered by MEMA.

Nearly $128,000 in public assistance funds will be used to replace the former fire station. A hazard mitigation grant totaling about $377,000 will allow the firehouse to be "hardened" by using reinforced concrete in the construction of the facility enabling it to withstand 200 mph winds.

"During any disaster, we know that local first responders have to be able to adequately perform their duties," said MEMA Interim Director Mike Womack. "This will not only be a firehouse that can withstand high winds and storm surge, but a safe haven for those individuals who are so crucial immediately after a disaster strikes."

The fire station will double as a shelter for 52 emergency personnel including firefighters, police, emergency medical technicians and heavy equipment operators.

"This is a critical facility for our first responders," said Long Beach Mayor Billy Skellie. "Without it we would have to locate emergency personnel farther inland, adversely impacting the safety of our residents."

The new firehouse is just four blocks from the Gulf of Mexico but it will sit on land above the Hurricane Katrina storm surge. "Its location will allow us to provide a quick response time and needed fire suppression support to the local community," added George Bass, Long Beach fire chief.

The facility will be outfitted with emergency generators and a 14-day fuel supply to support continuous operations.

FEMA's Public Assistance program normally pays to repair damaged structures to their preexisting condition or rebuild to an applicable code. Hazard Mitigation Grant Program funds, on the other hand, typically fund activities that seek to reduce the risk and vulnerability of structures from hurricanes and other dangers. The Partnered Mitigation Project will allow for these two programs to work in concert with each other so applicants can maximize their resources and complete comprehensive mitigation projects.

Source: http://www.fema.gov/news/newsrelease.fema?id=29422

Third: Complete and Submit the Application

This section presents the FEMA grant application process and some of the application features. This section also summarizes the ways in which the hazard mitigation plan facilitates the completion of funding applications. The section discusses the three technical reviews that FEMA carries out for every project application and presents common pitfalls encountered by grant application preparers.

FEMA Grant Applications

Those applying for FEMA funding are classified as either **applicants** or **sub-applicants**; once funds are awarded they are called **grantees** or **sub-grantees**, respectively. Grantees receive funding directly from FEMA and are usually States, Territories, or Tribes. Sub-grantees are usually local or Tribal jurisdictions, which receive FEMA funding through a grantee. Tribal governments may apply as either applicants or sub-applicants; the FEMA Regional Office can explain if a particular entity should act as an applicant or a sub-applicant.

The applicant receives and reviews, selects, and prioritizes applications that have been developed and submitted to them by local jurisdictions to submit to FEMA for grant funds.

Potential applicants and sub-applicants should contact their SHPO or FEMA Regional Office for detailed information regarding specific program and application requirements.

Figure 9 below summarizes the FEMA grant application process.
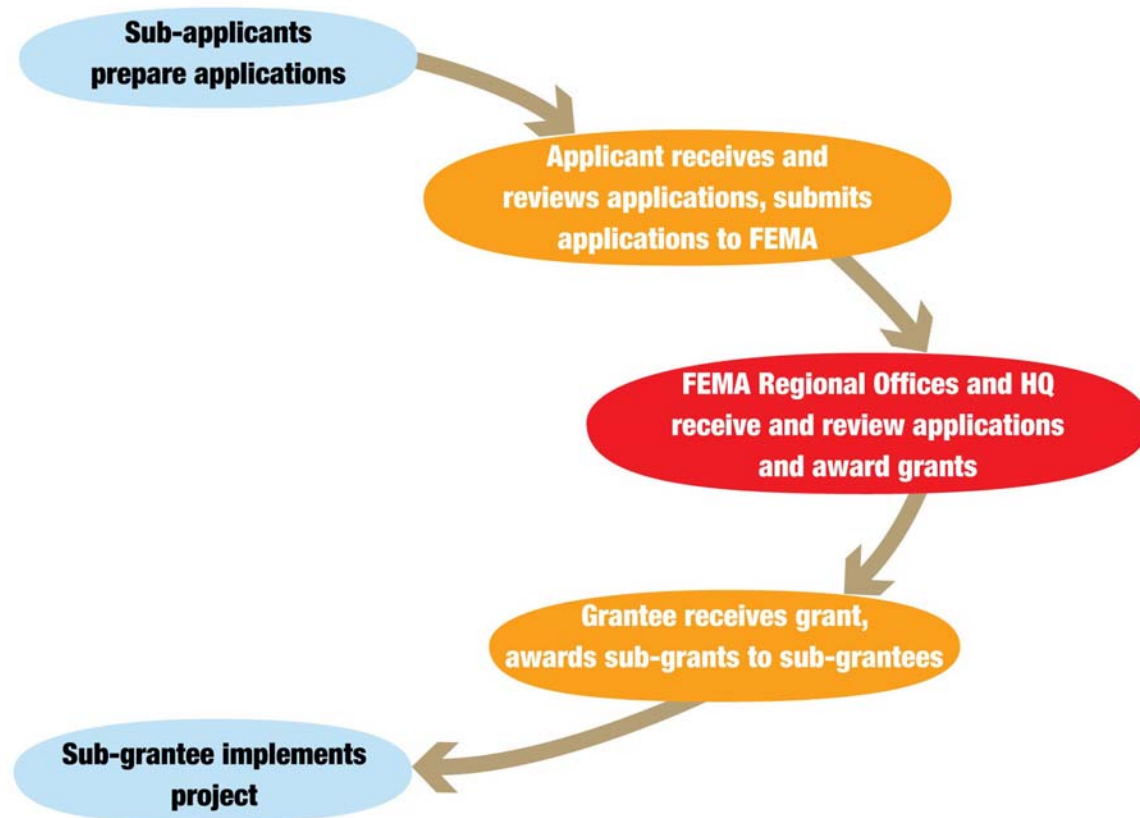
Figure 9: FEMA grant application process

Tip for State and Tribal Applicants: The FEMA Hazard Mitigation Assistance programs, with the exception of HMGP, require State and Tribal applicants to submit grant applications to FEMA using FEMA's Electronic Grants Management System (*e*Grants).

Applicants must provide an original and two copies of any paper supporting documentation (e.g., engineering drawings, photos, maps) that cannot be electronically attached to the *e*Grants application to the appropriate Regional Office by the application deadline.

The Mitigation *e*Grants System Web page (http://www.fema.gov/government/grant/egrants.shtm) provides detailed information on using the *e*Grants system, including blank grantee and sub-grantee applications.

Grant Applications Components

Grant application guidelines specify the exact information that must be presented and the types of documentation that must be attached to support the application.

Step 5: Obtain Sufficient Funding Based on the Well Developed Scope of Work

Applications for funding programs managed by FEMA require background information about the community. Applications also require community floodplain management information even if the project is not a flood mitigation project. Table 9 explains where to find the relevant information.

Table 9: Community Floodplain Management Information

Item	Description	Where to find the item
CID Number	The NFIP has assigned a community identification (CID) number to each community. Some Tribal jurisdictions may not have a CID.	A CID number is a unique 6 digit number that can be found on the cover or front panel of each Flood Insurance Rate Map (FIRM) issued for a jurisdiction. The CID is also available in the Community Status Book, which is on the FEMA Web site.[6] If a FIRM has been created for the entire county or parish, a local jurisdiction must take care to use the CID assigned to the jurisdiction rather than the county or parish.
CRS Community	Communities that participate in the NFIP may opt for flood protection standards that exceed minimum requirements and may participate in the CRS program so that residents and business owners pay reduced flood insurance premiums. Just over 1,000 communities participate in the CRS program, whereas there are over 20,100 communities that participate in the NFIP.	Contact the local floodplain administrator, the State NFIP Coordinator, or refer to the local hazard mitigation plan for this information. Information is also available in the Flood Insurance Manual on the FEMA Web site.
CRS Rating	If a community participates in the CRS, it is in one of 10 different classes; communities in class 1 receive the greatest reduction in NFIP premiums and those in class 10 receive no reduction in premiums.	Contact the local floodplain administrator, the State NFIP Coordinator, or the State, Tribal, or local hazard mitigation plan for current information.

FEMA applications also require information about the community hazard mitigation plan, as shown in Table 10.

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[6] Go to http://www.fema.gov/fema/csb.shtm

Table 10: Community Hazard Mitigation Plan Information

Community Hazard Mitigation Plan Information		
Item	**Description**	**Where to find the item**
Type of Plan	A local or Tribal multi-hazard mitigation plan is a plan prepared by just one jurisdiction. A local multi-jurisdictional multi-hazard mitigation plan is a plan prepared by more than one jurisdiction and adopted by each of the jurisdictions that prepared the plan. For example, many county plans are multi-jurisdictional plans and participants include the county and the municipalities within the county.	The title of the plan will generally indicate whether it is a multi-jurisdictional or single jurisdictional plan. Search the FEMA Web site[7] for FEMA-approved multi-hazard mitigation plans for a comprehensive list of approved plans in each State.
Plan approval date	A hazard mitigation plan must be approved by FEMA, generally by the grant application deadline.	Check with the local jurisdiction, which received a signed letter from the State Hazard Mitigation Officer.

Using the Hazard Mitigation Plan to Support the Application

To apply for grant funding, the application preparer must respond to a variety of questions. Full or partial answers to some of these questions are found in the hazard mitigation plan. Five such items are discussed below.

First, a project application should describe pre-existing conditions that are addressed by the project so application reviewers fully understand the nature of the problem that the project will mitigate.

- The hazard profile section of the hazard mitigation plan describes previous occurrences of the hazard in the community.

- The hazard profile section of the hazard mitigation plan includes a discussion of the extent or the potential magnitude or severity of the hazard. For example, the hazard profile will explain that wind speed may reach 150 miles per hour or that 25,000 acres of forest are at risk of wildfire.

> **Mitigation Plan Update Tip: Maintain a record of the occurrences and consequences of hazards in the community and update hazard profiles each time the plan is updated.**

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[7] Go to http://www.fema.gov/plan/mitplanning/applans.shtm

Second, a project application must include information about the risk at the project location.

- For hazards that are geographically specific, such as floods, earthquakes, or landslides, the hazard profile section contains information about the locations of each identified hazard-prone area and may include maps.

- Location information and maps can be used to show the project location relative to each hazard-prone area.

> **Mitigation Plan Update Tip: If the plan does not contain accurate location information, be sure to improve it when the plan is updated.**

Third, a project application must explain how the proposed project reduces risk.

- The risk assessment section of the hazard mitigation plan identifies critical facilities and includes an inventory of community assets that are vulnerable to damage by identified hazards.

- The hazard mitigation plan summarizes the location, value, and potential occupancy of critical facilities such as highways and bridges, potable water or communications systems, dams or power plants, facilities that manage hazardous materials, sacred sites or cultural resources, as well as homes, churches, schools, and businesses.

> **Mitigation Plan Update Tip: Loss estimate data can quickly become obsolete and must be updated each time the plan is updated.**

- The hazard mitigation plan provides loss estimates.

  o The inventory of community assets and the study of the location of hazard-prone areas together lead to findings about which assets are most at risk of damage.

  o The community can determine the potential impact or consequences of each hazard and the potential losses by reflecting on the potential severity of each hazard and the relationship between assets and location of hazard-prone areas.

  o The FEMA Geographic Information System (GIS)-based software Hazards U.S. – Multi-Hazards, or HAZUS-MH, can

be a useful tool in estimating potential losses due to hazards.

o In the absence of HAZUS-MH data, potential losses for each hazard can be estimated as described in How-To Guide #2 (FEMA 386-2). To do this, planners estimate three different types of losses as described in the box below. During plan preparation, these estimates are used to prioritize mitigation actions, and when preparing an application for grant funding they can be used to explain the need for the project.

Reminder: Developing a Loss Estimate

First, for each identified asset (structure or infrastructure), estimate losses as the replacement value of the structure or infrastructure times the percent of damage anticipated. For some hazards, percent of damage may be 100 percent, but for many hazards the percent of damage will be much less.

Second, estimate contents loss as the value of content times the percent of damage anticipated. The value of contents may generally be estimated as a portion of the value of a structure; however, if contents are very valuable, such as in a museum, the value of contents may be greater.

Third, estimate loss of function, which is the sum of functional downtime, the monetary loss due to a structure being out of service for a number of days, and the displacement costs of having to function out of rented space.

Finally, the loss per hazard is the sum of the structural loss, contents loss, and loss of function.

For further information, refer to *How-to Guide #2 Understanding Your Risks: Identifying Hazards and Estimating Losses* (FEMA 386-2).

Fourth, a project application must discuss alternative projects that were evaluated in order to justify the project that was selected.

▪ A starting point to obtain this information is the mitigation strategy section of the hazard mitigation plan, which includes the comprehensive range of actions considered to mitigate the negative effects of each identified hazard. For example, the range of actions evaluated to mitigate the effects of a single hazard may include structural projects, projects involving community ordinances, and public education projects.

▪ Review the mitigation strategy in the hazard mitigation plan to explain why the project submitted for funding was selected. The

mitigation strategy explains the prioritization process showing why a particular action was selected for the plan.

> **Mitigation Plan Update Tip: If the hazard mitigation plan does not document the alternative mitigation actions considered for each hazard, be sure to include this information in the plan update.**

Fifth, a project must conform to or be consistent with hazard mitigation plans to be eligible for funding.

- An application for grant funding may ask about the degree to which the proposed project is consistent with the local and/or State hazard mitigation plan.

- Application preparers can review local, State, and Tribal mitigation plans and should clearly identify the stated goals and objectives with which the project is consistent. This will demonstrate to application reviewers that the project will help the local community and the State achieve their mitigation goals and that the project is supported by the community.

> **Mitigation Plan Update Tip: If a desired mitigation project does not conform to or is not consistent with the mitigation plan, consider updating the plan to reflect the current need for the project or use community resources to implement a different project that is supported by the plan.**

When beginning an application for grant funding, complete a worksheet such as the Using the Hazard Mitigation Plan to Support the Grant Application worksheet below. The worksheet develops a list of the relevant pages in the hazard mitigation plan that will facilitate completing the application. A blank worksheet is provided in Appendix A.

Step 5: Obtain Sufficient Funding Based on the Well Developed Scope of Work

<table>
<tr><td colspan="2">Example</td></tr>
<tr><td colspan="2">Using the Hazard Mitigation Plan to Support the Grant Application Worksheet

Funding Program _____

Complete by noting the pages in the hazard mitigation plan that provide the information listed in the left-hand column.</td></tr>
<tr><td>Information that will strengthen an application for grant funding</td><td>Location in the hazard mitigation plan</td></tr>
<tr><td>Description of pre-existing conditions</td><td>Hazard Profile
pages 33-34</td></tr>
<tr><td>The relationship of the project to a floodplain and/or wetland</td><td>Hazard Profile
pages 30-31</td></tr>
<tr><td>An explanation of how the proposed project reduces risk and an estimate of the number of people or properties that will be protected</td><td>Vulnerability Assessment
pages 60-62</td></tr>
<tr><td>Alternatives considered</td><td>Mitigation Strategy
pages 98-100</td></tr>
<tr><td>Degree to which the project conforms or is consistent with the State, Tribal, and/or local hazard mitigation plan</td><td>Local Mitigation Goals and Objectives
page 95
State Mitigation Goals
Page 234</td></tr>
</table>

FEMA Review of Applications for Grant Funding

A key to preparing an application that will receive funding is to develop a detailed scope of work for the project that explains the rationale behind the project and exactly how it will be implemented. When preparing the scope of work, assumptions and facts must be documented so that the agency reviewer can understand exactly what will happen and why the project will solve a problem.

> **Tip: When an application for funding is received by FEMA, it is reviewed for eligibility and completeness. An Eligibility and Completeness Checklist is included as an appendix to the Hazard Mitigation Assistance Program Guidance, which is available on the FEMA Web site at: http://www.fema.gov/library/viewRecord.do?id=3309.**

When an application for mitigation project funding is received by FEMA, three different types of data are reviewed by technical experts for completeness and accuracy. These are the engineering documentation, the benefit-cost analysis, and the documentation of the environmental

and historic preservation review. Each of these reviews is described briefly to help the application preparer understand the level of detail and documentation necessary when developing the scope of work and submitting an application for funding.

Engineering Review

The engineering review will determine the technical feasibility of the proposed project and the degree to which it will solve the problem.

If the project will affect a building, include information about the building codes in effect at the project location. Engineers can quickly check to ensure that the proposed project will comply with current building codes. For a structure that is to be modified in some way, include information on the age of the building and the building code that was in effect when it was built. This will indicate potential structural deficiencies that may affect project implementation. Information about the age of the building may be found in the vulnerability assessment section of the hazard mitigation plan.

Include a schematic or diagram showing exactly what is being proposed. Include detailed engineering drawings, if available, that support the cost estimate. This will allow FEMA reviewers to evaluate the extent to which the project will mitigate the effects of one or more hazards.

Benefit-Cost Analysis Review

Applicants and sub-applicants for FEMA mitigation grant funding to implement a mitigation project must submit a benefit-cost analysis (BCA) using a FEMA-approved BCA methodology. The software for completing a BCA is available for free by request from FEMA by calling 866-222-3580 or by e-mailing the Benefit Cost Helpline at bchelpline@dhs.gov. A Benefit-Cost Web site is available at http://www.fema.gov/government/grant/bca.shtm to assist applicants in beginning a benefit-cost analysis and contains *Guidelines for Benefit-Cost Analysis* and the *FEMA BCA Checklist.*

The BCA demonstrates the degree to which the anticipated future damages avoided (benefits), such as property damage, contents damage, and other related direct costs (e.g., emergency response and loss of services), exceed the anticipated cost of implementing the project. The result of a BCA is a benefit-cost ratio (BCR), which is derived by dividing a project's total net benefits by its total cost. If the BCR is greater than one, the project is said to be cost effective because benefits exceed expenditures.

Some information for conducting a BCA is available in the hazard mitigation plan, such as the previous occurrences of the hazard and the probability of future occurrences. However, a BCA is not completed during the planning process. During the planning process a community completes a Benefit-Cost Review. How-To Guide #5 (FEMA 386-5) explains the process of doing a Benefit-Cost Review and the differences between a Benefit-Cost Review and a BCA.

Environmental and Historic Preservation Review

The review of environmental impacts of mitigation actions begins during the mitigation planning process. When selecting the mitigation actions from the comprehensive range of actions suggested for reducing the risk of damage by identified hazards, actions that are expected to have adverse impacts on the natural environment or the community itself may require an extended environmental review process to allow for consultations with other Federal, State, and Tribal agencies. The feasibility review should identify potentially adverse impacts.

Refer again to Appendix C of this guide for a list of Public Laws and Executive Orders that are considered as part of a FEMA Environmental and Historic Preservation Review. This list includes, for example, the NHPA, which addresses reconstruction of historic homes as illustrated in Figure 10.

Figure 10: Beauvoir, the National Landmark home of Jefferson Davis, suffered extensive water damage from Hurricane Katrina. Planning to repair the structure and mitigate future damages will involve consideration of the NHPA. (FEMA Photo Library)

> **Tip: Many jurisdictions have additional regulations for protecting and preserving environmental resources, which may also require consideration.**

FEMA EHP staff is responsible for conducting and documenting review and compliance for mitigation projects where there are potential impacts to environmental and/or historic and cultural resources. In some instances, EHP will approve a project only if certain conditions are met.

EHP is responsible for conveying those project conditions to the applicant and for monitoring the implementation of the project to ensure that those conditions are met. Three standard conditions are listed on the Record of Environmental Consideration (REC) and may be summarized as:

- Any change in the scope of work requires re-evaluation for compliance with NEPA, Executive Orders, and other laws.

- The EHP review does not address all Federal, State, and local requirements. Acceptance of Federal funding requires the recipient to comply with all Federal, State, and local laws.

- If any potential archeological resources are identified during ground-disturbing work, activities will immediately cease and the State and FEMA must be notified.

When the review is complete, EHP staff notifies the applicant and provides a copy of the REC. This document must be included in the project file.

The environmental review of a mitigation project will not only consider the immediate effects of the project relative to the natural environment, but also the potential for long-term impacts attributable to the project or to the cumulative impacts caused by a number of proposed or anticipated projects in the area. The application should include an explanation about how negative impacts will be mitigated. For assistance on mitigating adverse effects to historic or cultural resources, refer to How-To Guide #6 (FEMA 386-6).

Mistakes to Avoid

After an application for funding is prepared, it must be reviewed to ensure that it is clearly written and complete. Many applications for grant funding are denied each year because application preparers have made mistakes. Many of these mistakes can be avoided if the project scope has been diligently developed and if each section of the application is written clearly and completely, documenting all assumptions. Some of the more common mistakes are discussed below:

The project will not actually mitigate the effects of a hazard.

- The mitigation projects must conform to or be consistent with the hazard mitigation plan. Funding streams are available for a variety of worthwhile community projects, but FEMA Hazard Mitigation Assistance programs will not fund projects that do not mitigate the effects of hazards.

The scope of work is inadequate and provides too little detail.

- Applications sometimes provide unclear descriptions of the problem and of the project, omit key data, and fail to include adequate supporting information. This may occur when applications are rushed to meet deadlines or when projects are not well scoped.

An application describes conditions in the community or in the region, but does not specifically describe the hazard where the project will be implemented.

- For example, discussing the fact that wind speeds frequently reach 125 miles per hour in the region may be sufficient for profiling a hazard in the hazard mitigation plan, but more precise information about the hazard at the project location will be necessary for an application.

The project addresses a nuisance issue rather than a real threat to property.

- A well-developed risk assessment for the hazard mitigation plan will preclude this mistake because only projects that address real, carefully evaluated threats are supported by the plan.

The project is not eligible.

- Read current program guidance, including eligibility guidelines before developing an application.

The application is incomplete.

- Application preparers must read all current program guidance to ensure that all relevant documentation is included and that the application has answered each question asked.

The application does not address environmental and/or historic considerations.

- Application preparers must read all current program guidance to ensure that all relevant documentation is included and that the application has answered each question asked.

The data provided in the application are inconsistent.

- Application preparers must proofread the entire application package to ensure consistency. Applications may, for example, state in the narrative that the value of a structure is $150,000 but the value of the same structure used in the BCA is $175,000.

The project cost estimates are incomplete or inaccurate.

- Cost estimates should include all project costs, including the costs of administration, design, labor, and materials. Estimates should use the correct discount rate, use current dollar values, and state that they do so.

Assumptions about the useful life of a project are incorrect.

- The useful life of a project can range from 2 years for vegetation management projects to 100 years for acquisition and relocation. Most projects have a useful life of 50 years or less. Contact the Benefit Cost Helpline by calling 866-222-3580 or by e-mailing at bchelpline@dhs.gov to discuss acceptable ranges for the useful life of different types of projects.

Terminology is not used correctly.

- Preparers must understand the terms used, such as "residual risk," which means the risk that will exist after the project is completed. For example, if a project will elevate a structure in the floodplain to the base flood elevation, there is still a *residual risk* of flooding should flood levels exceed the base flood elevation or the 1 percent chance of flood levels. Claiming that such a project would completely eliminate the risk of flood damage is unrealistic.

- If terminology or questions on the application forms are confusing, application preparers should contact the office of the State Hazard Mitigation Officer or the FEMA Regional Office for clarification.

Step 6: Implement and Manage the Mitigation Project
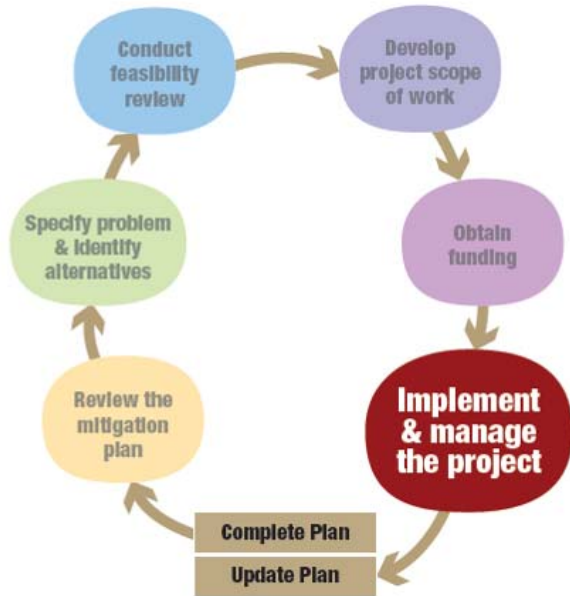
This section of the guide provides information that will be helpful after a mitigation project grant is awarded. It reviews community responsibilities after receiving an award.

Implement the Project

The post-award process includes the grantee and sub-grantee entering into a contractual agreement and the sub-grantee implementing the project and complying with the contract (see Figure 11).
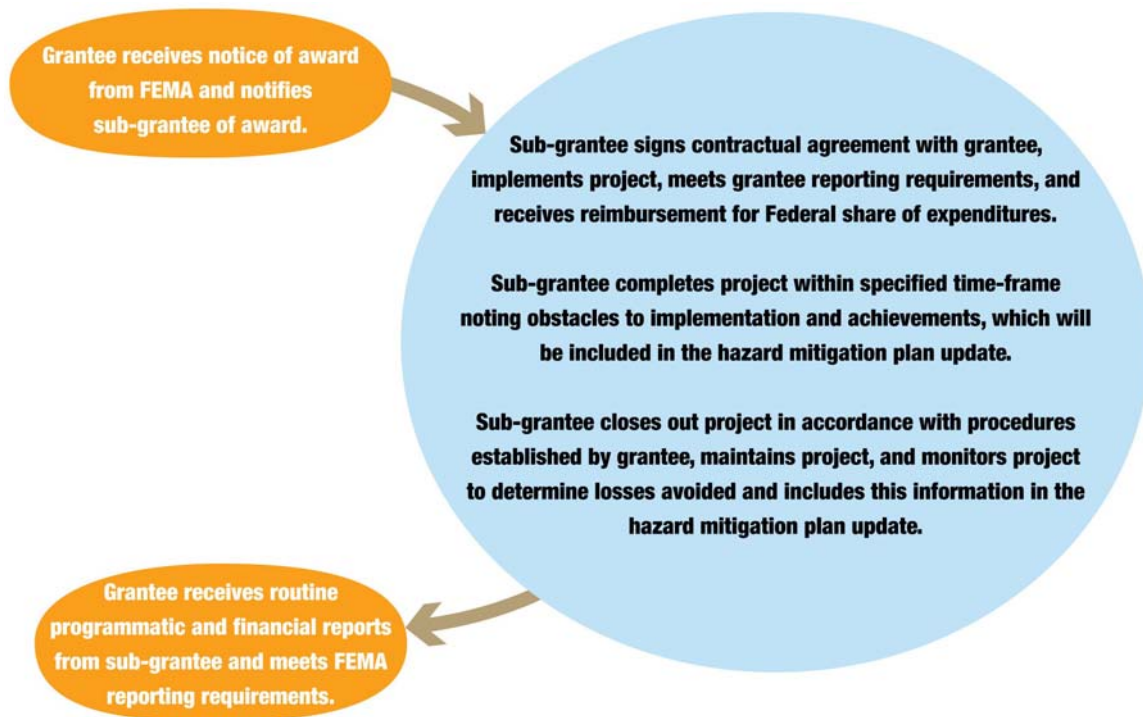
Figure 11: FEMA Post-Award Process

Step 6: Implement and Manage the Mitigation Project

As practicable, a project must be implemented as described in the scope of work. Applicants or sub-applicants must adhere to project schedules and budgets. As obstacles are encountered or as the scope of work changes because of unanticipated difficulties or changing conditions, responsible parties must contact technical monitors at the funding agencies for assistance and guidance.

Monitor the Mitigation Project

During the project implementation period, sub-grantees submit regular programmatic and financial reports to the grantee as established in the grant award agreement, and grantees submit regular reports to FEMA. These reports are generally required on a quarterly basis. Reports constitute a record of progress answering questions such as:

- Was the project implemented as planned? Were any changes made to the project schedule, approach, or cost?

    o If conditions changed between the time that the scope of work was developed and the time that the project was implemented, reports should explain these changes in detail and explain exactly how the project must be modified.

    o Any changes in the scope of work must be done in consultation with technical monitors at the funding agency.

- What obstacles or problems were encountered?

    o Recording obstacles helps the community implementing the project, or another community implementing a similar project, avoid or overcome similar problems.

    o For what reasons was technical assistance sought?

    o What training or technical assistance was used by the community to leverage project funds?

A hazard mitigation plan has monitoring requirements so that a record of mitigation accomplishments is maintained. For example, quarterly reports are required for FMA project grants. Individuals responsible for implementing mitigation projects should submit regular reports about the project to the person responsible for maintaining the hazard mitigation plan; this may be the Planning Team Leader or a local planning or emergency management official. Communities can use the monitoring results from mitigation projects to develop the scope of work for similar mitigation projects in the future.

Step 6: Implement and Manage the Mitigation Project

At the conclusion of the grant period the project must be closed out. Project close out provides a thorough accounting of all funds and all project activities. Close-out procedures are specified by the agency awarding the funds. However, after a mitigation project is complete, the community must ensure the necessary project maintenance is provided. Maintenance requirements should have been included in the scope of work for the project.

Evaluate the Project

Project evaluation involves reviewing the effects or effectiveness of a mitigation project. An evaluation answers questions such as:

- How does the mitigation project minimize or eliminate the adverse effects of a hazard event on the structure, infrastructure, or residents?

- How does the mitigation project improve the community's resiliency and ability return to normal functioning should a disaster occur?

Evaluating the effectiveness of mitigation projects builds a record of benefits attributable to mitigation planning and projects. This record of success is valuable when the hazard mitigation plan is being updated and when seeking local support for mitigation projects. Also, the State needs to document the effectiveness of mitigation actions for the State Plan.

Providing quantitative answers to evaluation questions is difficult if the subject hazard has not occurred since the project was implemented. However, questions about the effectiveness of mitigation projects such as the following can provide a useful evaluation:

- In what ways does this project protect structures, infrastructure, and/or people from damage should a particular hazard event of a particular magnitude occur in this part of the community? (The type and magnitude of the hazard likely to occur can be found in the hazard profiles section of the hazard mitigation plan.)

- In what ways does this project better prepare the community to return to normal functioning should a particular hazard of a particular magnitude occur? (The type and magnitude of hazard likely to occur can be found in the hazard profiles section of the mitigation plan.)

- Have the conditions in the community changed so that even though the project was implemented as planned, it does not provide the level of protection anticipated when the project was developed?

  - If conditions have changed, the changes must be reflected in the update of the hazard mitigation plan.

    - For example, rapid or uncontrolled growth and development can radically change the degree to which structures and residents are exposed to hazard risks.

  - Conditions in a community can change and it is possible that a project will be less effective overall than previously estimated.

    - For example, if the project protects existing development but has not protected new development in the community, then the hazard mitigation plan update should propose additional actions that will mitigate the potential for damage to new development.

> **Tip: If a project is successful, consider going to the FEMA Mitigation Best Practices Portfolio online and submitting a synopsis of the project for possible inclusion on the Web site.**

The effectiveness of mitigation projects should be evaluated at least every 5 years or each time the hazard mitigation plan is updated. The plan maintenance section of the hazard mitigation plan may include a process for evaluating mitigation projects. Plans often describe, for example, holding annual meetings of the planning team for the purpose of reviewing mitigation activities and accomplishments. The results of project evaluation should be conducted by or forwarded to plan developers so that information about the effectiveness of mitigation projects can be included in the plan update to show a record of achievements designed to move the community towards realizing its mitigation goals.
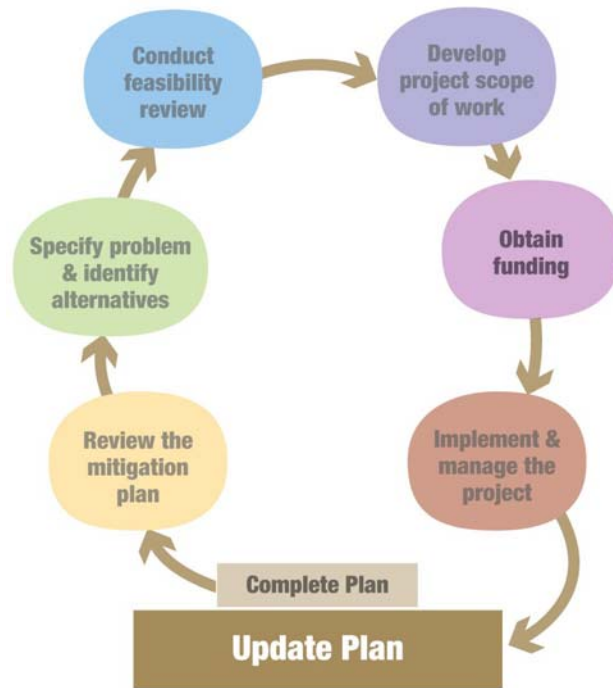
Local jurisdictions must update their hazard mitigation plan every 5 years. Typically, the update process will start after the fourth year anniversary. A community can use the experience of implementing mitigation projects to update the hazard mitigation plan in five ways.

First, an updated hazard mitigation plan must summarize progress on the actions proposed in the previous plan. Routine monitoring of mitigation projects will make it easy to explain if proposed actions were completed, deleted, or deferred.

Second, a community can use the required reports documenting mitigation project progress and expenditures to improve, update, and refine the mitigation strategy. The updated mitigation strategy will outline the mitigation actions that the community will implement over the next 5 years. Progress reports reveal obstacles to project implementation that can lead to development of more realistic timelines for proposed actions. A community might want to continue to propose actions that led to successful mitigation projects and consider redefining actions that did not lead to successful mitigation projects. The financial reports can be used to refine estimated project costs that are included in the mitigation strategy.

Third, a community can track the degree to which projects mitigate the effects of identified hazards to build a record of mitigation successes. For example, if a project was designed to reduce losses from wildfires, whenever a wildfire occurs the losses avoided as result of the mitigation project can be estimated by comparing total losses of the event with losses from a similar event before mitigation. The hazard mitigation plan can record these accomplishments to show that the community is reducing its risk of damage and that investments in mitigation projects are benefiting the community as a whole.

Fourth, a community can publicize the success of its mitigation projects when it begins the plan update process. Publicizing local achievements in saving lives and reducing economic losses will build support for mitigation. Nationally, studies have demonstrated that one dollar spent on mitigation today will result in about $4 in future benefits.[8] Public education materials can explain the purpose of mitigation and the losses avoided and show that the community as a whole benefits when lives and businesses are not disrupted and when private and public structures and infrastructure are not damaged. This will generate interest in the mitigation planning process and build public support for mitigation projects, which is especially important when projects are partially or completely dependent upon local resources.

Fifth, a community can use the experience of developing an application for mitigation project funding to determine what types of better data are needed in the update. As shown in this guide, a well-developed plan that contains detailed information about hazards and vulnerabilities will facilitate the process of completing an application for funding to implement a mitigation project.

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[8] Multihazard Mitigation Council. 2005. *Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities*. Washington DC: National Institute of Building Sciences.

This guide shows that while the hazard mitigation plan provides the basis for developing and funding mitigation projects, the experience of implementing and managing mitigation projects in turn informs the process of updating the hazard mitigation plan. While the previous eight How-To Guides (FEMA 386 series) show that developing a good hazard mitigation plan requires a great deal of work, this guide shows that developing the more complicated and costly mitigation projects requires similar diligence and attention to detail. The ultimate goal of this valuable work is to make structures, infrastructure, and, most importantly, the residents of communities less vulnerable to damage and loss by hazard events.

Appendix A - Worksheets

Contents of Appendix A

- Feasibility Review Worksheet

- Worksheet for Preparing to Develop the Scope of a Project

- Eligibility Worksheet

- Using the Hazard Mitigation Plan Worksheet

Feasibility Review Worksheet

Hazard _____

Alternative _____

Answer the question below. Then fill in each row of the table from left to right. When complete, evaluate responses on this and other feasibility review worksheets to decide if this alternative is the best alternative for the community.

How is this alternative consistent with the local hazard mitigation plan?

(Cite specific goals, objectives; give relevant page numbers) _____

_____

_____

_____

STAPLEE criteria	First, ask questions	Second, answer questions	Third, note potential negative effects or obstacles	Fourth, note opportunities to mitigate potential negative effects or overcome potential obstacles
Social	Will the project affect one segment of our population unfairly?			
Social	Will the project disrupt a historic site?			
Social Political	Will the project block a beautiful view?			
Social Environmental	Will the project decrease the amount of parkland in the community?			
Technical	Will the project solve the problem?			
Technical	Will the project be at risk of loss from any hazard?			

STAPLEE criteria	First, ask questions	Second, answer questions	Third, note potential negative effects or obstacles	Fourth, note opportunities to mitigate potential negative effects or overcome potential obstacles
Administrative	Will the project require additional local staff?			
Political	Will elected officials support the project?			
Legal	Will the project violate any laws or regulations?			
Economic	Can the community afford to maintain the project?			
Economic	Can the community afford to implement the project?			
Economic	Will the project affect community jobs?			
Economic	Can the community match Federal funds to support the project?			
Economic	Will the project diminish housing or property values?			
Environmental	Will the project affect community health?			
Environmental	Will construction or operations pollute surface or ground water?			
Environmental	Will the project affect a floodplain?			

STAPLEE criteria	First, ask questions	Second, answer questions	Third, note potential negative effects or obstacles	Fourth, note opportunities to mitigate potential negative effects or overcome potential obstacles
Environmental	Will the project affect a wetland?			
Environmental	Will the project increase the level of flooding?			
Environmental	Will the project pollute the air?			
Environmental	Will the project affect any identified Federally-listed threatened or endangered species and/or designated critical habitat in the project area?			
Environmental Social	Will there be any negative public health effects?			
Environmental Political	Will the project increase demand for water and electricity?			

Worksheet for Preparing to Develop the Scope of a Project

Hazard: _____

Project: _____

_____

In the middle column, note the pages in the hazard mitigation plan that provide answers to the question posed in the left-hand column. In the right-hand column, provide brief answers.

Questions	Where to find answers in the Hazard Mitigation Plan	How will your community answer this question or how does Hazard Mitigation Plan answer this question?
What exactly is the problem?		
How often does the hazard occur?		
What is the extent of the hazard?		
Is the area affected by other hazards?		
What is the cause of the problem?		
How will this project solve the problem?		
Where is the best location for the project?		
What are the existing conditions at the best location?		
What are the alternatives to this project?		

Questions	Where to find answers in the Hazard Mitigation Plan	How will your community answer this question or how does Hazard Mitigation Plan answer this question?
Why is this project the best alternative?		
What will the impacts be during construction?		
Who will implement the project?		
How will the project be implemented?		
When will the project be implemented?		
What will the project cost?		
What will be the dimensions / specifications of the project?		
Who will be responsible for maintaining the project?		
What will the costs of maintaining the project be?		
What are the residual risks*?		

Residual risk means the risk of damage remaining after the project is implemented.

Eligibility Worksheet

Funding Program _____

Note whether the answer to the question posed in the left-hand column is yes or no.

If the answer is yes to all questions, the community may complete and submit an application for this funding program.

If the answer to a question is no, note what information is needed or what the next step will be so that the community can complete and submit an application for this funding program in the future.

Question	Yes	No	Next step(s) if the answer is no
Does the community meet specified eligibility requirements such as participation in the NFIP and/or having a hazard mitigation plan?			
Is the funding intended for the type of project I wish to implement?			
Do I have time to complete and submit the application?			
Do I have sufficient documentation to complete the application?			

Using the Hazard Mitigation Plan to Support the Grant Application Worksheet

Funding Program _____

Complete by noting the pages in the hazard mitigation plan that provide the information listed in the left-hand column.

Information that will strengthen an application for grant funding	Location in the hazard mitigation plan
Description of pre-existing conditions	
The relationship of the project to a floodplain and/or wetland	
An explanation of how the proposed project reduces risk and an estimate of the number of people or properties that will be protected	
Alternatives considered	
Degree to which the project conforms or is consistent with the State, Tribal, and/or local hazard mitigation plan	

Appendix B: Environmental and Historic Preservation Studies

EHP Legislation	Type of Study	Typical Cost*	What triggers this type of study?
National Environmental Policy Act (NEPA)	Environmental Assessment (EA)	$30,000 - $100,000	Proposed project does not fit a Categorical Exclusion and is not expected to have significant adverse environmental impacts.
	Environmental Impact Statement (EIS)	$500,000 - $1,000,000	Proposed project is expected to cause significant adverse environmental impacts.
National Historic Preservation Act (NHPA)	Phase I Archeological Survey	Approximately $10,000 per 5 acres	Proposed project is expected to affect archeological resources.
Endangered Species Act (ESA)	Site survey	Approximately $10,000 per 5 acres	Proposed project has the potential to affect threatened or endangered species or designated critical habitat.
	Biological Assessment/ Biological Evaluation	$30,000 - $100,000	Proposed project has the potential to adversely affect a threatened or endangered species or designated critical habitat and the effects must be evaluated.
Wetlands (Clean Water Act Section 404 or E.O. 11990)	Wetlands delineation	$10,000 per 5 acres	Proposed project is in or near a wetland or would affect wetlands.
Hazardous Materials—Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)	Phase I Environmental Site Assessment	$10,000 per acre	Proposed project site must be studied to identify presence of hazardous waste or pollutants.

This information is based on FEMA's past experience and does not include costs related to mitigation of impacts. Actual costs depend upon the complexity of the issues. For more information on potential costs of environmental/historic preservation measures, contact FEMA Regional Offices.

Appendix C – Public Laws and Executive Orders that are Relevant to a FEMA Environmental and Historic Preservation Review

- Clean Air Act – indicating whether the project will result in permanent air emissions or is located in a non-attainment area

- Clean Water Act – indicating whether the project would affect any waters or wetlands

- Coastal Barrier Resources Act (CBRA) – indicating if the project is connected to a CBRA unit or otherwise protected area

- Coastal Zone Management Act – indicating if the project is located in or may affect a coastal zone area

- Endangered Species Act – listing the species and/or critical habitats affected directly or indirectly by the project

- Executive Order 11988, Floodplain Management – indicating whether the project is in a floodplain or has the potential to affect a floodplain

- Executive Order 11990, Protection of Wetlands – indicating whether the project is in a wetland or has the potential to affect a wetland

- Executive Order 12898, Environmental Justice for Low Income and Minority Populations – indicating whether the project may unfairly affect some of the population

- Farmland Protection Policy Act – indicating whether the project affects or causes irreversible conversion of designated prime or unique farmland

- Fish and Wildlife Coordination Act – indicating whether the project affects, or modifies a waterway or body of water

- J. Magnuson-Stevens Fishery Conservation and Management Act – indicating whether the project is located in or near Essential Fish Habitat

- Migratory Bird Treat Act – indicating whether the project is located within a flyway zone

- National Environmental Policy Act – to determine if the project is excluded from further review or that an environmental assessment or environmental impact statement must be completed before beginning the project

- National Historic Preservation Act – indicating whether the project will affect any historic building and structures or archeological resources

- Wild and Scenic Rivers Act – indicating whether the project is along or affects a Wild or Scenic River

Appendix D – Federal Technical Assistance and Funding

Contents of Appendix D

1. Conservation and Environment

2. Economic Development

3. Emergency Management

4. Historic Preservation

5. Housing

6. Infrastructure

7. Mitigation

For information about specific Federal programs including application deadlines, current and exact eligibility requirements, and information on the application process, consult the CFDA available on online at http://12.46.245.173/cfda/cfda.html, search agency Web sites, or contact regional or local offices of the administering agency. This table provides only a quick summary of some general types of programs, agencies that may administer them, the main purpose, and type of applicant that may be eligible to apply.

1. Conservation and Environment

Agency	Type of Assistance	Purpose of Assistance	Eligible Applicants
DOD: USACE	Technical assistance for beach erosion control projects	To protect beaches and reduce shore erosion	Political subdivisions of the State and other responsible local agencies
DOI: FWS	Grants through the North American Wetland Conservation Fund	To acquire property and water rights to restore, manage, and/or enhance wetland ecosystems and other habitats for migratory birds and other fish and wildlife	Public or private organizations
EPA	Loans and grants to assess and cleanup Brownfields	To assist in the redevelopment, or reuse of sites complicated by the presence of a hazardous substance, pollutant, or contaminant	Indian Tribes, local governments, quasi-governmental entities acting under the authority of a local government, some non-profit organizations
EPA	Grants to develop wetlands programs	To promote the coordination and acceleration of research and training related to the causes, effects, extent, prevention, reduction, and elimination of water pollution	State agencies, Indian Tribes, local governments
DOI: National Park Service	Grants to "Save America's Treasures"	To protect and preserve nationally significant historic sites, as well as nationally significant collections of intellectual and cultural artifacts	State or inter-State agencies, Indian Tribes, local governments, universities and colleges, non-profit organizations
DOC: NOAA	Grants for habitat conservation	To benefit U.S. fisheries, conserve protected resources, and add to the economic and social well being of the nation through a variety of research, habitat restoration, and public education activities	Indian Tribes, local governments, universities and colleges, private and non-profit research and conservation organizations
USDA: Forest Service	Grants and technical assistance to enhance forests	To increase awareness of sustainable forestry practices through educational programs and assistance	State forestry agencies, local governments, universities and colleges, non-profit organizations, private agencies and managers of non-industrial private forest lands
USDA: Forest Service	Grants and technical assistance for urban forestry programs	To plan for, establish, manage and protect trees, forests, green spaces, and related resources in and adjacent to cities and towns	State forestry agencies, private non-profit organizations

For more information about FEMA's EHP Program, go to
http://www.fema.gov/plan/ehp/index.shtm

2. Economic Development

Agency	Type of Program	Purpose	Eligible Applicants
DOC: EDA	Grants to assist with economic adjustment	To facilitate the long-term economic development of areas with severe unemployment and low income problems through the development of public facilities and private enterprises that create new, permanent jobs	Indian Tribes, Economic Development Districts, local governments, universities and colleges, public or non-profit organizations acting in cooperation with local government
DOC: EDA	Grants to support economic development planning	To establish economic development strategies designed to reduce unemployment and increase incomes	Indian Tribes, Economic Development Districts, local governments, universities and colleges, non-profit organizations
DOL	Direct payments through Disaster Unemployment Assistance	To assist individuals whose employment or self-employment has been lost or interrupted as a direct result of a major disaster declared by the President of the United States	Individuals who are not eligible for regular State unemployment insurance
DOC: EDA	Loans to ease problems of economic dislocation	To help States and localities to develop and/or implement strategies that address adjustment problems resulting from sudden and severe economic dislocation	States, Indian Tribes, local governments, non-profit organizations
DOT: FHWA, Maritime Administration	Technical assistance for development and promotion of ports and intermodal transportation	To promote and plan for development and utilization of domestic waterways, ports, and port facilities	Local governments, Metropolitan Planning Organizations, Public Port and Intermodal Authorities, Trade Associations
HUD: Office of Community Planning and Development	Grants for economic development on Brownfields	To carry out economic development projects on contaminated buildings or land and return brownfields to productive economic use	Units of local government
HUD: Office of Community Planning and Development	Loans for community development	To finance economic development, housing rehabilitation, public facilities, and large scale physical development projects	Metropolitan cities and urban counties
HUD: Office of Community Planning and Development	Technical assistance or grants for community development	To transfer skills and knowledge of planning, developing, and administering CDBG programs to eligible block grant entities	Units of local government, national or regional non-profit organizations that have membership comprised predominantly of CDBG recipients, professional and technical service companies,

Agency	Type of Program	Purpose	Eligible Applicants
			public or private non-profit organizations, including educational institutions and area-wide planning organizations
USTREAS	Tax relief following disasters	To provide tax relief for losses resulting from destruction or damage of property due to a sudden, unexpected, or unusual event such as a natural hazard	A victim of a Presidentially declared disaster who is a taxpayer
USDA: Cooperative State Research, Education, and Extension Service	Grants for community food projects	To support the development of community food projects designed to meet the food needs of low income people; increase the self-reliance of communities in providing their own needs; and promote comprehensive responses to local food, farm, and nutrition issues	Private non-profit organizations
USDA: Farm Service Agency	Direct payments through the Tree Assistance Program	To assist commercial producers whose trees, bushes, or vines are damaged or destroyed in natural disasters to replant or rehabilitate trees	Private businesses
USDA: Rural Business-Cooperative Service	Loans for business and industry	To improve buildings and facilities, to purchase materials and equipment, to purchase and develop land, easements, rights-of-way	Indian Tribes, public, private, and non-profit organizations in rural areas
USDA: Rural Business-Cooperative Service	Grants and loans to support renewable energy systems and energy efficiency	To create a program to make direct loans, loan guarantees and grants to agricultural producers and rural businesses to help reduce energy costs and consumption and help meet the nation's critical energy needs	Agricultural producers or rural small businesses
USDA: Rural Business–Cooperative Service	Grants for rural business enterprises	To facilitate the development of small emerging business, industry, and related employment for improving the economy of rural areas	Public bodies and non-profit corporations serving rural areas
USDA: Rural Business–Cooperative Service	Grants for rural business opportunities	To promote planning, and training for sustainable economic development in rural communities	Indian Tribes, public bodies, non-profit corporations, and cooperatives with members that are primarily rural residents and that conduct activities for the mutual benefit of their members

Agency	Type of Program	Purpose	Eligible Applicants
USDA: Rural Business–Cooperative Service	Grants for rural cooperative development	To improve economic conditions through creation or retention of jobs in rural areas through cooperative development.	Non-profit corporation, universities and colleges
USDA: Rural Business–Cooperative Service	Grants and loans for rural economic development	To study feasibility of projects for rural economic development and job creation	Electric and telephone utilities that have current loans with the Rural Utilities Service
USDA: Rural Housing Service	Community facilities loans and grants	To construct, enlarge, extend or otherwise improve community facilities providing essential services, such as child care, food distribution, and education, assisted living facilities, group homes, mental health clinics, and shelters	State agencies, Indian Tribes, local governments, non-profit organizations
USDA: Rural Utilities Service	Grants and loans for communities with high energy costs	To acquire, construct, extend, upgrade, and improve energy generation, transmission, or distribution facilities in rural communities with extremely high energy costs defined as 275 percent of the national average cost or more	Political subdivisions of States, businesses, cooperatives, associations, organizations, and other entities organized under the laws of a State or Indian Tribes
USDA: Rural Utilities Service	Community Connect Grant Program	To improve connectivity in rural areas through broadband transmission services including construction, acquisition, expansion, and/or operation of a community center providing such services	Indian Tribes, local governments, or other legal entity, including cooperatives or private corporations of limited liability that have the legal authority to own and operate broadband facilities

3. Emergency Management

Agency	Type of Program	Purpose	Eligible Applicants
DHS	Community Disaster Loans	To assist communities that have suffered substantial loss of tax and other revenue due to a major disaster	Local governments in a designated major disaster area meeting the specific conditions of FEMA Disaster Assistance Regulations 44 CFR Part 206, Subpart K, Community Disaster Loans
DHS	Legal assistance following a disaster	To provide legal assistance to individuals affected by a major disaster	Low-income individuals, families, and groups in a major disaster area
DOC: NOAA: National Marine Fisheries Service	Grants for disaster relief for fisheries	To restore fisheries, prevent future failures, and assist fishing communities following a disaster due to natural, man-made, or undetermined causes	Fishing Communities
DOD: USACE	Emergency rehabilitation of flood control or coastal protection works	To repair and restore flood control works damaged by flood or federally authorized hurricane flood and shore protection works damaged by extraordinary wind, wave, or water action	Owners of damaged flood protective works, or State and local government entities responsible for their maintenance, repair, and operation
SBA	Economic Injury Disaster Loans	To provide working capital to small business, small agricultural cooperatives or nurseries suffering from economic injury associated with a disaster	Business owners who have suffered economic injury
SBA	Physical Disaster Loans	To repair or replace damaged or destroyed real and/or personal property to its pre-damage condition.	Homeowners, renters, business and non-profit organizations who have suffered physical loss do to a Presidential or SBA declared disaster
USDA	Direct Housing, Natural Disaster Grants and Loans	To meet emergency assistance needs not provided by other FEMA Programs	Very-Low income, elderly, owner-occupants of rural housing in declared disaster areas
USDA	Direct payments through Disaster Reserve Assistance	To provide emergency assistance where a livestock emergency has been determined to exist and is due to a natural hazard	An established producer of livestock or a dairy products
USDA	Emergency Loans	To assist established (owner or tenant) family farmers, ranchers and aquaculture operators to cover losses resulting from major and/or natural disasters	An established, qualified farmer, rancher, or aquaculture operator who was conducting a farming operation at the time of occurrence of a disaster

4. Historic Preservation

Agency	Type of Program	Purpose	Eligible Applicants
DOI; National Park Service	Civil War Battlefield Land Acquisition Grants	To preserve threatened civil war battlefields	Local governments or private non-profit organization in partnership with local governments
DOI; National Park Service	National Maritime Heritage Grants	To preserve and rehabilitate historic maritime resources and to increase public awareness and appreciation of them through education and reproduction of well-documented historic maritime properties	Local governments and private non-profit organizations
DOI; National Park Service	Technical Preservation Service	To preserve and maintain certified historic properties	Local governments and individuals

For more information about FEMA's EHP Program, go to
http://www.fema.gov/plan/ehp/index.shtm

5. Housing

Agency	Type of Program	Purpose	Eligible Applicants
DHS: FEMA	Direct payments for disaster housing assistance to individuals and households	To assist affected individuals and households within Presidential-declared disaster zones to address disaster-related housing and other necessary expenses and serious needs, which cannot be met through other means	Individuals and households whose primary residence has been damaged or destroyed and whose losses are not covered by insurance
DHS: FEMA	Disaster Housing Assistance grants	To provide housing assistance to individuals whose homes sustained damage as a result of a Presidentially declared disaster	A national, citizen or dual citizen of the United States whose home was destroyed or damaged by a Presidentially declared major disaster
DHS: FEMA	Federal Assistance To Individuals And Households	To assist individuals and households suffering hardship as a result of a Presidentially declared disaster	Individuals and households whose primary residence has been damaged or destroyed and whose losses are not covered by insurance
DOI: Bureau of Indian Affairs	Indian Housing Assistance	To eliminate substantially substandard Indian-owned and inhabited housing for very low income individuals living in Tribal service areas	Individual members of Federally recognized Tribes or Tribal governments or organizations
HUD	Community Development Block Grant	To develop viable urban communities by providing decent housing and a suitable living environment	States, Territories, Indian Tribes, local governments
HUD	Demolition and Revitalization of Severely Distressed Public Housing	To demolish all or parts of severely distressed public housing projects and meet relocation cost of affected residents, disposition activities, rehabbing of units or community facilities, development of new units or community facilities, homeownership activities, acquisition activities, management improvements and administrative cost, community and supportive services	Public housing authorities and Indian Housing Authorities
USDA	Direct housing natural disaster loans	To assist qualified lower income rural families to meet emergency assistance needs resulting from natural disaster to buy, build, rehabilitate, or improve dwellings in rural areas	Individuals without adequate resources to obtain housing resources
USDA: Rural Housing Service	Farm Labor Housing Loans and Grants	To provide decent, safe, and sanitary low-rent housing and related facilities for domestic farm laborers	Farmers, farm family partnerships, family farm corporations, or an association of farmers

Agency	Type of Program	Purpose	Eligible Applicants
USDA: Rural Housing Service	Rural housing preservation grants and loans	To assist very low- and low-income residents and homeowners to pay any part of the cost for repair and rehabilitation of structures	Local governments, Indian Tribal Corporations, or public or private non-profit corporations
USDA: Rural Housing Service	Rural rental housing loans	To encourage private and public lenders to make loans for affordable multi-family rental housing in rural areas	Lenders
USDA: Rural Housing Service	Very low-income housing repair loans and grants	To make essential repairs to homes in rural areas to make them safe and remove health hazards	Rural homeowners, 62 years of age or older
USDA: Rural Housing Service	Very low- to moderate-income housing loans	To assist very low-, low-, and moderate-income households to obtain modest, decent, safe, and sanitary housing for use as a permanent residence in a rural area	Very low- to moderate-income households

6. Infrastructure

| Agency	Type of Program	Purpose	Eligible Applicants
DHS: FEMA	Grants to improve safety of dams	To reduce the risks to life and property from dam failure in the United States through the establishment and maintenance of an effective national dam safety program	State agencies with registered professional engineer with experience in dam design and construction
DOC: EDA	Grants for public works and economic development Facilities	To promote long-term economic development in areas experiencing substantial economic stress	Indian Tribes, Economic Development Districts, local governments, universities and colleges, non-profit organizations
DOC: National Telecommunication and Information Administration	Grants for public telecommunications facilities	To assist in the planning, acquisition, installation, and modernization of public telecommunications facilities	Public or noncommercial educational broadcast stations
DOD: USACE	Emergency Rehabilitation of Flood Control Works or Federally Authorized Coastal Protection Works	To assist in the repair and restoration of public works damaged by flood, extraordinary wind, wave, or water action	State and local officials of public entities responsible for their maintenance, repair, and operation of flood protective works
DOD: USACE	Protection of essential highways, highway bridge approaches and public works	To protect highways, essential public works, churches, hospitals, schools, and other non-profit public services in locations endangered by flood-caused erosion	Political subdivision of States and other responsible local agencies established under State law
DOT: FHWA	Special funding and technical assistance for transportation: emergency relief	To provide aid for repair of Federal-aid roads	Federal or State highway or transportation agency
DOT: FHWA, FAA	Grants and advisor services for airport improvement	To integrate airport system planning, construction, and rehabilitation	Indian Tribes, local governments, public agencies, and private owners of public-use airports
DOT: FHWA, FTA	Federal transit capital investment	To assist in financing the	Municipalities and other subdivisions of the State,

Agency	Type of Program	Purpose	Eligible Applicants
	grants	acquisition, construction, reconstruction, and improvement of facilities, rolling stock, and equipment for use in public transportation service	public corporations
DOT: FHWA, FTA	Transit planning and research grants, technical assistance, and training	To increase public ridership, improve safety and emergency preparedness, improve capital operating efficiencies, protect the environment, and promote energy independence	Public bodies, non-profit organizations, universities and colleges, and operators of public transportation services
USDA: Rural Utilities Service	Grants and loans for water and waste disposal systems for rural communities	To provide basic human amenities, alleviate health hazards and promote orderly growth of rural areas by improving or expanding rural water systems, and stormwater, sanitary, and solid waste management facilities	Indian Tribes, local governments, cooperatives, and non-profit corporations serving rural businesses and rural residents

7. Mitigation

Agency	Type of Program	Purpose	Eligible Applicants
DHS	Emergency Management Performance Grants	To improve emergency management planning, preparedness, mitigation, response, and recovery capabilities	States
DHS: FEMA	Grants for flood mitigation assistance	To plan and carry out activities designed to reduce the risk of flood damage to structures covered by flood insurance	States or local governments with FEMA-approved flood mitigation plans
DHS: FEMA	Hazard mitigation grants	To prevent future losses of lives and property due to disasters	State and local governments; certain private and nonprofit organizations or institutions; Indian Tribes or authorized Tribal organizations; and Alaska Native villages or organizations
DHS: FEMA	National Flood Insurance Program	To enable purchase of flood insurance and to promote wise floodplain management practices in the Nation's flood-prone and mudflow-prone areas	States or local governments with authority to adopt and enforce floodplain management measures
DHS: FEMA	Public Assistance Grants	To alleviate suffering and hardship resulting from major disasters or emergencies declared by the President	State agencies, Indian Tribes, local governments, private non-profit organizations that operate educational, utility, emergency, or medical facilities or that provide custodial care or other essential service of governmental nature to the general public
DOC: Census Bureau	Information	To provide census survey and geographic data	Interested persons, organizations, and government agencies
DOC: NOAA	Geodetic Surveys and Services	To provide national, coordinated spatial reference system	Local, municipal, university, and regional agencies
DOC: NOAA: National Weather Service (NWS)	Funding for automated flood warning systems	To create, renovate, or enhance warning systems in communities with flood or flash flood problems that affect safety of life	Counties, municipalities, educational institutions, and non-profit organizations
DOD: USACE	Design and construction of flood control projects	To reduce flood damages	Political subdivisions of States or other responsible agencies established under State

Agency	Type of Program	Purpose	Eligible Applicants
			law
DOD: USACE	Technical assistance on floodplain management	To promote recognition of flood hazards and provide flood and floodplain related data, technical services, and guidance	Political subdivisions of States, other non-public organizations, and the public
DOD: USACE	Services for snagging and clearing for flood control	To reduce flooding	Political subdivisions of States or other responsible agencies established under State law
DOI	Grants and provision of equipment and technical assistance to reduce wildfire damage	To implement the National Fire Plan and assist communities at risk from catastrophic wildland fires by providing assistance in assessment and planning, mitigation, education, fuels reduction, education and training, and by providing protective clothing and equipment	States and local governments, Indian Tribes, universities and colleges, nonprofit organizations, and rural fire departments serving a community with a population of 10,000 or less in the wildland/urban interface
DOI: National Park Service	Technical information for historic preservation	To assist local governments and owners to preserve and maintain historic properties	Local governments and individuals
USDA: Natural Resources Conservation Service	Soil survey information	To provide information to planners, environmentalists, engineers, zoning commissions, tax commissions, homeowners, farmers, ranchers, developers, landowners, and business operators	Individuals and groups that have a need for soil survey
USDA: Natural Resources Conservation Service	Grants for watershed protection and flood prevention	To support water quality management, sediment control, wildlife, and recreation projects	Counties, municipalities, soil and water conservation districts, flood prevention or flood control districts, Indian Tribes, and non-profit organizations with authority under State law to carry out, maintain, and operate watershed improvement
USDA: Natural Resources Conservation Service	Technical assistance for watershed surveys and planning	To help solve problems of upstream rural community flooding, water quality improvement, wetland preservation, and drought management	Indian Tribes, local governments, non-profit organizations, and local water resource agencies

Appendix E – FEMA Regions and Regional Offices
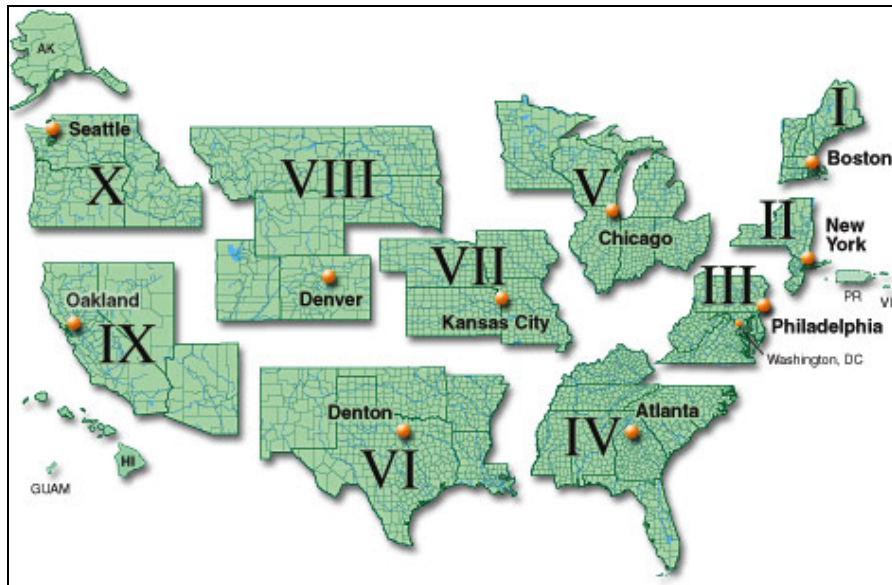
The FEMA Web site contains current contact information for:

- FEMA Regional Offices (http://www.fema.gov/about/contact/regions.shtm

- Each State Hazard Mitigation Officer (SHMO) (http://www.fema.gov/about/contact/shmo.shtm)

- Tribal Information (http://www.fema.gov/government/tribal/index.shtm

FEMA Region	Serving
Region I	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Region II	New Jersey, New York, Puerto Rico, Virgin Islands
Region III	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia
Region IV	Alabama, Florida, Georgia. Kentucky, Mississippi, North Carolina, South Carolina, Tennessee
Region V	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
Region VI	Arkansas, Louisiana, New Mexico, Oklahoma, Texas
Region VII	Iowa, Kansas, Missouri, Nebraska
Region VIII	Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
Region IX	Arizona, California, Hawaii, Nevada, American Samoa, Guam, Commonwealth of the Northern Mariana Islands, Republic of the Marshall Islands, Federated States of Micronesia
Region X	Alaska, Idaho, Oregon, Washington