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1. Integration With Other Planning Initiatives

44 CFR 201.5(b)(1): [An Enhanced Plan must demonstrate] that the plan is integrated to the extent practicable with other state and/or regional planning initiatives (comprehensive, growth management, economic development, capitol improvement, land development, and/or emergency management plans) and FEMA mitigation programs and initiatives that provide guidance to State and regional agencies.

The State of Iowa has been a leader in enacting hazard mitigation and damage-reduction initiatives and mitigation planning. For example, Iowa has had a statewide floodplain management program that pre-dates FEMA and the National Flood Insurance program. Iowa has also been proactive in the area of mitigation planning, requiring a State approved mitigation plan in order to receive Hazard Mitigation Grant funds since 1998, four years prior to the DMA 2000 requirements. In addition, Iowa Code requires the development of Comprehensive Plans as a part of local zoning. Among other requirements the Comprehensive Plan must be “designed ...to secure safety from fire, flood, panic, and other dangers: to promote health and the general welfare...” These codified basic mitigation requirements are implemented at the local level in full integrated with Iowa’s hazard mitigation planning objectives.

Following the catastrophic floods of 2008, the State of Iowa passed several legislative initiatives to address comprehensive programs covering the disaster recovery process, development in hazard-prone areas, economic impact, and mitigation related programs. Listed below are the new and updated legislation with a brief description of the mitigation-related benefits each provides.

SF2389 – Smart Planning.

Establishes 10 Iowa smart planning principles for state agencies, local governments and other public entities to use in preparing economic growth and to mitigate future disasters. It also provides local comprehensive planning and development guidelines for creating and updating comprehensive plans. Another important component of the bill establishes the Iowa Smart Planning Task Force to consult with land use experts, representatives of local governments, individuals with agricultural and environmental interests, urban and regional planning experts, and the public to develop statewide goals, evaluate and develop incentives for comprehensive planning, and develop recommendations for state comprehensive planning programs. This initiative provides resources for evaluating and identifying hazards and mitigation within communities throughout the state. The comprehensive plans shall take into consideration the following;

- Current and future development effecting structures located in the flood plain of a river or stream
- Evaluate land development regulations and flood plain or storm water ordinances, rules or regulations
- Identify current and future flood control boundaries, drainage, and removal, current and potential impacts on local watersheds, and current and future provision of utilities

- Review objectives, policies, and programs guiding future development of sanitary sewer service, storm water management, wastewater treatment technologies, telecommunications facilities; estimates regarding future demand for such utility services
- Review objectives, policies, and programs that identify the natural and other hazards that have the greatest likelihood of impacting the community or that pose a risk of catastrophic damage as such hazards relate to land use and development decisions, as well as the steps necessary to mitigate risk after considering the local hazard mitigation plan approved by the Federal Emergency Management Agency
- Identify opportunities to collaborate and partner with neighboring jurisdictions and other entities in the region for projects of mutual interest
- Address prevention and mitigation of, response to, and recovery from a catastrophic flood
- Coordinate development of the area and the general welfare, convenience, safety, and prosperity of its people; may include recommendations with respect to secure safety from fire, flood, panic and other dangers, drainage protection against floods and other disasters, location of private and public utilities, and zoning regulations and restrictions for the purpose of preventing airport hazards

HF705 – Safe Rooms

The State Building Code Commissioner, in cooperation with the Department of Public Defense, the Department of Natural Resources, and the Rebuild Iowa Office, shall review and assess best practices in the design, construction, and maintenance of buildings, safe rooms, and storm shelters to reduce the risk of personal injury from tornadoes and other severe weather. A report is due to the Governor and General Assembly by December 14, 2009. The Building Commissioner is to use nationally recognized standards. There is no requirement that anyone build safe rooms or storm shelters when erecting new buildings. However, if a community does decide to include a safe room or storm shelter in a new building after January 1, 2011, they must use these standards.

The Report on Best Practices: Reducing Risks from Severe Weather in Construction was submitted to the General Assembly through the cooperation and coordination of the Iowa Department of Public Safety, Iowa Department of Public Defense Division of Homeland Security and Emergency Management, Department of Natural Resources, and the Rebuild Iowa Office. Within the report, the Building Code Commissioner and the Department of Public Safety recommend the following:

- The adoption of a rule as part of the State Building Code, requiring that weather safe rooms built in Iowa after the effective date of the rule, comply with the provisions of ICC 500-2008, except that those provisions which relate only to safety from hurricanes and not from tornadoes, should not apply to construction of these facilities in Iowa.
- The development and dissemination by the Building Code Commissioner, the Rebuild Iowa Office, the Division of Homeland Security and Emergency Management, the Department of Natural Resources, and other interested state agencies of informational and education materials on the design, construction, use, and maintenance of weather safe rooms, to encourage their construction in or proximate to facilities where their availability could significantly mitigate potential injury and loss of life from tornadoes and other extreme wind events.

SF44 – Local Option Sales and Service Tax Election.

A city or unincorporated area located in a county in which the President of the United States declared a disaster to exist at any time during 2008 may impose a local option sales and service tax using an expedited method. The LOST law has already been implemented in Cedar Rapids to approve a one-cent local option tax to help rebuild the city following the floods of 2008. This legislation provides a system for assisting the economic recovery for effected communities following the catastrophic flooding event in 2008.

SF336 – CAT/RECAT.

For the fiscal year beginning July 1, 2009, and ending June 30, 2010, an applicant for financial assistance under the community attraction and tourism program or river enhancement community and tourism program may apply to the Vision Iowa Board for a waiver of any local or private matching moneys required if the applicant is located in an area declared as part of a 2008 disaster area by the Governor. By allowing the waiver of these funds, this legislation provides assistance in the economic recovery of the communities affected by the catastrophic flooding event in 2008.

SF415 – Abandoned Property.

This legislation creates an expedited process that cities can use to acquire abandoned property in disaster areas. Attempts must be made to locate the owner and the decision to declare the property abandoned will be decided by the district court. A property owner at any time can provide a notice and written request to dismiss the petition and have the process stopped. This legislation provides a vehicle in which the community can acquire properties in order to reduce the risk of life and property. Once properties are acquired they can be regulated through local ordinances, land use, building practices, and code enforcement.

SF457 – Disaster Recovery/Property Tax Relief.

This bill grants property owners and communities up to 100%, 5-year tax exemption for the increased assessed value of property that has been revitalized. This legalizes actions taken by cities and counties to meet emergency needs from the 2008 disaster events. This legislation provides assistance in the economic recovery of the communities affected by the catastrophic flooding event in 2008.

SF478 – Disaster Assistance Loan and Credit Guarantee Program.

The Department of Economic Development, along with participating financial institutions shall establish and invest assets of the Disaster Assistance Loan and Credit Guarantee Fund, to provide loan and credit guarantees to qualifying businesses. The loan and credit guarantee under the program shall not exceed ten percent of the loan amount or twenty-five thousand dollars, whichever is less.

SF478 – Tornado Damaged Communities and Long-Term Recovery Committees.

The Iowa Economic Emergency Fund appropriated \$1.15 million to be distributed to cities adversely impacted by tornadoes during the incident period identified by Presidential Disaster DR 1763 – IA. An additional \$1 million appropriated to area long-term recovery committees.

HF64 - Disaster Recovery.

This original bill provides \$56 million in funding, from the economic emergency fund, for additional disaster relief. The Jumpstart Housing Program received \$24 million, the Unmet Needs Disaster Grant Program received \$7.85 million, and a Community Disaster Grant program received \$22 million. SF 478 reduced the funding for the Unmet Needs program to \$7.85 million (and the total funding to \$53.85 million) and instead directed \$1 million to the long-term recovery committees, and \$1.15 million to help tornado-affected communities. HF 64 also officially established the Rebuild Iowa Office.

HF2531 – Floodplain Management.

The Water Resources Coordinating Council (WRCC) recommended steps that Iowa should take to make its floodplains safer. The 2009 legislative session included several of these recommendations regarding flood education in [HF2531](#). The council shall encourage and support the formation of a chapter of the association of state flood plain managers in Iowa that would provide a vehicle for local flood plain managers and flood plain planners to further pursue professional educational opportunities regarding flood risks and floodplain awareness.

HF2459 – Floodplain Management.

Establishes a Watershed Planning Advisory Council to review research and make recommendations to various state entities regarding methods to protect water resources in the state, assure an adequate supply of water, mitigate and prevent floods, and coordinate the management of those resources in a sustainable, fiscally responsible, and

environmentally responsible manner. These Authorities can work alongside the WRCC to reduce risk and improve water quality, create economic incentives, implement urban storm water control programs, wetland restoration and creation, assigning responsibility for monitoring flood risk, flood mitigation, coordinate with federal agencies and involve cities, counties and other local and regional public and private entities in watershed improvement.

HF759 – Flood Insurance.

All counties and cities in the State of Iowa that have an effective flood insurance rate map or flood hazard boundary map published by the Federal Emergency Management Agency that identifies a special flood hazard area within the political boundaries of the county or city shall meet the requirements for participation in the national flood insurance program administered by the Federal Emergency Management Agency on or before June 30, 2011. Communities that do not join by that date will no longer be eligible for state cost share (average 10%) for Public Assistance in federal declared disasters. If the community does not have a flood hazard boundary map or flood insurance rate map, they must meet the requirements within twenty four months from the effective date of any future flood maps.

HF820 – Federal Funds.

Authorizes \$125,297,142 from the Community Development Block Grant Funds to provide for disaster relief, long-term recovery, and restoration of infrastructure.

HF822 – Iowa Flood Center and Flood Prevention.

The State Board of Regents shall establish and maintain in Iowa City as a part of the State University of Iowa an Iowa Flood Center. Appropriation of \$1.3 million for an Iowa Flood Center to develop hydrologic models, frequency and flood forecasting and improve flood monitoring and predictions, share resources and expertise, and develop a workforce knowledgeable regarding flood research, prediction, and mitigation strategies. Research and education conducted by the Iowa Flood Center is funded by the State of Iowa with additional support for Center projects from Iowa Department of Natural Resources, The National Science Foundation, National Aeronautics and Space Administration, The University of Iowa and the City of Coralville. Center research and education program collaborators include Iowa Department of Natural Resources, Iowa State University, National Weather Service, National Oceanic and Atmospheric Administration, National Resources Conservation Services, U.S. Army Corps of Engineers, Rock Island District, and the Communities of Elkader, Des Moines, Charles City, Iowa City, Coralville, Cedar Rapids, Cedar Falls, and Waterloo.

This bill also provides \$2 million for a new floodplain management program through IDNR that focuses on improving floodplain mapping using LiDAR, assisting local entities with permits and planning,

increasing the number of inspections for safety and structural integrity of dams and levees, developing a statewide flood control plan, and assisting emergency management teams with flood events.

SF457 - Disaster Recovery Housing Project Tax Credit.

This bill provides income tax credits on individual, corporate and franchise taxes for the development of disaster recovery housing projects within a declared major disaster area and within disaster revitalization areas. The project must be designed to avoid, prevent, or mitigate the effects of a future natural disaster. The maximum amount of credits issued cannot exceed \$3 million in each of the five tax years, or \$15 million total from 2011 through 2017. This legislation provides assistance in the economic recovery of communities affected by Presidentially Declared Disaster events.

SF474 – University of Iowa Bonding.

The State Board of Regents is authorized to undertake, plan, construct, improve, repair, remodel, furnish, and equip, and otherwise carry out \$100,000,000 in projects to repair, restore, and replace flood damaged buildings and facilities and to undertake other flood recovery and mitigation projects on the campus at the State University of Iowa.

SF481 - Historic Tax Credits.

This bill authorizes an increase of funding for the Historic Tax Credit program from \$20 million to \$50 million. \$10 million or 20% of the total funds is allocated for disaster recovery projects. 25% of the income tax credit will provide qualified rehabilitation costs of historic buildings

1.1. State Level Integration

1.1.1. State Planning Framework

Iowa Strategy for Homeland Security and Emergency Management (Annex 2-A) serves as a roadmap to a safer and more secure Iowa. Through the projects and programs outlined in this plan, Iowa will strengthen its ability to prevent, protect, respond to and recover from foreign and domestic terrorism or man-made and naturally occurring disasters. This plan directly supports the Governor's Strategic Plan for the State of Iowa. The Strategy offers initiatives and programs that provide for the safety and security of Iowa's communities and citizens. The State Hazard Mitigation Plan integrates with this philosophy. All state agencies develop strategy plans to integrate with the Governor's strategy protecting the citizens and communities.

1.1.2. Governor's Strategic Plan

All state departments are participating in Results Iowa-Accountability for Iowa; each agency sets department goals and strategies for a 3-5 year period, aligns them with customers needs, and helps target scarce resources more effectively by clarifying desired results. Performance plans are a snapshot of what the department does and how well it does it.

The plan helps pinpoint improvement opportunities and implement strategies to achieve better results. With these plans departments can better make informed decisions, and tell Iowans and other stakeholders what they have accomplished.

All state departments work toward the Governor's Strategic Plan. All state departments consider their area of authority in their mission statements. Example: (good water quality) Iowa Department of Natural Resources is to improve the quality of life for Iowans and ensure a legacy for future generations.

Homeland Security and Emergency Management Division planners are responsible for integrating, to the greatest extent practicable, hazard mitigation planning, and programs into other state, regional, and local planning initiatives and programs. Specific accomplishments are the Critical Asset Protection Program (CAPP) found in section 1.3 and the Continuity Planning (COOP/COG) continuity of operations and continuity of government found in section 1.2 and the State of Iowa Comprehensive Emergency Plan.

1.1.3. Comprehensive Planning

The Comprehensive Plan is required as the basis for a zoning ordinance (Iowa Code Section 414.3 (municipal) and Section 335.5 (county)).

The Comprehensive Plan is a long-range (10-20 year) guide for overall development in the community. The plan's purpose is to encourage compatible land use development, provide services efficiently, and coordinate development activities between both regional and local governmental entities, specific interest groups, and the general public.

Areas covered by the Plan include, transportation, employment, housing, and access to clean air, water and open spaces. Specifically the Iowa Code states that the Comprehensive plan must be "designed ...to secure safety from fire, flood, panic, and other dangers: to promote health and the general welfare..." These codified basic mitigation requirements are fully integrated with the hazard mitigation planning goals and objectives at the state and federal level. Upon adoption, the Comprehensive Plan serves as a local jurisdiction statement of policy and a decision make tool.

Regional Council of Governments (COG) are primarily responsible for the development of the Comprehensive plans as well as many of the local and county multi-jurisdictional hazard mitigation plans. HSEMD has and will continue to provide mitigation training and technical assistance to the COG personnel as well as local officials. This imparts the mitigation goals, objectives and philosophy for integration in all their planning efforts.

Further mitigation goals, objectives and philosophy for integration in all planning efforts is demonstrated through the SF-2389 Smart Planning legislation (2010) which provides local comprehensive planning and development guidelines for creating and updating comprehensive plans, establishes the Iowa Smart Planning Task Force, and provides resources for evaluating and identifying hazards and mitigation within communities throughout the state. This initiative is based on extensive mitigation planning in Iowa. It establishes 10 Iowa Smart Planning principles for state agencies, local governments and other public entities to use in preparing economic growth and to mitigate future disasters. The following are the established Iowa Smart Planning Principles:

1. Collaboration; encouraged participation of governmental, community and individual stakeholders
2. Efficiency, transparency, and consistency; individuals, communities, regions, and governmental entities should share in the responsibility to promote the equitable distribution of development benefits and costs
3. Clean, renewable and efficient energy; promote clean and renewable energy use as well as increased energy efficiency
4. Occupational diversity; promote increased diversity of employment and business opportunities and promote the establishment of businesses in locations near existing housing, infrastructure, and transportation
5. Revitalization; promote and establish development that conserves land, protects historic resources, promotes pedestrian accessibility, and integrates different uses of property as well as remediation and reuse of existing sites, structures, and infrastructure
6. Housing diversity; encourage housing diversity, support rehabilitation of existing housing, and promote the location of housing near public transportation and employment centers
7. Community character; consistent development with architectural style of the community and local values
8. Natural resources and agricultural protection; emphasize protection, preservation, and restoration of natural resources, agricultural land, and cultural and

- historic landscapes, and should increase the availability of open spaces and recreational facilities
9. Sustainable design; develop utilizing sustainable design and construction standards, conserve natural resources, reduce waste and pollution through efficient use of land, energy, water, air, and materials
 10. Transportation diversity; expanded transportation options to maximize mobility, reduce congestion, conserve fuel, and improve air quality

This comprehensive planning process involving the above smart principles provides resources for evaluating and identifying hazards and mitigation within communities throughout the State of Iowa. Recommendations during this planning process include evaluating land development regulations and floodplain or storm water ordinances, rules or regulations with consideration of the effects of development on structures located in the flood plain of a river or stream. Through this process maps and other documentation are reviewed to identify current and future flood control boundaries, drainage, and removal, current and potential impacts on local watershed, and current and future provision of utilities.

Objectives, policies, and programs guiding future development of sanitary sewer service, storm water management, wastewater treatment technologies, and telecommunications facilities may be reviewed with estimates evaluated for future demand for such utility services. These objectives, policies, and programs shall also identify the natural and other hazards that have the greatest likelihood of impacting the community or that pose a risk of catastrophic damage as such hazards relate to land use and development decisions, as well as the steps necessary to mitigate risk after considering the local hazard mitigation plan approved by the Federal Emergency Management Agency.

Communities may address prevention and mitigation of, response to, and recovery from a catastrophic flood and identify opportunities to collaborate and partner with neighboring jurisdictions and other entities in the region for projects of mutual interest. Plans may also include recommendations with respect to secure safety from fire, flood, panic, and other dangers, drainage protection against floods and other disasters, location of private and public utilities, and zoning regulations and restrictions for the purpose of preventing multiple hazards. This planning process coordinates the development of the area in regards to the general welfare, convenience, safety, and prosperity of its people through comprehensive development and coordination integrated with the mitigation of local hazards.

1.1.4. Community Builder Plan

The Community Builder Plan is similar to the comprehensive plan in that it is a strategic plan that addresses public works, housing, demographics, public facilities/services, land use, and economic development. In the early 1990's the State of Iowa Economic Development Department encouraged cities, counties, local and regional organizations, and local and regional economic development organizations to develop and implement comprehensive community and economic development plans. Certified applicants received 50 bonus points when applying for selected state financial assistance programs. Plans were required for communities to receive funding from the Department of Economic Development, Department of Transportation, Iowa Finance Authority, and the Department of Natural Resources under the following financial assistance programs; Community Economic Betterment Account, Community Development Block Grant, Rural Community 2000, Revitalize Iowa's Sound Economy Program, Chapter 220 Housing Program, Recycling Projects program, and The Resource Enhancement and Protection Program.

What distinguishes the Community Builder Plan from the Comprehensive Plan is the planning process which includes a five year strategy and vision designated to meet the needs and priorities of the local government(s) involved. The plan should identify the key assets and liabilities of the jurisdictions, identify goals for development, describe the community, business and economic development strategies to be followed locally during the next five years and their expected results. A community profile and database is included providing assessments of infrastructure, cultural and fine arts resources, housing, primary health care services, natural resources, conservation and recreational facilities.

Each plan should include a listing of priorities and action steps to meet identified needs. These strategic plans may address prevention and mitigation of and response to transportation incidence, safety from fire, and protection from floods. These actions identify and address the community impacts related to land use and development decisions. The strategy may identify land to develop outside the floodplain and encourage NFIP participation. In the late 1990's the State of Iowa no longer offered incentives for these plans and they were no longer a requirement. Although the State of Iowa no longer endorses the Community Builder Plans, some communities continue to maintain them.

Regional Council of Governments (COG) are primarily responsible for the development of the Community Builder Plans as well as many of the local hazard mitigation plans. HSEMD has and will continue to provide mitigation training and technical assistance to the COG personnel as

well as local officials. This demonstrates that mitigation goals, objectives and philosophy are integrated into all planning efforts.

1.1.5. Comprehensive Emergency Management Planning

Iowa Code Section 29C.8 requires the administrator of the Homeland Security and Emergency Management Division to prepare a comprehensive plan for Homeland Security, disaster response, recovery, mitigation and emergency resource management for the state. The comprehensive plan is composed of the following parts:

- Iowa Emergency Response Plan
- Iowa Hazard Mitigation Plan
- Iowa Disaster Recovery Plan
- Iowa Critical Asset Protection Plan

The HSEMD Preparedness Bureau planners are responsible for integrating state, regional and local mitigation planning, the extent practicable, into HSEMD ongoing planning, training, exercise and recovery efforts.

The Bureau coordinates statewide disasters recovery and mitigation and recovery planning requirements in the Iowa Code, Bureau planners serve as points of contact for Iowa's homeland security regions and planning districts. In addition, the Bureau implements the Iowa Comprehensive Exercise Program, develops and conducts exercises and provides technical exercise and evaluation assistance to state agencies and local jurisdictions. The Bureau is also responsible for implementing a range of training initiatives, including assessing state-wide training needs, coordinating and conducting training activities, conducting needs assessment, and developing training strategies.

HSEMD planning staff review codes and recommended changes to facilitate updates and integration. For example, changes have been made to the Iowa Code to improve the timeliness of the planning requirements for the counties.

Each planner is assigned a District/Region in Iowa. Iowa has 6 Districts/Regions. The District Planner attends monthly/quarterly meetings and is a conduit for communication and technical assistance. District Planner activities also include review of the county plans under the authority of the Iowa Code. The District reviews the county's response, mitigation, and recovery plans and recommends changes to the plan's author.

The Exercise Section organizes and facilitates exercise training and design, state-wide. The Training Section offers training courses and coordinates the EMI attendance. Mitigation specific training is

provided to planners, Council of Governments, and county coordinators. Since the last plan update multiple courses have been offered including 6 BCA workshops, 10 local hazard mitigation planning workshops, and 4 safe room workshops. Along with specific training, technical assistance is an on-going process.

1.1.6. Other State Agency Planning Initiatives

The Hazard Mitigation Capability Assessment (Annex 1.4-B) identifies planning initiatives and mitigation programs and projects that comprise Iowa’s overall mitigation capability and contribute to achieving Iowa’s mitigation goals and objectives. Section 1.6 Integration with Federal and State Programs of the Enhanced Plan discusses more specifically the programs that State agencies integrate with FEMA and other State agency hazard mitigation related initiatives.

1.1.7. State Hazard Mitigation Team (SHMT)

Integration has also been achieved at the state level by the creation of the State Hazard Mitigation Team (SHMT) by three Governor’s Executive Orders issued since 1990. The current Executive Order (number 62), in effect since 1998, requires a Primary Team and a Secondary Team. The Primary Team includes representatives from six different state agencies, including HSEMD, who are required to participate in all Team activities. These six agencies play the most direct role in mitigation activities. The table below summarized the mitigation role of each of the six primary agencies.

Agency	Role
HSEMD	Committed to a safe, secure, and sustainable Iowa to lead, coordinate, and ensure economic opportunities for Iowa and its citizens
IDNR	To conserve and enhance our natural resources to improve the quality of life for Iowans
IDOT	To build, maintain and support a safe and efficient transportation system for users.
IDED	To engender and promote economic development policies and practices
DCA	Primary responsibility for development of the state's interest in the areas of the arts, history, and other cultural matters
IDPS	To provide Public Safety and Criminal Justice Services allowing citizens in Iowa to enjoy high quality of life in safe communities and promote economic growth in the state

The Secondary Team includes representatives from ten other state agencies. The agencies play a less direct role in mitigation but are called upon as required on an as-needed basis to provide information and assistance to the Primary Team.

The SHMT also includes participation by local governments, agencies of the federal government, and private non-profit organizations that all play some role in mitigation.

Opportunities for integration of planning by state agency members of the SHMT vastly increase due to the ease of communication between Team members and also by coordination activities by members of the Team.

Participation by federal, state, local, private and non-profit agencies was the key in reviewing the existing hazards to be addressed in this plan update. During the planning process all phases of the plan were reviewed and commented on by the members. These are examples of the participation, DPS commented on the consolidation of the terrorism hazards related to public disorder, enemy attack, and biological, agro, chemical, radiological, and conventional terrorism. DPH commented on the consolidation of the human disease hazards and consolidation of radiological hazards. Mitigation goals, objectives and actions were reviewed to include additional goals that were established for consolidated hazards identified during the hazard analysis and risk assessment. The Capability by Objective matrix included in the previous plan was consolidated into the Capability Assessment table in Annex 1.4-B, which matches the specific agency to program information.

1.2. Regional Planning Integration

1.2.1. Regional Council of Governments (COG)

There are eighteen regional Council of Governments (COG) in Iowa. These organizations are formed by counties and cities to serve local governments and citizens in their regions.

They address issues facing local government and provide coordination of service delivery, grant writing and administration, planning, advocacy, technical assistance and project development. In addition, the COG serve as forums for regional economic development and the federal Economic Development Administration has designated several as Economic Development Districts (EDD).

Thus, the COG provides a large number of services that facilitate the integration of mitigation with regional planning initiatives, for example: Land Use Services, Comprehensive Plans, Strategic and Community Builder Plans, Annexation Studies, Zoning and Subdivision Regulation, Ordinances Codification, Urban Renewal Plans, Economic Analysis, and Hazard Mitigation Plans.

Recognizing the opportunity the COG provide to integrate mitigation into regional planning, Iowa Homeland Security and Emergency Management has formed a partnership with the COG that has resulted in these regional planning organizations adding mitigation planning to the services they provide.

The partnership between HSEMD and the COG pre-dates the FEMA mitigation planning requirements. A large percentage of the 307 approved DMA 2000 Local Mitigation Plans have been completed by planners from the COG. HSEMD and FEMA Region VII have provided annual mitigation training workshops covering a wide-range of mitigation related activities, including benefit-cost analysis and hazard and risk analysis. The most recent workshops were provided in the spring of 2010. In addition to workshops, HSEMD provides one-on-one technical assistance to planners and develops planning guidance documents which build on the State Hazard Mitigation Planning Guidance first published in 1998.

1.2.2. County-wide Comprehensive Planning

Iowa Administrative Code, Chapter 7, Section 605 establishes standard for emergency management and provides local emergency management commissions with the criteria to assess and measure their capability to mitigate against, prepare for, respond to, and recover from emergencies or disasters. In carrying out their legal responsibilities, the local emergency management commissions ensure mitigation is integrated into all phases of planning on a county-wide basis.

The county emergency management commission must be comprised of: a member of the county board of supervisors or its appointed representative, the county sheriff or the sheriff's appointed representative, and the mayor or mayor's appointed representative from each city within the county. The commission is a municipality as defined in Iowa Code section 670.1, thus all commission business must be carried out in compliance with Iowa Open Meeting Laws.

One of the primary responsibilities of the commission is to develop comprehensive countywide emergency plans that are both multihazard and multifunctional in nature. The comprehensive plan consists of:

- A part "A" operations plan that assigns responsibilities to organizations and individuals for carrying out specific actions at projected times and places in an emergency or disaster.
- A part "B" mitigation plan that establishes interim and long-term strategies to eliminate hazards or reduces the impact of those hazards that cannot be eliminated. In order to qualify for federal funding for mitigation assistance, an eligible applicant must comply with the mitigation planning requirements established in

44 CFR 201.6 and the Iowa Hazard Mitigation Grant Program Administrative Plan.

- A part “C” recovery plan must identify the short-term and long-term strategic priorities, processes, vital resources and acceptable time frames and procedures for restoration.

Following a Presidential Declaration for a major disaster, both part “B” mitigation plans and part “C” Recovery Plans must be reviewed and amended, as appropriate, certified by the commission and emergency management coordinator and submitted to Iowa Homeland Security and Emergency Management Division for approval within 180 days of the formal closing of a disaster incident period. Failure to meet this requirements results in the loss of state financial assistance (state match) to federal disaster funding.

Comprehensive Plans must also be regularly reviewed and amended, as appropriate, at least every five (5) years.

1.3. Local Planning Integration

Iowa’s commitment to local hazard mitigation planning pre-dates FEMA DMA 2000 planning requirements. Recognizing that in order to identify and implement mitigation projects that conformed to federal and state requirements and met the needs and priorities of the community, it was essential that communities develop locally based mitigation plans. Thus, in 1998 the state established a requirement that communities have a state approved, all-hazards mitigation plan in order to qualify for hazard Mitigation Grant Program Funds.

Building on the Community Rating Service (CRS) and Flood Mitigation Assistance Program (FMA) planning programs, the State developed a State Mitigation Guidance document. The guidance emphasized the importance of a collaborative planning process, a community based hazard analysis/risk assessment, and a mitigation strategy that integrated mitigation planning and activities into the communities economic, social, environmental, and safety needs and priorities.

Integration is achieved at the local level by mandates from both the federal and state governments. Local hazard mitigation planning is identified in 44 CFR 206 Subpart M and was expanded and detailed by the Disaster Mitigation Act of 2000 (P.L. 106-390), enacted October 30, 2000 and 44 CFR Part 201 – Mitigation Planning, Interim Final Rule (the Rule), published February 26, 2002.

From Subpart M, the key responsibilities of local governments are to:

- Participate in the process of evaluating hazards and adoption of appropriate hazard mitigation measures, including land use and construction standards;
- Appoint a Local Hazard Mitigation Officer;
- Participate on Hazard Mitigation Survey Teams and Interagency Hazard Mitigation Teams;
- Participate in the development and implementation of hazard mitigation plans and plan updates; and
- Coordinate and monitor the implementation of local hazard mitigation measures.

Successes in local planning integration have occurred in a variety of ways:

- Local Hazard Mitigation Planning integrated with Capital Improvement Planning (CIP) in Iowa's largest cities
- Local Hazard Mitigation Planning integrated with a form of local economic development planning called Community Builders planning in small Iowa communities
- Regional Council of Governments (COG) are primarily responsible for the development of the Comprehensive plans and Community Builder plans as well as the local hazard mitigation plans. HSEMD provided mitigation training and technical assistance to the COG personnel imparting the mitigation philosophy for integration in all their planning efforts.
- Iowa Code mandated county hazard mitigation planning in Iowa integrates Local Hazard Mitigation Planning within the county.

The following are detailed examples of how hazard mitigation goals have been integrated with local and regional plans.

At the local level many mitigation activities are realized by inclusion in a city's Capital Improvement Plan. The following two examples show of how cities have incorporated mitigation goals into their public works activities. These are examples of the larger projects in Iowa. Many cities have mitigation oriented projects integrated into the Capital Improvement Plan sections of their projects. With nearly 1,000 municipalities and over 50 rivers (not including branches and tributaries), a comprehensive listing of all the mitigation-related projects in the state has not been compiled.

City of Des Moines

The flooding that occurred in 1993 across most of the Midwest hit the City of Des Moines particularly hard. The city, located at the confluence of the Des Moines and Raccoon Rivers, saw a significant part of its Central Business District flooded. In addition, the Des Moines Water Works main facility was inundated by flood waters, disabling service to over 250,000 residents.

Damage to the Water Works facility was approximately \$12 Million, with an additional \$2 Million in damages tied to debris removal and levee repair. The City of Des Moines has approximately 15 miles of US Army Corps of Engineers-certified levees and floodwalls within its corporate limits.

In the City of Des Moines' Fiscal Year 2007 Capital Improvement Plan, approximately \$3.7 Million is dedicated to Flood Protection System Improvements, which is mainly tied to repairing levees along and leading to the Des Moines River.

The Des Moines Central Campus Floodgates Project was to construct a floodwall and two floodgates at the rail yard opening. The project involved the construction of 55 feet of floodwall and two 20-foot floodgates across the rail yard opening. This project was completed March 25, 1996.

Following the floods of 2008, the Des Moines Central Campus Floodgates Project was evaluated to determine return on investment that included only the losses associated with physical damage. It was determined that the return on investment was 9,758%, nearly 100 times the project investment cost.

City of Sioux City

The Perry Creek Flood Control Project, a \$97 Million project authorized under the 1986 Water Resources Development Act, is one of the largest and longest-term flood control projects in Iowa's History. The Perry Creek basin is located in Woodbury and Plymouth Counties in northwestern Iowa. The downstream five miles of the basin lie within the corporate limits of Sioux City, and drain the central portion of the city into the Missouri River. Perry Creek has experienced 10 significant floods prior to the beginning of the flood control project in 1996. The most recent was in 1990 with significant damage to personal and public property.

There are approximately 2,000 homes and businesses located within the floodplain targeted by the project. This project will protect the homes and businesses from the damages caused by a 100 year flood event.

This is a project sponsored by the United States Army Corps of Engineers, with the City of Sioux City acting as the local partner. Sioux City is funding approximately \$34 Million, and the US Army Corps of Engineers funding the rest of the project. In Sioux City's Fiscal Year 2007 Capital Improvement Plan, approximately \$350,000 was budgeted for work on the project which is winding down in its final phase.

The overall project consists of 14,800 linear feet of grass and rock lined channel, 1,500 linear feet of new conduit, modification of 710 linear feet

of existing conduit, and a concrete stilling basin, to provide capacity for the 100-year event. Also included are 4.25 miles of hiking/biking trail and a basin-wide flood warning system. Three phases of the four phase project are complete, with the final phase completed in 2008. Project work has required the replacement of numerous bridges, as well as the design of a large culvert/inlet into the Missouri River, passing underneath a six lane segment of Interstate Highway 29.

Further local integration is accomplished through mitigation measures (actions) developed from mitigation actions that have been implemented in Iowa. Local community mitigation measures are evaluated and selected during the local mitigation planning process. In order to collect and analyze local mitigation planning data, each local plan must complete the *Local Hazard Mitigation Plan – Data Collection Worksheet*.

Through this process, a MS Excel Workbook is used to provide local planners with a tool to organize data and information that is required for the local mitigation plan and it provides an electronic format for data collection at the local level. The Data Collection Worksheet provides local jurisdictions with a tool to meet FEMA's plan maintenance requirements (monitoring, evaluating, and updating the plan) after the plan is approved and prior to the next local mitigation plan update.

The Local Data Collection Worksheets are used as a method of validating the State's existing hazard assessment, vulnerability assessment, goals, objectives, proposed and completed mitigation measures, and local plan integration. For future updates the existing and future local data collection worksheets will be consolidated and analyzed to determine statewide trends of hazard mitigation planning and activities. Information required for FEMA approval of a local hazard mitigation plan is incorporated within the Data Collection Worksheet which includes:

- Proposed Mitigation Measures
- Completed or In Progress Mitigation Measures
- Local Capabilities Summary
- Vulnerability Assessment
- Critical Facilities Assessment
- Hazard Ranking

The HSEMD requirement for submittal of the Data Collection Worksheet was established in the grant agreement for entities awarded planning grants starting with PDM 2007 and forward (PDM 2008, HMGP 1688, 1705, 1727, 1737, 1763, 1854, and future grants). This was not a requirement for previous planning grants. See Annex 2-D for an example of a submitted and approved Data Collection Worksheet.

1.4. Integration through a tie to State Hazard Mitigation Funding

Integration is also achieved through funding mechanisms as established in Section 29C of the IC. Section 29C.17 establishes a local emergency management fund in the office of the county treasurer. Any revenues provided and collected are deposited in the fund. Unencumbered balances are not allowed to revert to the county general revenues. Any reimbursement, matching funds, moneys received from the sale of property, or moneys obtained from any source in connection with the county emergency management program is deposited in the local emergency management fund.

To ensure compliance with these rules, the commission serves as the fiscal authority, and the chairperson or vice-chairperson of the commission serves as the certifying official. The county emergency management agency's approved budget may be funded by one or any combination of the following options:

- A countywide special levy approved by the board of supervisors.
- Per capita allocation funded from city and county general funds or by a combination of city and county special levies which may be apportioned among the member jurisdictions.
- An allocation computed as each jurisdiction's relative share of the total assessed valuation within the county.
- A voluntary share allocation.

An incentive for local participation in hazard mitigation is supplied by the provisions of Section 29C.6 of the IC. Subsection 17 states that if financial assistance is granted by the federal government for hazard mitigation following a major disaster declaration by the president, the state may participate in the funding of the financial assistance authorized to a local government in an amount not to exceed 10 percent of the eligible expenses, with the applicant providing the balance of any participation amount. However, this is contingent on the local government having on file a state-approved, comprehensive, countywide emergency operations plan.

Since Federal assistance cannot exceed 75 percent of eligible expenses, the local government must provide at least 15 percent of eligible expenses. If that plan is not on file, the state will choose at its discretion whether to contribute its 10 percent portion. In this case, the local government then must provide at least 25 percent of eligible expenses.

Although funding may occur from one or more of the options listed above, the incentive given by the state of Iowa to the local governments help to empower the commissions to develop a comprehensive countywide emergency operations plan which include a mitigation plan. This in turn promotes the integration of mitigation planning between the State of Iowa and local governments.

1.5. Integration with Emergency Management Accreditation Program (EMAP)

Planning initiatives in Iowa are enhanced through the state's participation in the Emergency Management Accreditation Program (EMAP). EMAP is a voluntary assessment and accreditation process for state/territorial, tribal, and local government emergency management programs. It includes (1) a structure for identifying areas in need of improvement; (2) a methodology for strategic planning and justification for resources; (3) a catalyst for improved interoperability and professionalism; and (4) strengthened state, territorial, and local preparedness, including sharing of best practices.

EMAP uses collaboratively developed national emergency management standards along with peer assessment teams to evaluate a program's activities—not just an agency, but a jurisdiction's entire program. The EMAP Standard is based on the NFPA (National Fire Protective Association) 1600 and covers 14 functional areas:

- Program management
- Laws and authorities
- Hazard identification and risk assessment
- Hazard mitigation
- Resource management
- Planning
- Direction, control, and coordination
- Communications and warning
- Operations and procedures
- Logistics and facilities
- Training
- Exercises, evaluations, and corrective action
- Crisis communications, public education, and information
- Finance and administration

Baseline assessments using EMAP provide a methodology to evaluate state emergency management programs against a consistent set of criteria. Assessments identify areas of program activities that need to be addressed, help programs develop prioritized improvement strategies and demonstrate accountability, and help support for requests for additional emergency management resources. An assessment report includes whether the program is compliant or non-compliant with 54 standards and reasons for assessors' findings.

The State of Iowa volunteered for a baseline assessment in the spring of 2003. This was done in order to obtain a better sense of the status of the state's emergency management programs and because plan integration is a significant function and priority of HSEMD. It was also done to demonstrate the State of Iowa's intent to work toward compliance with all 63 of the EMAP prescribed standards. This in turn will be helpful in integrating planning initiatives across agency and jurisdictional lines. HSEMD Strategic Plan

endorses this explicitly, listing as one of its strategies to “Ensure that the state and each county have completed the Emergency Management Accreditation Program (EMAP) self-assessment tool measuring the jurisdictions baseline against nationally recognized standards in all functional areas.”

The State of Iowa followed up the 2003 baseline assessment with an EMAP assessment in May of 2009. The purpose of the assessment was to provide the State of Iowa emergency management program with an unbiased outside evaluation of compliance with each of 63 EMAP standards. Each standard helps provide emergency management programs national criteria with which to assess their programs. It provides criteria to measure success in developing, implementing, and maintaining a program to mitigate, prepare for, respond to, and recover from disasters and emergencies. This evaluation of the self-assessment process allowed for feedback and allowed the State of Iowa emergency management program an opportunity to make improvements, modifications, or locate additional documentation in order to attain accreditation. During this initial assessment, 47 of the 63 standards were sufficiently addressed, including being compliant in all evaluated areas addressing mitigation. At that time, Iowa was granted interim accreditation until the remaining 16 standards were reviewed for final compliancy in June of 2010 and final EMAP accreditation was granted.

1.6. Integration with Federal and State Programs

1.6.1. Floodplain Management in Iowa

The State of Iowa’s floodplain management program pre-dates the National Flood Insurance Program by almost twenty years. As part of an effort to stem the increase in flood damages sustained after a number of devastating flood events in the 1940’s, the Iowa General Assembly created the Natural Resources Council in 1949. Originally, the Council’s power over floodplain activities was advisory in nature. Its regulatory functions were established by 1957 and 1965 amendments. After a number of state reorganizations, Iowa’s floodplain regulatory authority now resides with the Iowa Floodplain Management Program, Water Resource Section of the Iowa Department of Natural Resources (IDNR).

The flood plain management program administers the state flood plain permit program, works with communities and counties to develop and administer local flood plain management programs, coordinates the Nation Flood Insurance Program, administers the state’s dam safety program, and assists the Federal Emergency Management Agency and the Iowa Emergency Management Division in responding to flood disasters.

Iowa's floodplain program is different from most states in that its authority extends to virtually all floodplain construction within the state and is not limited to FEMA regulatory floodplains. Regulatory thresholds of rural development in watersheds draining ten square miles or more and urban developments in watersheds draining two square miles or more require a permit from the IDNR. Other developments below these thresholds have relatively minor impacts and are not considered.

Iowa law allows IDNR to delegate the State's floodplain regulatory functions to a local government that has a flood study identifying the regulatory floodway and floodway fringe along with 100-year flood profile(s) and a floodplain management ordinance meeting NFIP and State minimum requirements. The State allows communities with delegated floodplain management authority to issue floodplain development permits in lieu of the IDNR. The State has delegated floodplain authority to approximately 136 NFIP participating communities. As part of the delegation process, the State retains the right to concur or deny with granting of any variance from the community's floodplain management regulations.

Although the State of Iowa's criteria for new floodplain development is similar to the minimum NFIP criteria in most respects, there are some important differences, for example:

- The lowest floor of new structures must be elevated an additional 1.0 foot above the 100-year (base) flood.
- Iowa does not allow new residential structures in the floodway
- Residential structures must have wheeled vehicular access during the 100-year flood.
- The substantial improvement threshold is reached with an additional 25% or more of flood area.
- All post-FIRM (Flood Insurance Rate Map) additions are considered cumulative improvements in the determination of increase in floor area.

Iowa Homeland Security and Emergency Management staff coordinates closely with IDNR Floodplain Management Staff in all facets of floodplain management, including NFIP issues. NFIP participation is a pre-requisite for community eligibility in pre-and post-disaster programs, including the HMGP, FMA, RFC, SRL and PDM mitigation grant programs. In addition, flood insurance through the NFIP is only available in communities that participate in the program. Flood insurance policies issued within communities participating in the regular NFIP program include Increased Cost of Compliance (ICC) coverage for properties located in the Special Flood Hazard Area that have been substantially damaged as a result of flooding. The ICC

serves as an important source of non-federal match for the mitigation grant programs.

1.6.2. LiDAR Interactive Mapping in Iowa

The Iowa Department of Natural Resources and the United States Geological Survey have partnered to create interactive topographic maps to cover the entire State of Iowa. By using the LiDAR system of light detection and ranging to scan the earth with lasers from aircrafts, data can be obtained on elevations across the state. The elevation data is complemented by high-resolution aerial photography to provide the following;

- Reduction of many infrastructure planning costs including roadway, utility line, construction, and soil conservation site planning and estimating
- Risk assessment to include floodplain and flood insurance mapping, erosion potential measurements and modeling, and emergency management and response planning; dam breach inundation areas, levee analysis, and spill routing
- Evaluating alternative infrastructure options such as utility lines, roadways, stormwater facilities, and pipelines
- Permit process improvement involving animal feeding operation siting with regards to floodplains and slop, air emission permitting, and floodplain permitting for industrial/residential construction
- Education/research; environmental science such as watershed modeling, runoff modeling, conservation practice performance, and watershed delineation; engineering involving construction site planning and development/use of automated planning tools; development of new technologies

These efforts have been funded by partnerships among IDOT, IDNR, NRIS, and IDALS. Upon completion of the LiDAR initiative, the topographic maps, elevation maps, and available data will be made available at no cost from a state website, in various formats, for all Iowans. The DNR and other involved agencies have completed an implementation plan that outlines a strategy to complete flood plain mapping for Iowa in the next 5-7 years. The management and updating of flood plain maps will be an on-going continuous process. Maps will be updated electronically as conditions and available information change.

Further, the Iowa Department of Natural Resources and FEMA Region VII have entered into a Cooperating Technical Partnership to manage flood hazard mapping following the floods of 2008. Through this partnership, the Iowa DNR and FEMA will work together to create hazard data making necessary data available to FEMA for updating

effective Flood Insurance Rate Maps across the state. The data provided through LiDAR will identify flood hazards in many areas of the state that are not addressed by FEMA's MapMod program.

1.6.3. Storm Ready in Iowa

The State of Iowa currently has thirteen communities, ten counties, four universities, and one commercial site participating in the Storm Ready program through the National Weather Service. The Storm Ready program helps community leaders and emergency managers strengthen their local safety programs by preparing for severe weather through advanced planning, education, and awareness. The State of Iowa is prone to severe weather impacts year round due to geographical location and climate making preparedness and awareness a high priority. Supporters of the Storm Ready program in Iowa include F.W. Kent Park, Oxford, Howard H. Cherry Scout Reservation, Central City, and Little Sioux Scout Ranch. The Little Sioux Scout Ranch has built multiple tornado safe rooms through private partnerships due to the devastation they experienced June 11, 2008 when an EF3 tornado ravaged the camp killing four boy scouts and injuring 48 others. The Howard H. Cherry Scout Reservation in Central City currently has a grant in development to provide five tornado safe rooms at the Howard H. Cherry Scout Reservation.

On April 13, 2006, Iowa City, Iowa experienced an F2 tornado which swept through the heart of the city. The Johnson County Sheriff's office and St. Patrick's Catholic Church were critically damaged by its path of destruction. Due to timely forecasts and warnings from the National Weather Service and the quick actions of the emergency management community in following adopted procedures, activating indoor warning systems, and activating outdoor tornado sirens, nearly 50 people's lives were saved. Johnson County officials and other community leaders had joined Storm Ready to develop plans to handle all types of severe weather prior to the tornado event which enabled them to prevent what could have been a terrible tragedy. In response, the NOAA's National Weather Service honored five community heroes involved in the Iowa City tornado for their life-saving actions.

1.6.4. Dam Safety in Iowa

The dam safety program in the State of Iowa is coordinated by the Iowa Department of Natural Resources. Their department reviews and approves all construction of new dams, maintaining an inventory of existing dams meeting minimum size criteria and they conduct periodic dam inspections. There are currently 3,300 dams in the State's dam inventory. A total of 227 dams require a regular inspection by the IDNR due to the increased potential to create extensive damage to downstream houses or buildings, or to cause loss of life should they fail and release their impounded water. Of these 227 dams, 74 are required to have

inspection at least once every two years and the remainder have a five year inspection. There is a required permit application process by the IDNR in which they review and evaluate permits to construct dams, modify existing dams, drawdown the water level, or removal of a dam.

A partnership between the Association of State Dam Safety Officials and the Iowa Department of Natural Resources offered a dam safety workshop May 20, 2010. The goal of this workshop was to educate dam owners and operators on the following;

- State dam safety laws and regulations
- Extreme storm events and potential dam failure conditions
- Public safety, security and owner responsibilities/liabilities
- Dam operations, maintenance, and inspections
- Developing and implementing emergency action plans
- Potential sources of funding for remedial dam repair, design, and construction
- Procedures for retaining a professional engineer to inspect, investigate and evaluate dams, and provide remedial dam repair plans, construction inspection or supervision

1.6.5. Safe Rooms in Iowa

The State of Iowa Homeland Security and Emergency Management Division provides technical assistance for Safe Rooms in Iowa through FEMA's Hazard Mitigation Assistance Programs. Safe Rooms are long-term hazard mitigation measures implemented to reduce the loss of life and property, lessen the impact to local communities due to natural disasters, and enable recovery after a disaster. FEMA 361, Design and Construction Guidance for Community Safe Rooms, Second Edition (August 2008) is the guidance that architects use to design tornado safe rooms to be eligible for grant funding through the HMA programs. Iowa currently has eight tornado safe rooms built to the FEMA Publication 361. Most of the safe rooms built in Iowa are multi-use allowing optimal use of space, little to no increase in facility maintenance, and a good return on investment. HSEMD has partnered with the American Institute of Architects to encourage design and construction of tornado safe room projects in schools and multi-functional community centers.

Iowa's first FEMA 361 tornado safe room was built at the Iowa State Fairground campground area in 2004. This was a multi-use precast building with restrooms, showers, and a laundry facility with the ability to provide near absolute protection for 450 campers.

The Nevada Community School District was the first school in Iowa to receive HMGP funding, as a result of the 2008 tornado and catastrophic flood events. This multi-purpose tornado safe room will be used as a gym which will be built to the FEMA 361 Guidance. An awareness outreach

was done in partnership with the Iowa Department of Education and HSEMD Mitigation Section to notify school districts of the opportunity to apply for HMGP grant funding for the construction of tornado safe rooms.

In February 2009, Iowa Homeland Security and Emergency Management (HSEMD) and FEMA Region VII sponsored workshops to educate the participants on the engineering and programmatic requirements found in the FEMA 361 Guidance for designing and constructing of tornado safe rooms. Tornado safe rooms are built to provide for near absolute life protection to all occupants during tornado/high wind events. Participants invited included schools, architects, engineers, community leaders, Regional Council of Governments, and other eligible applicants.

Currently, several schools across Iowa have proposed plans to construct new school buildings or additions to existing buildings. Thirty seven schools are working with or have worked with HSEMD Mitigation Project Officers in developing grant applications for constructing tornado safe rooms.

Iowa Code section 103A.8C, which was enacted as part of 2009 Iowa Acts, Chapter 142, authorizes the Building Code Commissioner to adopt standards for the design and construction of safe rooms and storm shelters. The rules in this chapter do not require the construction of a weather safe room or rooms for any construction project but establish standards for design and construction of weather safe rooms when their construction is required by another provision of law or is incorporated voluntarily in a construction project.

“Weather safe room” by definition means a building, structure, or portion of a building or structure built in accordance with requirements established in chapter 315 and designated for use during a severe windstorm event. The Iowa Legislature established the above terminology in reference to tornado safe rooms. Chapter 315 Weather Safe Rooms is outlined in the Iowa Administrative Code.

1.6.6. Public Assistance Section 406 Mitigation in Iowa

Section 406 (Public Assistance) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act establishes the program for the repair, restoration, and replacement of facilities damaged as a result of a Presidentially Declared Disaster. Through federal, state and local government partnerships, these funds are used for hazard mitigation measures that a state or local government determines to be necessary to meet a need for governmental services and functions in the area affected by the major disaster.

Section 406 mitigation funds can only be used in the declared disaster areas (usually counties) and only in conjunction with identified, eligible

disaster projects that will reduce future loss to life and property, protect the public infrastructure and help build disaster resistant communities. In addition, the State Hazard Mitigation Officer (SHMO) coordinates directly with the State Public Assistance (PA) Officer on implementation of 406 Mitigation conducting joint project reviews and joint Benefit Cost Analysis (BCA). If there is a mitigation project that does not meet the requirements of section 406 Mitigation, the SHMO is notified and the project is reviewed for eligibility under section 404 and HMA Mitigation funding guidance.

Currently there are 4 joint Public Assistance and Hazard Mitigation projects under development within the cities of Greene, Palo, Cedar Rapids and Waverly. These projects involve substantially damaged structures which will be replaced through the Public Assistance Grant Program and new tornado safe rooms being built using funding from the Hazard Mitigation Grant Program. These facilities will be built and designed to the FEMA 361 guidance and will be hardened to resist 250 mph wind loads. Since the Public Assistance Program is able to provide the funding for the rebuilding of these facilities, the HMGP funds will allow funding for the hardening for the safe room construction within the buildings.

Twenty-three percent of the total project worksheets for Public Assistance funding include 406 Mitigation in categories C through G. There are a total of 1,674 (406) mitigation project worksheets submitted under DR-1763 with an estimated \$79,062,871 dollars contributable to mitigation projects. An estimated \$1.25 million is contributing to the development of approximately 350 additional 406 mitigation projects under DR-1688, DR-1705, and DR-1727. Due to the large amount of Public Assistance funding available, several mitigation projects are being completed to further prevent future damage and reduce loss of life and property.

Through the Public Assistance Program, nearly \$125 million dollars is funding approximately 580 Rural Electric Cooperative projects. These projects encompass 6 different disaster declarations. Although these projects are not included under the Hazard Mitigation Grant Program, they contribute to the reduced negative effects of natural hazards. Mitigation measures are evident in these projects by strengthening and improving the reliability of the existing electrical lines or structures.

Code and Standard upgrades are another type of project funded under the Public Assistance program. These projects have proven to reduce the negative effects of natural hazards on property and people by upgrading damaged public infrastructure using current design codes and standards.

Currently there are 18 building replacement/relocation projects being funded through the Public Assistance program with one project to elevate

a critical facility which will reduce the risk of future flooding. These projects have an estimated repair cost of \$110 million dollars. All building replacement projects must demonstrate that they are cost effective. A primary goal is to relocate buildings that have been or will be subject to repetitive heavy damage outside of the floodplain.

2. Project Implementation Capability

44 CFR 201.5(b)(2)(i) and (ii): [The Enhanced Plan must document] the State's project implementation capability, identifying and demonstrating the ability to implement the plan, including:

- Established eligibility criteria for multi-hazard mitigation measures.
- A system to determine the cost effectiveness of mitigation measures, consistent with OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, and to rank the measures according to the States eligibility criteria.

2.1. Process Used to Evaluate and Prioritize Mitigation Actions

Prioritizing local assistance in Iowa operates at two basic levels. The first involves the voluntary cooperative arrangements between state agencies on the State Hazard Mitigation Team (SHMT) and procedures that each agency uses in administering its own programs. The second involves funding and programs delivered through the Federal Emergency Management Agency (FEMA) for specific hazard mitigation purposes. In both cases above, the SHMT is involved as a coordination component. The following narrative will describe how prioritization is accomplished generally by state agencies through the SHMT followed by the specific mitigation programs from the Iowa Homeland Security and Emergency Management Division (HSEMD).

Although the Governor's Executive Order 62 (see Annex 1.2-A) sets requirements for participation in hazard mitigation activities by the state's various agencies in the SHMT, the Executive Order does not require that the agencies work together to prioritize local assistance in all of the programs and separate Federal and State authorities that drive those other programs. Numerous hazard mitigation related programs operated by state agencies are identified in the state capability assessment database, but most of these programs do not fall under the direct authority of the SHMT. In an ideal world, all prioritization would fall under the single authority of one interagency group like the SHMT. However, the various state agencies must retain their autonomy in determining the prioritization of local assistance in the administration of their programs.

Nevertheless, a number of state agencies voluntarily utilize the SHMT for prioritizing local assistance on a case-by-case or project-by-project basis. A major reason for doing so is because of the shared responsibilities linked to the SHMT hazard analysis and risk assessment and the monitoring of programs identified in the state capability assessment.

In the hazard analysis and risk assessment, the SHMT identified the hazards that affect the State of Iowa and determined the ranking of those hazards using the profile methodology discussed in the Identifying Hazards and

Profiling Hazard Events sections. In the state capability assessment, the agencies list and describe their programs that either directly or indirectly indicate likely eligible subgrantees. Those agencies that do utilize the SHMT for advice and assistance in prioritizing, report to the SHMT, the actions and initiatives of their programs along with appropriate information on what program resources are utilized, how they are utilized, in which jurisdictions they are utilized, and the timeframes in which they are utilized.

State agencies generally base prioritization on risk and capability, although precise administrative steps vary from one agency to the next. Projects that are approved by the SHMT obtain those approvals because of the SHMT discussions, analysis, and decision-making on risk and capability. In other words, communities with the highest risk, repetitive loss properties, and/or the most intense development pressures tend to be treated with the highest priority in terms of getting project applications approved.

The following examples demonstrate the coordination between agencies to share information on post-disaster funding for mitigation measures:

The Homeland Security and Emergency Management Division (HSEMD) in coordination with the Iowa Department of Economic Development (IDED) developed a property acquisition program funded by Community Development Block Grant (CDBG). These funds were used to acquire properties in special flood hazard areas that would not qualify for the Hazard Mitigation Grant Program (HMGP). The CDBG funding covered 100% of the non-federal share for both the IDED program and the HMGP program buyouts. The program reflects the HMGP program and holds the same deed restriction requirements as HMGP. This program is likely to acquire more properties than the HMGP.

The Iowa Department of Transportation (IDOT) coordinates with the HSEMD following disaster declarations to review all properties that have the potential to be acquired through the HMGP. This review is used to determine if properties have been identified in IDOT plans for future roadways, bridges, right of ways, etc. If these properties are needed for future projects, the IDOT will purchase the properties using IDOT easement/right of way funds. HSEMD is notified by letter from the IDOT and those properties become ineligible for the HMGP.

NRCS coordinates with HSEMD on a site by site basis to determine properties where the Emergency Watershed Protection Program (EWP) can provide for floodplain easement. This program provides alternatives for farmers with frequently flooded and damaged farmlands to retire this property and eliminate the need for future disaster payments on frequently flooded cropland.

The Regional Flood Risk Management Team (RFRMT) was created to address regional flood response and recovery issues following the 2008 flood. This team is a partnership between federal and state agencies to provide a comprehensive approach to reducing the threat, vulnerability and

consequences of flooding. The RFRMT is comprised of representatives from the states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin. Other team members include representatives from the Federal Emergency Management Agency, National Resource Conservation Services, National Weather Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service and the U.S. Geological Survey.

2.2. Eligibility Criteria

For the specific hazard mitigation programs from FEMA, the HSEMD establishes the specific state criteria for prioritizing community and local jurisdictions that will receive planning and project grants. This too is based on considerations of communities with the highest risk, most repetitive loss and most intense development pressures in looking at likely future risk.

Beginning FFY 2009, FEMA unified the PDM, FMA, RFC, SRL, and HMGP programs into a unified Hazard Mitigation Assistance (HMA) program application cycle. Together these five programs provide significant opportunities to reduce or eliminate potential losses to state and local governments through hazard mitigation and project grant funding for pre- and post-disaster mitigation. FEMA has combined the five programs into the *Hazard Mitigation Assistance Unified Guidance* in order to create one comprehensive document. This document consolidates program eligibility information and outlines common goals and unique requirements among the programs. The five hazard mitigation programs administered by HSEMD under the direction of the State Hazard Mitigation Officer (SHMO) are the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation (PDM) program, the Flood Mitigation Assistance (FMA) program, the Repetitive Flood Claim (RFC) program, and the Severe Repetitive Loss Program. Eligible applicants for funding generally include state and local governments and certain private non-profit organizations.

2.3. General State Project Eligibility Criteria

2.3.1. Hazard Mitigation Grant Program (HMGP)

To be eligible for HMGP, a project must meet the federal minimum project criteria listed below. In addition to the federal criteria, the State of Iowa may consider additional criteria when evaluating potential HMGP projects. Federal Criteria: must

- Be in conformance with Iowa's Hazard Mitigation Plan developed as a requirement of Section 322 of the Stafford Act.
- Have a beneficial impact upon the designated disaster area, whether or not located in the disaster area. Eligible applicants

will be solicited from all 99 counties in Iowa in accordance with the FEMA-State Agreement.

- Be in conformance with 44 CFR, Part 9, Floodplain Management and Protection of Wetlands, and 44 CFR, Part 10, Environmental Considerations.
- Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed. Projects that merely identify or analyze hazards or problems are not eligible.
- Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster. The State, in applying for the grant, must demonstrate this by documenting that the project does the following:
 - Addresses a problem that has been repetitive or a problem that poses a significant risk to public health and safety if left unsolved.
 - Will not cost more than the anticipated value of the reduction in both direct damages and subsequent negative impacts to the area if future disasters were to occur. Both costs and benefits will be computed on a net present value basis.
 - Has been determined to be the most practical, effective, and environmentally sound alternative after consideration of a range of options.
 - Contributes, to the extent practicable, to a long-term solution to the problem it is intended to address.
 - Considers long-term changes to the areas and entities it protects, and has manageable future maintenance and modification requirements.

2.3.2. Flood Mitigation Assistance (FMA)

To be eligible for FMA, all the above cited Criteria must be addressed. In addition, the FMA funds shall not be awarded for activities in non-participating communities. All applicants and sub-applicants must be participating in the National Flood Insurance Program (NFIP), and must not be on probation, suspended or withdrawn from the NFIP. Priority consideration will first be given to flood mitigation activities that reduce the number of repetitive loss structures currently insured by the NFIP and secondly will be given to flood mitigation activities that will reduce the risk of flood losses to any property currently insured under the NFIP, whether repetitive loss or not.

2.3.3. Repetitive Flood Claim (RFC)

The RFC program is nearly identical to the FMA program, except that the RFC is administered as a nationally competitive program and

individual structures are selected to be mitigated and awarded funds. The RFC priority is to fund the acquisition of severe repetitive loss properties (including non-residential properties that meet the same claims thresholds) currently insured under the NFIP. Applications are accepted for any insured property that has one or more claim payments for flood damages and are located within a State or community that can not meet the requirements of the FMA program for either cost share or capacity to manage the activities. RFC awards are prioritized to those acquisitions that mitigate severe repetitive loss properties and those that create the greatest savings to the NFIF based on a Benefit-Cost Analysis (BCA). Unlike the FMA, the applicant does not need to have a FEMA approved mitigation plan to be eligible.

Severe Repetitive Loss (SRL)

The Severe Repetitive Loss (SRL) grant program was authorized by Section 1361A of the National Flood Insurance Act of 1968, U.S.C. 41002a, as amended by the Flood Insurance Reform Act (FIRA) 2004, Public Law 108-254, which amended the National Flood Insurance Act of 1968 to provide funding to reduce or eliminate the long-term risk of flood damage to severe repetitive loss (SRL) structures insured under the National Flood Insurance Program.

- a. That have at least four NFIP claim payments over \$5,000 each, when at least two such claims have occurred within any ten-year period, and the cumulative amount of such claims payments exceeds \$20,000; or
- b. For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the value of the property, when two such claims have occurred within any ten-year period and are greater than 10 days apart.

To ensure repetitive loss properties remains a high priority for receipt of mitigation program grant funds, the State of Iowa Homeland Security and Emergency Management Division will implement a Severe Repetitive Loss Strategy (SRL) designed to eliminate or reduce the damage to property and the disruption of life caused by repeated flooding of the same properties. Substantially damaged or destroyed properties were the State's priority for HMGP funding under DR 1763, and all communities had the opportunity to acquire SRL and Repetitive Loss Properties.

The Final Rule implementing regulations for both Severe Repetitive Loss and Flood Mitigation Assistance programs based on the 2004 Flood Insurance Reform Act became effective October 16, 2009. Section 79.6 clarifies that demolition and relocation of structures are eligible for funding only when the acquired flood-prone property is converted to open space.

2.3.4. Pre-Disaster Mitigation (PDM)

To be eligible for the PDM, the criteria cited for the HMGP and FMA programs is used for prioritization but also considers other factors. HSEMD prioritizes the use of PDM funds by establishing that the first priority is to offer PDM grants to communities that have demonstrated previous interest and commitment to developing Local Hazard Mitigation plans. Particular consideration is given to communities that developed local hazard mitigation plans in accordance with the previous State criteria and have identified hazard mitigation projects that may likely be eligible for future hazard mitigation grants under the Stafford Act or the National Flood Insurance Reform act (NFIRA).

2.4. Eligible Activities

Iowa has required Local Hazard Mitigation planning as a condition of receiving project grant funding from any hazard mitigation program for many years. Subsequently, the utilization of grant funding to support Local Hazard Mitigation Planning is a priority.

Projects may be of any nature that will result in protection to public or private property. Eligible projects include, but are not limited to:

- Property Acquisition and Structure Demolition/Relocation; (HMGP,PDM, FMA,RFC, SRL)
- Structure Elevation; (HMGP,PDM, FMA,RFC, SRL)
- Dry Floodproofing of Historical Residential Structures; (HMGP,PDM, FMA,RFC, SRL)
- Dry Floodproofing of Non-residential Structures; (HMGP,PDM, FMA,RFC)
- Minor Localized Flood Reduction Projects; (HMGP,PDM, FMA,RFC, SRL)
- Structural Retrofitting of Existing Buildings; (HMGP,PDM)
- Non-structural Retrofitting of Existing Buildings and Facilities; (HMGP,PDM)
- Safe Room Construction; (HMGP, PDM)
- Infrastructure Retrofit; (HMGP, PDM)
- Soil Stabilization; (HMGP, PDM)
- Wildfire Mitigation; (HMGP, PDM)
- Post-Disaster Code Enforcement; (HMGP)
- 5% Initiative Projects; (HMGP)
- Hazard Mitigation Planning; (HMGP, PDM, FMA)
- Structural hazard control or protection projects; (HMGP, PDM)

2.5. Specific State Project Eligibility Criteria

- The State's hazard mitigation staff reviews all application forms to ensure that adequate information has been provided and that the project meets the minimum eligibility requirements. The State's hazard mitigation staff is responsible for contacting the applicant to obtain any necessary additional information.
- The SHMO then convenes a Review Panel consisting of HSEMD's hazard mitigation staff whose responsibility is to prioritize or rank the projects in accordance with the criteria listed below based on the level of detail and documentation contained in the sub-grantee's application.
 - Measures that best fit within an overall plan for development and/or hazard mitigation in the community, disaster area, or state.
 - Measures that, if not taken, will have a severe detrimental impact on the applicant, such as potential loss of essential services, damage to critical facilities, or economic hardship on the community.
 - Measures that have the greatest potential impact on reducing future disaster losses.
 - Measures that are designed to accomplish multiple objectives, including damage reduction, environmental enhancement, and economic recovery.
 - Measures that provide the greatest benefit of avoided damages as documented by a FEMA approved Benefit Cost Analysis (BCA) methodology.

The Review Panel must prioritize the eligible projects beyond the criteria that have been established above when funding is limited and requests for funding are high, particularly because of a disaster event. Flood mitigation projects related to a flood disaster will be the first priority with the following additional criteria:

- Acquisitions/structural relocations of primary owner/occupied residences will be given the highest priority.
- Elevation of qualifying residential structures and/or acquisition/structural relocation of secondary and rental residential structures will be the next priority.
- Acquisition of commercial structures and vacant lots will be the next priority.

The following ranking process demonstrates the State's priority for property acquisition projects under HMGP 1763. Disaster 1763 was a presidential

declaration due to catastrophic flooding in the summer of 2008. Due to the thousands of residential and commercial properties substantially damaged and destroyed from this disaster, projects being considered for funding under DR-1763 will be funded in the following order:

1. Acquisition/demolition of primary owner/occupied property that are certified as substantially damaged or condemned due to flooding.
2. Acquisition/demolition of rental property occupied at the time of the flood event as the renters primary residential property certified as substantially damaged or condemned due to flooding.
3. Acquisition/demolition of secondary or recreational property certified as substantially damaged or condemned due to flooding.
4. Acquisition/demolition of commercial property certified as substantially damaged or condemned due to flooding.
5. Open for other projects that will result in protection to public or private property, should sufficient funding be available to fully fund the above identified properties. Eligible projects include, but are not limited to:
 - Structural hazard control or protection projects;
 - Construction activities that will result in protection from hazards;
 - Retrofitting of facilities to include the construction of tornado shelters;
 - Development of state or local mitigation standards;
 - Development of comprehensive hazard mitigation programs with implementation as an essential component; and
 - Development of improvement of warning systems
6. Lastly, properties that are not funded will be stacked for funding consideration should funds become available. The State will give consideration to modifying the above criteria in situations where the applicant demonstrates an overall property acquisition plan that includes specific acquisition target areas in the community that are particularly vulnerable to future flooding.

After consideration has been made for acquisition projects as mentioned above, the State will consider all eligible HMGP project types that will reduce or eliminate losses from future natural disasters. Eligible projects include but are not limited to the construction of safe rooms, structural and non-structural retrofitting of existing public buildings, facilities, or utilities, minor structural hazard control or protection projects such as storm water management, and localized flood control projects designed specifically to protect critical facilities.

When funding constraints are an issue, each structure is ranked by the benefit-to-cost ratio. Each structure and each project is evaluated utilizing the Benefit Cost Analysis (BCA) Riverine Model version 3.0, or version 4.5.5 for all disasters declared after June 1, 2009 as dictated by OMB Circular A-94 and FEMA. The BCA ratio is strongly considered in the ranking of projects as well as structures within projects when applied to acquisition, relocation or elevation projects.

In addition to the above selection criteria, the Review Panel takes into account the applicant's level of interest and demonstrated degree of commitment to hazard mitigation actions and programs.

- Following a review by the SHMT, the State Hazard Mitigation Officer (SHMO) or the SHMO on behalf of the SHMT, makes a formal recommendation to the Governor's Authorized Representative (GAR) or the Administrator of HSEMD, as to which projects should be selected for funding and the order in which they should be funded.
- Finally, the SHMO and grant management staff work to ensure that all applicants are notified of the decision made relative to their proposed project. For those projects that have been selected, the SHMO determines if the applicant still intends to carry out the project and if it would carry out the project with the level of funding tentatively approved. Those projects that were approved but not selected can still be eligible under other FEMA HMA programs when funds are available.

2.6. Determining Cost Effectiveness

Establishing priorities for local assistance and ensuring that the eligibility criteria for multi-hazard mitigation measures required by federal regulation, is integrated with the States evaluation of the cost effectiveness of mitigation measures. This capability is met by ensuring staff are trained and training is provided to applicants consistent with OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, a requirement of CFR 44 201.5(b)(2)(ii). The June 2009 BCA Reference Guide is another resource used by mitigation staff.

Iowa has maintained a strong record of conduct and performance related to performing Benefit Cost Analysis (BCA). All hazard mitigation staff maintain some level of training related to FEMA modules for BCA and that HSEMD sponsors training on BCA for local officials.

For all projects submitted under the HMGP, FMA, RFC, and PDM programs since 1993, the State mitigation staff has completed or provided technical assistance in completing detailed Benefit Cost Analysis (BCA). Projects involving flood mitigation buyouts, relocations and elevations have been further evaluated to determine a structure-by-structure analysis in order to rank applications and individual structures.

All proposed mitigation projects that are submitted under the FEMA HMA grant program must show that they are credible, well-documented, prepared in accordance with FEMA BCA practices and demonstrate the project is cost-effective with at least a ratio of 1 to 1. This ensures that the project will result in reduced damages in the future and justifies costs for the project.

Currently there are 19 mitigation project officers with the expertise to complete HMA project cost effectiveness evaluation. The State Mitigation Project Officers attended Benefit-Cost Analysis training for version 3.0 provided by URS Corporation in the Fall of 2008. This training was completely focused on flood hazards. This version was used at the beginning of DR-1763 for all projects. During the application process for DR-1763, BCA version 4.1.3 was introduced. This version provides a BCA that is entirely electronic with supported documentation included as an attachment. State Mitigation Project Officers attended training for BCA version 4.1.3 demonstrating the following most recent components:

- Stream bed elevations
- Description where the first finished floor was located
- Determination of a walk out basement
- Inclusion of drainage improvement projects

BCA version 4.5.5 became effective for disaster declarations after June 1, 2009. This BCA version features modified economic values, updated resource documents, expanded import and export capabilities, full data flood module, and the ability to analyze projects for bridges and utilities. Use of BCA version 4.5.5 is required for cost effectiveness on all subsequent disaster declarations following DR-1763. Electrical Service Failure (ESF) training was attended by six of the State Mitigation Project Officers and this version is used for electrical cooperative projects under DR-1763. Project type and information provided in the application determine which version of the benefit cost analysis module will be used for verifying cost effectiveness.

The following demonstrates the total # of BCA's and project costs of BCA's performed by HSEMD Mitigation Staff from 2007-2010.

HSEMD Mitigation - BCA Capabilities 2007-2010		
Project Type	# BCA's	Total \$ Amount
<i>Acquisition/Demolition</i>	388	\$42,857,536.00
<i>Acquisition/Elevation</i>	1	\$543,801.00
<i>Drainage</i>	100	\$384,976,517.00
<i>Electrical</i>	76	\$201,016,348.00
<i>Safe Rooms</i>	57	\$42,256,459.00
Total:	622	\$671,650,661.00

The State mitigation staff have developed a high level of expertise in completing and validating BCA's for all project types over the past several years. They lead

in the preparation, review, discussion and response to both engineering and BCA review of submitted projects. All projects have extensive review and approval chain requirements prior to submittal to FEMA that are in place to insure that each submittal conforms to all eligibility requirements under all applicable codes and regulations, and is consistent with the requirements and information required by FEMA as determined by past submittals.

Following the receipt of the notice of interest from the sub-applicant, the project proposal is reviewed for basic eligibility and determination that the minimum requirements have been met. Once this determination has been made, necessary documentation is gathered from the sub-applicant in order to evaluate best estimates and conduct a BCA analysis for project eligibility. Mitigation project questions addressed during this preliminary stage include:

- What problem is the applicant trying to solve? What is the hazard source?
- What damage(s) have the hazard(s) caused? What buildings, infrastructure, or people have been affected?
- How did the hazard cause those specific damages?
- What future damage or losses would be avoided by implementing a project? What is the ideal solution to the problem?

After all necessary documentation is received a preliminary BCA run determines whether or not the BCR of 1.0+ is met. If it does not meet the minimum BCR, mitigation staff work with the sub-applicant to gather further damage history and data to complete an accurate and complete benefit cost analysis for eligibility. Initial BCA work is completed by HSEMD staff prior to the applicant completing the application process to ensure resources aren't invested in a project that is not cost effective.

Mitigation staff continue to build upon their BCA capabilities to keep up with the continuously shifting BCA requirements. With the modification of the BCA system and evolving software, components of the BCA are not always reviewed on a consistent platform. With these occurrences, State mitigation staff have provided information to FEMA regarding inconsistencies and continue to discuss and provide feedback to FEMA when BCA software issues arise. The State Mitigation Section approaches these issues in order to make sure everyone is using the same software to achieve the same output and that there is consistency with all BCA ratios.

The results of the benefit cost analysis are a major factor in determining project eligibility however, other factors are dependent on funding availability and whether the project meets federal and state priorities and requirements as identified in this plan.

3. Project Management Capability

44 CFR 201.5(b)(2)(iii A-D): [The Enhanced Plan must demonstrate] that the State's has the capability, to effectively management the HMGP as well as other mitigation grant programs, [and provide] a record of the following:

- Meeting HMGP and other mitigation grant application timeframes and submitting complete, technically feasible, and eligible project applications with appropriate supporting documentation;
- Preparing and submitting accurate environmental reviews and benefit-cost analyses;
- Submitting complete and accurate quarterly progress and financial reports on time; and
- Completing HMGP and other mitigation grant projects within established performance periods, including financial reconciliation.

3.1. State Grant Management Capability

For Iowa, the approach to creating and maintaining the capability to effectively manage the Hazard Mitigation Grant Program (HMGP) as well as other mitigation grant programs, has involved the creation of a permanent framework for interagency cooperation known as the State Hazard Mitigation Team (SHMT). The SHMT priority and the focus of hazard mitigation grant programs in Iowa have led to joint efforts to concentrate on immediate hazard mitigation opportunities related to numerous flood disaster events since 1993. The SHMT framework supports this process by providing a mechanism for long-term approaches to specific hazard mitigation initiatives.

The Iowa Homeland Security and Emergency Management Division (HSEMD) participate as the primary manager of Federal Emergency Management Agency (FEMA) hazard mitigation programs. A great deal of emphasis is placed on planning under Iowa's management to create an environment where mitigation initiatives are identified in the pre-disaster environment. Planning for hazard mitigation prior to the disaster enhances the management of the grant programs by allowing the state to work through the unique characteristics of each program so that communities are not negatively impacted by program differences.

As detailed in the previous section, Project Implementation Capability, Iowa institutes a system and grant management process that effectively manages mitigation grant programs of all types.

The developed and implemented grant administrative plan(s) and associated fiscal/financial guidance provide the framework leading to the submission of complete, technically feasible and eligible project applications with the appropriate supporting documentation. In submitting project applications, Iowa completes an eligibility review checklist, completes all Benefit Cost Analysis, participates in the environmental compliance process and submits accurate and timely quarterly progress and financial reports. Iowa has developed a local/state grant agreement process that establishes strict performance periods and lead to a financial reconciliation and closeout process for mitigation grants. Please see section 3.6. Grant Management – Accurate and Timely Progress and Financial Reporting for further details.

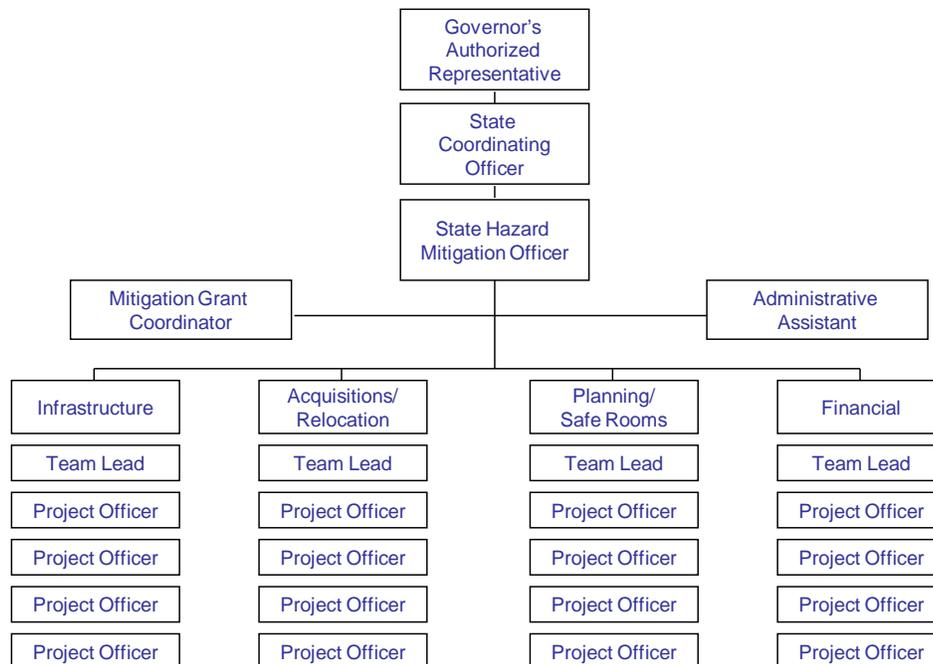
3.2. Program Management Staffing Support and Responsibilities

The Administrator of the HSEMD or designee serves as the Governor's Authorized Representative (GAR). The Administrator of the HSEMD will recommend to the Governor for appointment of a State Coordinating Officer (SCO) and a State Hazard Mitigation Officer (SHMO). The SHMO is the official who has overall responsibility for the coordination, implementation and administration of the HMGP. The SHMO monitors compliance with federal requirements and involves appropriate federal, state, and local governments in the pre- and post-disaster hazard mitigation program activities.

3.3. Staffing

The organizational staffing structure in support of HMGP will be flexible and capable of expansion, depending upon the estimated number of applicants for the HMGP and other mitigation programs and the type of disaster. At a minimum, the staff consists of the State Hazard Mitigation Officer (SHMO), a Mitigation Finance Officer (MFO), a State Hazard Mitigation Grant Coordinating Officer (SHMGCO), HSEMD's Recovery Bureau Chief, and appropriate members of the State Hazard Mitigation Team (SHMT).

Hazard Mitigation Grant Program Organizational Chart



If necessary, the GAR will hire or assign staff to assist the SHMO in providing program support. This staff may be provided in the form of contractual services. The need for such hires is determined by the SHMO throughout

program implementation and may vary from start to completion of a grant program.

3.4. Grant Program Management Responsibilities

3.4.1. State Hazard Mitigation Officer (SHMO)

The SHMO serves as team leader of the HMGP and has the overall management responsibility for the program. He/she is the state official who is ultimately responsible for ensuring that the State properly carries out its Section 404 and Section 322 responsibilities subsequent to a Presidential Disaster Declaration and applicable grant management regulations. In this regard, the GAR/SCO/SHMO monitors the activities of the SHMT. These responsibilities are consistent regardless of the grant program that is being managed. Specifically the SHMO will:

- Ensure Iowa's 404 grant administrative plan(s) are updated, outlining how the State will administer the program.
- Ensure all potential applicants are notified of the programs and receive the assistance to which they are eligible.
- Ensure an initial application and any necessary supplemental applications, including Standard Form 424 (SF 424) are prepared for GAR/SCO review and signature in a timely manner.
- Ensure technical assistance is provided to potential applicants and/or eligible Subgrantees.
- Ensure the distribution of financial assistance to eligible Subgrantees is done in a timely manner and in accordance with existing procedures.
- Ensure approved projects are monitored to completion in federally required time frames.
- Ensure Subgrantee accounts are monitored and in compliance with 44 CFR, Part 13.
- Ensure appropriate state agencies are represented on the SHMT, are involved as necessary with the Interagency Hazard Mitigation Team (IHMT) and the Hazard Mitigation Survey Team (HMST), and assist in the development of the Section 322 Plans.
- Ensure participation of the appropriate state agencies that are needed to review selected mitigation measures.

The State is responsible for ensuring that potential applicants are notified of the availability of hazard mitigation funding and of program requirements. The method to be used in notifying applicants will be determined by the SHMO for each grant program disaster but will normally include the following:

- Public Officials briefing.

- Engineer briefing(s) for the Public Assistance Program.
- The SHMO or designated representative will present information on the programs at the applicant briefing(s) in conjunction with the Public Assistance briefing(s). The local Emergency Management Coordinators, acting as agents for all Public Assistance applicants in their respective counties, can be instrumental in the identification and notification of potential hazard mitigation applicants.
- A press release describing the program may be developed and issued at the discretion of the SHMO and FEMA HMO. The press release would include a point of contact for obtaining additional program information.
- Announcement of HMGP Funds availability through:
 - E-mail to potential applicants, County Emergency Management Coordinators, Councils of Government.
 - HSEMD monthly newsletter.
 - HSEMD Web page.
 - Iowa Bulletin

3.4.2. Mitigation Finance Officer (MFO)

Generally, the MFO is responsible to maintain Iowa's 404 Administrative Plan(s), which outline how the State will administer the grant program(s) and, on order, implement the plan when grant programs are authorized and funding becomes available. In addition the MFO does the following:

- Compile and analyze financial information contained in grant proposals.
- Develop and implement procedures to establish a record keeping system to document financial information. Review payment requests to determine/validate eligible costs against the Subgrantee's approved scope of work and budget and applicable cost principles.
- Analyze expenditures in the form of either advances or reimbursements and evaluate requests for grant disbursements to establish and define eligible costs.
- Prepare balance sheets and detailed expenditure tracking for each grant recipient as well as other reports to summarize the current and projected financial status of HMA grants.
- Review pay requests and source documentation to ensure compliance with approved scopes of work and budgets. Coordinate with the State Fiscal Office (SFO) to initiate disbursements, financial revisions, request to decrease and close out the Letter of Credit, closing out the accounts (de-obligations) and processing bills for collection.

- Develop and implement a tracking system to ensure grant recipient compliance with applicable state and federal requirements.
- Develop and modify all necessary forms to be completed by each grant recipient.
- Coordinate the implementation of the HMA accounting and fiscal control procedures to be used by each grant recipient.
- Monitor the status of approved grants for processing time extension requests, appeals, and grant closeouts.
- Develop and implement a system for departmental accounting to document the use of administrative and managerial funds applicable to the HMA.
- Draft Grant Agreements between HSEMD and Subgrantees and conduct grant award meetings with grant recipients, and also provide technical assistance to the Subgrantees.
- Monitor hazard mitigation grants to ensure compliance with the 44 CFR, Part 13, Part 201, and Part 206 (Subparts M and N) and the Single Audit Act and other applicable regulations.
- Review, recommend, and submit amendments to a Subgrantee's approved hazard mitigation grant to FEMA Region VII when appropriate.
- Conduct HMA grant closeout meetings with grant recipients and appropriate federal and state agencies.
- Track and monitor budget information on each grant recipient and hazard mitigation personnel.
- Compile financial information on open hazard mitigation grants and submit progress and financial reports to FEMA Region VII in a timely manner.

Assist and provide financial information to other hazard mitigation staff, public assistance staff, state auditors, federal auditors, and local auditors as needed.

3.4.3. State Hazard Mitigation Grant Coordinating Officer (SHMGCO)

A SHMGCO may be hired or designated to assist the SHMO to carry out the program coordination, implementation and administration. The SHMGCO will accomplish the necessary program work required of the State to deliver the HMGP to eligible Subgrantees as tasked by the SHMO. Specifically the SHMGCO shall:

- Develop and implement a process for identifying potential hazard mitigation grants and prioritizing those grants.
- Coordinate with the SHMO in determining the composition of the IHMT, SHMT or HMST and scheduling activities.
- Notify potential applicants of the program and brief them with appropriate handout materials on elements of the program.

- Coordinate with State Public Assistance officials to ensure that they understand the involvement of the hazard mitigation effort in the Public Assistance Program to avoid duplicating activities.
- Prepare and submit the initial HMGP applications and any supplemental applications per federal requirements.
- Provide technical assistance to potential applicants and/or eligible Subgrantees in developing and submitting applications and completing project requirements throughout the grant performance period.
- Determine the cost-effectiveness of potential hazard mitigation grants.
- Coordinate with other hazard mitigation staff members.
- Assist with mitigation planning and activities at the state and local levels.
- Coordinate activities with appropriate state agencies and involve them in meeting Section 322 requirements.
- Involve the appropriate local agencies, especially the local Emergency Management Coordinators, in the implementation of mitigation initiatives.

3.4.4. State Hazard Mitigation Project Officer (SHMPO)

- Provide technical assistance to potential applicants and/or eligible subgrantees in developing and submitting applications and completing project requirements throughout the grant performance period.
- Assist in developing and modifying hazard mitigation application materials.
- Assist in identifying potential HMGP projects.
- Serve as a liaison between potential applicants and/or eligible Subgrantees and FEMA Region VII.
- Review hazard mitigation applications to determine project eligibility.
- Determine the cost effectiveness of potential hazard mitigation projects.
- Review, recommend, and submit Subgrantee hazard mitigation applications to FEMA Region VII.
- Notify Subgrantees of FEMA's and the State's determination of project eligibility.
- Prepare written correspondence to local, state, and federal entities as needed.
- Assist communities with local mitigation planning.
- State Hazard Mitigation Team (SHMT)
- The SHMT functions on both a day-to-day and disaster basis. Its ongoing responsibilities and work activities are delineated in the State Hazard Mitigation Plan. The SHMT is authorized to request participation from local governments, federal government, and private industry as needed.

- General procedures for identification and notification of applicants
- It is the State's responsibility to ensure that potential applicants for the hazard mitigation grant programs are identified. This is primarily accomplished by the SHMO through the following means:
 - Information acquired during the Preliminary Damage Assessment (PDA).
 - Consultation between the SHMO and the SHMT.
 - Review of the State and Local Hazard Mitigation Plans.
 - Consultation between the SHMO and the FEMA program representative.
 - Information provided by the Damage Survey Teams.
 - Outreach efforts conducted by state and federal hazard mitigation staff.

3.5. Preparation and Involvement in the Environmental Review Process

Part of project implementation capability involves compliance with environmental laws, regulations, and executive orders. The state's role is to coordinate with applicants, state agencies, and the Federal Emergency Management Agency (FEMA) to ensure all appropriate environmental and historic preservation considerations and requirements are taken into account and properly documented, and to provide this documentation to the Regional Environmental Officer (REO) with FEMA for review and approval. To fulfill this role, the Iowa Homeland Security and Emergency Management Division (HSEMD) performs the following tasks:

- Provides technical assistance to applicants in the planning, application, and implementation stages of the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) program, Repetitive Flood Claim (RFC), and Pre-Disaster Mitigation (PDM) projects to ensure the completeness and accuracy of environmental information.
- Consults with appropriate agencies during planning stages.
- Considers viable alternatives to the proposed project, particularly when environmental issues or impacts are identified.
- Provides thorough and accurate information regarding project details and environmental issues.
- Serves as the Liaison between the REO, applicant, and State Historical Preservation Office (SHPO) during the historical and environmental review process.

The State of Iowa began incorporating activities to support the environmental review process following the 1993 Flood Event (FEMA-DR-966). At that time, the State, with FEMA assistance, developed a guidance document designed to ensure HMGP acquisition-demolition projects complied with environmental

and historic preservation laws and applicable Executive Orders. Although the document was developed to facilitate the environmental review process for acquisition-demolition projects, the information provided also applies to construction projects.

The document addresses both state and federal environmental law requirements. This document is reviewed and revised as necessary. Circumstances that trigger a review/revision include:

- changes in state agency responsibilities,
- changes in state or federal environmental laws and Executive Orders,
- events that could result in a preliminary damage assessment,
- a disaster declaration, and
- additional FEMA environmental guidance.

This document contains a summary of applicable environmental laws and Executive Orders, state and federal agency points of contact, and applicant responsibilities. The applicant is also provided with instructions on how to complete required documentation as well as examples of completed compliance documentation.

As the FEMA environmental review process became more defined and FEMA technical assistance and training provided opportunities for the state staff to increase its capacity to perform environmental tasks identified above, the state incorporated more environmental activities into the state's mitigation program. These activities include:

- Participating in consultation meetings with the FEMA Regional Environmental Officer (REO) and other federal and state agencies, particularly the State Historic Preservation Office (SHPO) staff.
- Incorporating the National Environmental Policy Act review process into the state local mitigation planning process guidance.
- Providing information to applicants regarding the environmental laws and Executive Orders that are applicable for specific objects.
- Incorporating 44 CFR Part 9, floodplain and wetland review (Executive Orders 11988 and 11990), into the state review process for HMGP and FMA projects.
- Incorporating 44 CFR Part 10, NEPA implementation, into the state review process for HMGP and FMA projects. (Note: FEMA incorporates the information and compliance process for other environmental laws into the NEPA review process set forth in 44 CFR Part 10.
- Collecting and analyzing environmental information and making recommendations to FEMA regarding compliance. Examples of relevant environmental information include:
 - Project scope of work
 - Project area of potential impact

- Proximity of waterways, water bodies, floodplain, floodways, potential wetland areas
- Public notices, public meetings, and public interest (if public interest identify issues, specific organizations such as neighborhood groups, information that has been provided by applicant/state, public input, public meetings held or scheduled, etc.)
- Maps of project area
- Prime farmland areas, if applicable
- Archeological, historical, or cultural resources within the area of potential effect
- Threatened and endangered species and habitats in area of potential effect
- Low income and minority populations and socio-economic concerns
- Coordinate the historic preservation 106 review process, including assisting applicants to complete required inventory forms, reviewing documentation, and making recommendations to FEMA regarding compliance. If FEMA determines the action will have an adverse impact, participating in consultations with the SHPO staff to develop appropriate mitigation measures and, if the project proceeds, monitoring implementation of mitigation measures.

The review process has helped in the development within HSEMD of some ideas for the future for improving environmental reviews:

- EMI environmental classes-check schedule and send staff member(s) to NEPA and/or Historic Preservation Training
- Expand Demolition Guidance to address environmental review (laws, POC, etc.) in general
- Establish review schedule—annual review to verify POC (in addition to revision triggers listed above)
- In-house training—REO FEMA responsibilities and preparing Categorical Exclusion (CATEX) review documentation means—In-house (state staff) state role
- In-house training—preparing NEPA documentation (levels of CATEX and appropriate level of documentation for each)

A special process was established specific to DR-1763, Iowa's catastrophic tornado and flood event, to prepare and complete Historic Preservation 106 Review. This was implemented through programmatic agreement between HSEMD, SHPO, and FEMA Region VII Environmental Staff. This involved an in-depth examination of resources through reconnaissance surveys to evaluate 2008 flood projects in Iowa. HSEMD completed these reconnaissance surveys including approximately 5,000 properties in demolition areas which incorporated the following; architectural descriptions and potential for architectural element salvage, general historical information and references,

geographic coordinates, photographs, historic maps and aerials, presence within a previously identified National Register Historic District, evaluations of the structure's potential eligibility for listing on the National Register of Historic Places and mitigation recommendations.

Upon completion of these surveys, HSEMD submits a copy of the draft survey report to the Certified Local Government for comment during a two week period. Following this comment period, the comments are incorporated into a survey report and a digital copy is submitted to the SHSI within the following week. Once SHSI reviews the findings, they either accept the survey or ask for additional information within 20 business days. The SHSI provides FEMA Special Considerations with a recommendation in the form of a letter of concurrence/non-concurrence and a digital copy of the survey immediately following review. Upon initiation of a federal undertaking FEMA identifies historic properties by reference to the SHSI letter of concurrence/non-concurrence.

The demolition of every structure within both Section 403 and Section 404 programs is carried out following low impact protocols – limiting disturbance to the footprint of the existing structure and emphasizing that the contractors make reasonable efforts to avoid or minimize harm to any potential archaeological deposits.

The process outlined above created efficient methods for identifying thousands of historic structures, evaluating impact of demolition on existing historic districts and evaluating alternatives for revising or designating additional historic districts to complete the 106 Review following the major floods of 2008.

3.6. Benefit Cost Analysis (BCA)

Establishing priorities for local assistance and ensuring that the eligibility criteria for multi-hazard mitigation measures required by federal regulation, is integrated with the States evaluation of the cost effectiveness of mitigation measures. This capability is met by ensuring staff are trained and training is provided to applicants consistent with OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, a requirement of CFR 44 201.5(b)(2)(ii). The June 2009 BCA Reference Guide is another resource used by mitigation staff.

Iowa has maintained a strong record of conduct and performance related to performing Benefit Cost Analysis (BCA). All hazard mitigation staff maintains a level of training related to FEMA modules for BCA and that HSEMD sponsors training on BCA for local officials.

For all projects submitted under the HMGP, FMA, RFC, and PDM programs since 1993, the state mitigation staff has completed or provided technical assistance in completing detailed Benefit Cost Analysis (BCA). Projects involving flood mitigation buyouts, relocations and elevations have been

further evaluated to determine a structure-by-structure analysis in order to rank applications and individual structures.

All proposed mitigation projects that are submitted under the FEMA HMA grant program must show that they are credible, well-documented, prepared in accordance with FEMA BCA practices and demonstrate the project is cost-effective with at least a ratio of 1 to 1. Please refer to section 2.6 Determining Cost Effectiveness for further details describing HSEMD BCA capabilities.

3.7. Grant Management-Accurate and Timely Progress and Financial Reporting

The HSEMD has the responsibilities of grant management and accountability of funds in accordance with the 44 CFR, Part 13, Uniform Administrative Requirements for Grants, Cooperative Agreements to State and Local Governments, Hazard Mitigation Assistance Unified Guidance, and 44 CFR Part 206. Approved Sub-grantees for HMA funding are accountable to HSEMD and FEMA for funds awarded to them.

- HSEMD lead Fiscal Officer coordinates with the State Fiscal Office to establish grant fund accounts. All Federal grant funds that have been obligated by FEMA are placed in an account with unique accounting classification.
- Allowable costs will be governed by 44 CFR, Section 13.22.
- HSEMD implements a record keeping and financial tracking system for each grant awarded based upon the approved scope of work. HSEMD also monitors and evaluates each grant awarded for adherence to the scope of work.
- Subgrantees submit progress reports to HSEMD. Quarterly reporting periods end on March 30, June 30, September 30, and December 30 for these reports. The MFO specifies the due dates for these reports. HSEMD ensures review and summarization of these reports. The reports are forwarded to FEMA Region VII mitigation staff and the FEMA Regional Administrator is notified accordingly. The reports indicate the status and completion date for each measure funded. Any problems or circumstances affecting completion dates, scope of work, or project costs which are expected to result in noncompliance with the approved grant conditions will also be described in the report. HSEMD ensures a final report is prepared with a complete assessment of project accomplishment(s). This report is also submitted per FEMA requirements.

The State Mitigation Finance Staff have developed a process for submitting timely, complete, and accurate comprehensive quarterly progress and financial reports for the HMA grant programs. This process is looked upon by FEMA Region VII and is encouraged to be used by other states as a template. The following summarizes the process followed by mitigation staff in meeting quarterly reporting requirements.

Report Preparation: Hazard Mitigation Finance updates each sub-grantee's Quarterly Progress report based on: the most recently submitted Quarterly Progress Report and any payment requests and/or match documentation processed since the last Quarterly Progress Report was submitted. Hazard Mitigation Finance electronically sends (e-mail) the updated Quarterly Progress Report to the subgrantee or their Authorized Representative.

Sub-grantee Completes Report: Subgrantee, or their Authorized Representative, completes the Quarterly Progress report making note of significant progress made in the quarter. Subgrantee, or their Authorized Representative, updates the completed or in progress milestones. Subgrantee, or their Authorized Representative, electronically submits the completed Quarterly Progress Report to Hazard Mitigation Finance within the specified time frame as outlined by HSEMD. Note: Final Quarterly Progress Reports need signatures, all others during the sub-grantee's Period of Performance require electronic confirmation.

HSEMD Review: Hazard Mitigation Finance reviews the submitted Quarterly Progress Reports and requests that the subgrantee makes revisions as needed. Hazard Mitigation Finance compiles all Quarterly Progress Reports from respective subgrantees and prepares reports for submission to FEMA.

Submission: Hazard Mitigation Finance in cooperation with State Comptroller's Office prepares state-wide summary Quarterly Progress Reports and submit to FEMA. Summary Quarterly Progress Reports are submitted to FEMA Region VII.

FEMA Review: FEMA reviews submitted summary Quarterly Progress Reports for compliance with applicable agreements and laws.

Upon FEMA HMA project approval, a Grant Agreement Meeting is coordinated with the sub-applicant to establish strict performance guidelines and explain the requirements for grant completion. The grant agreement is reviewed in its entirety including budget and allowable costs, scope of work, legal requirements, and authorized representative prior to receiving signatures. Period of performance dates are re-enforced including plan approval dates and milestones as outlined in the application.

The process for financial reporting and progress reporting is explained in detail. Budget, procurement procedures and the payment process are reviewed thoroughly to include methods of payment and match verification. Directive is provided on how to request budget amendments, change in SOW, and time extensions. The Financial Chart of Accounts is discussed with the subapplicant and a walk through of the Accounting Management System is presented.

Finally, Fiscal Closing Procedures are discussed and reviewed following the Mitigation Project Closeout Checklist and records retention and audit requirements are reviewed. Resources provided to the sub applicant include:

- Finance Methodology Guide; Procurement Requirements and Regulations
- Hazard Mitigation Resources for Sub-grantees CD; Please see Annex 2-B for all acquisition, infrastructure, planning, and safe room project information provided on CD
- Budget Checklist for payment requests and closeouts
- Sample forms pertinent to the sub-grant

Technical assistance is provided to the subapplicant throughout the duration of the grant period of performance. On site and desk top monitoring ensure that up to the point of payment request all state and federal project requirements are met. Close monitoring of grant activity leads to a final reconciliation and closeout process for all HMA grants

- Subgrantees maintain financial records and receipts necessary to document all their expenditures relative to their projects.
- Audits
 - The HSEMD and each subgrantee ensure that audits are conducted in accordance with the Single Audit Act, Single Audit Act Amendments of 1996 (effective July 1, 1996), and OMB Circular A-133 (as amended).
 - HSEMD Grants Bureau Chief reviews audits for the grantee and subgrantee and report any problems to the SHMO and FEMA. The GAR directs the SHMO/MFO or HSEMD Administration Bureau Chief to take the appropriate or required action.
 - If FEMA elects to conduct a federal audit of the grant program, the grantee and subgrantee cooperate as necessary.
- The SHMO, in coordination with the MFO, will schedule and conduct grants monitoring visits with subgrantees.
- The SHMO, in coordination with the MFO, will ensure the review of funding requests, time extension requests, cost overruns, and appeals are completed. The SHMO will also coordinate project close-outs.

Project Completion and Close-out: HSEMD is notified in writing by the Sub-grantee when all work has been completed on approved projects. The written notification will include documentation for unpaid expenditures. The SHMO/MFO will have the documentation reviewed to ensure that all claims and costs are eligible and that work performed is in compliance with the approved project application. Once the final federal payment has been made, the MFO will close the Sub-grantee's file. When all projects have been completed and all files closed, HSEMD's Grant Bureau Chief will close out the Letter of Credit. The MFO will then prepare a final report indicating project closeout and notify FEMA Region VII.

3.8. Overview of Hazard Mitigation Grant Funds Disbursed to Subgrantees

3.8.1. Compilation and Analysis of Financial Information

The Hazard Mitigation Grant Program has been the most critical program for Iowa, based primarily on the amount of grant funding made available. The HMGP is the driving grant source behind local government interest in hazard mitigation programs and projects. However, it is also true that annually funded programs like the Flood Mitigation Assistance (FMA) and Pre-Disaster Mitigation (PDM) grant program provide the means to sustain the program long-term. FEMA grant programs in Iowa resulted in funds totaling more than \$80 million in from 1990-2006.

There is an estimated total of \$430 million in funding availability for projects under grants DR-1688, DR-1705, DR-1727, DR-1737, DR-1763, DR-1854, DR-1877, and DR-1880 during the 2007 and continuing time period. The majority of this funding was provided through the Hazard Mitigation Grant Program and funds were ongoing due to the severity and magnitude of disaster events during this time period.

The areas of hazard mitigation specifically supported by FEMA grant programs in Iowa include:

- Acquire, relocate, or elevate structures located in flood hazard areas;
- Protect critical public facilities and important commercial and business areas;
- Enhance statewide National Oceanic and Atmospheric Administration (NOAA) Weather Radio transmitter coverage and better provide “all hazard” early warning capability;
- Construct tornado safe rooms in public facilities and schools;
- Support the development and adoption of Local Hazard Mitigation Plans and enhance the capability of communities for effective hazard analysis and risk assessment; and
- Educate and market hazard mitigation to Iowa citizens and to promote safer homes and safer more disaster resistant communities.
- Utility System Retrofits

Iowa’s grant priorities have consistently targeted locally identified projects to remove residential and commercial structures from flood hazard areas. Diligent attention is used in evaluating all funded projects to determine the likely economic benefit through use of Benefit Cost Analysis (BCA). Iowa’s criteria for grant funding not only ensure that the greatest number of flooded homeowners are provided with

assistance, but also prioritizes funding to ensure the greatest benefit in avoided future damage.

Among Iowa's leading efforts in mitigation is the acquisition and removal of residential and commercial structures from flood hazard areas.

Prior to the 2008 flood event, Iowa funded projects in 71 separate jurisdictions removing 1,447 flood prone structures from identified flood hazard areas. The total investment of over \$70 million is expected to result in benefits in the form of eliminated future damages exceeding \$141.1 million over 50 years, the average lifetime of the project.

Following the floods of 2008, the 2008 Iowa Mitigation Success Story – Avoided Losses through Property Acquisition and Relocation for Open Space completed by the HSEMD mitigation staff demonstrates a total of \$98,707,438 of losses avoided due to past mitigation measures. (Annex 2-C) This study captures 12 Iowa communities that experienced losses avoided during the catastrophic flooding event that occurred in 2008 due to prior removal of structures in special flood hazard areas and conversion of the property to open space. The communities evaluated in this study had a significant number of acquisitions from past events and experienced at least a 100+ flood event in 2008. A total of 703 properties included in this study would have flooded again due to the magnitude and severity of the 2008 floods. Although this study only took into consideration the larger past Iowa buyout projects, substantial additional losses were avoided throughout the state due to smaller projects from other events. This study illustrates the importance of continuing to implement mitigation measures in the State of Iowa.

One aspect of managing mitigation grants has been the leadership role that the mitigation staff plays in addressing long term housing recovery needs in the aftermath of severe flooding. Subsequently, an additional benefit of acquiring and removing residential structures is that the proven cost effectiveness is enhanced by contributing to the effectiveness of the recovery process through quick and efficient delivery of community home acquisition and relocation projects. HMGP funding has been utilized to address flood impacted areas to nearly eliminate needs associated with short term replacement housing, Individual Assistance, under insured or uninsured housing or home rehabilitation needs.

Protection of critical public facilities is one of Iowa's leading types of mitigation measures. A natural hazard event which disrupts or shuts down wastewater treatment systems, electrical generation facilities, and water treatment plants serves to magnify the effects of a disaster event and encompass citizens and areas otherwise not directly impacted. Great benefit has been achieved by ensuring that critical public

facilities are sufficiently protected from hazards and risks, often times ensuring that the impacts of natural hazards do not become a “disaster event.”

3.8.2. Audit Documentation of Program Management Capability

The State of Iowa has effectively demonstrated its capability to manage both the Hazard Mitigation Grant Program (HMGP) and other grant programs such as the Flood Mitigation Assistance Program (FMA) and the Pre-Disaster Mitigation Program (PDM). This demonstration of effectiveness can be shown by the results of an audit performed in November of 2001, on the HMGP as administered by the Iowa Homeland Security and Emergency Management Division (HSEMD). Since the administrative procedures for the FMA, RFC, and the PDM programs are identical to those for the HMGP, the audit results of the HMGP apply equally to the other two programs.

The audit originated from the requirements of the Single Audit Act Amendments of 1996 that require the grantees (states) and subgrantees to undergo an audit in accordance with terms of the Act. Among the requirements are administrative plans that are required by the Robert T. Stafford Disaster Relief and Emergency Act (the Stafford Act), Chapter 44 of the Code of Federal Regulations (44 CFR) for hazard mitigation programs, and the auditing requirements of the Office of Management and Budget (OMB) Circular No. A-133. For a fuller explanation of this plan, refer to section 1.5 of the standard plan under Local Funding and Technical Assistance. The Federal Emergency Management Agency (FEMA) requires this administrative plan to ensure that grantees are prepared for future disasters, and that state policies and procedures will effectively accomplish grant goals. Grantees must submit administrative plans or updates, amendments, and/or plan revisions for hazard mitigation programs at the start of each disaster. Administrative plans must be approved by the FEMA regional director. Exact requirements for the state administrative plan are located in 44 CFR 206.437.

The audit commenced with a contract between FEMA and Cotton & Company LLP signed on July 16, 2001, to audit the grant management process of HSEMD for three disaster awards by FEMA under the Stafford Act. The objectives of the audit were to determine if HSEMD administered FEMA grant programs according to federal regulations, properly accounted for and used FEMA program funds, and submitted accurate financial expenditure reports. The audit report focused on HSEMD systems and procedures for assuring that grant funds were managed, controlled, and expended in accordance with applicable laws and regulations, including the Stafford Act and 44 CFR. The audit covered three major disasters declared by the President of the United States between July, 1998, and July, 1999 (Disaster Nos. 1230, 1277, and 1282.)

In determining if HSEMD was administering FEMA grant programs according to federal regulations, the auditors examined all material aspects of the grant cycle including:

- Administrative Plan
- Subgrantee Award Process
- Project Completion
- Project Closeout
- Subgrantee Monitoring
- Administrative Costs
- Cost-Share Requirements

In order to assess compliance and performance with grant management provisions, the auditors selected and tested hazard mitigation projects to determine if the projects were administered within program guidelines. Both open and closed projects were reviewed, but the auditors focused on evaluating HSEMD internal controls and procedures to identify internal control system weaknesses or noncompliance issues. The auditors also evaluated how HSEMD accounted for and used FEMA program funds to assure that HSEMD had internal controls and procedures in place to account for program funds and safeguard federal assets. They also reviewed HSEMD financial reporting process to assure that it submitted accurate financial expenditure reports. This was accomplished by reviewing several financial reports submitted by HSEMD and reconciling the reports to accounting systems established by FEMA and the State of Iowa, FEMA's databases, and HSEMD Federal Cash Transaction Reports.

The audit was conducted in accordance with FEMA's Consolidated Audit Guide for Grantee Audits of FEMA Disaster Programs from the Office of the Inspector General and also in accordance with the U.S. General Accounting Office's Government Auditing Standards as prescribed by the Comptroller General of the United States. The Consolidated Audit Guide is designed to assist auditors to perform audits at the grantee level. It is divided into two sections. The first discusses the background, objectives, audit planning, other considerations, and establishes certain requirements to perform the audit. The second section contains fieldwork and reporting requirements.

The outcome of the audit was that there were no findings against the administration of hazard mitigation programs by HSEMD. This means a number of things. First, it means that all seven parts of the grant cycle mentioned above were being administered correctly according to federal regulations. This in turn means that the administrative plan complied with the requirements of CFR 44, that the subgrantee award

process was administered correctly, that project completions and closeouts were accomplished in a timely manner, that subgrantee monitoring was effective, and that administrative costs and cost-share requirements were kept within authorized bounds. Second, all program funds from FEMA were accurately accounted for and all financial expenditures were accurate. Third, all financial expenditure reports were correct. Fourth, the financial reports that were reviewed were reconciled satisfactorily with the accounting systems, databases, and reports mentioned above. Fifth, all of HSEMD internal controls and procedures were in compliance with the Stafford Act and 44 CFR and were functioning satisfactorily.

HSEMD most recent State audit was completed by the Office of Auditor of State on July 13, 2009 for the entire Department of Public Defense with no instances of non-compliance that were unable to be addressed with a response and plan for corrective action, for more detailed information see the Audit Report in Annex 2-E.

As a result of these audits, it should be evident that the State of Iowa through the HSEMD has soundly demonstrated its capability to manage hazard mitigation programs. The requirements of these programs have been met in a timely, complete, and accurate manner.

4. Assessment of Mitigation Actions

Requirement 201.5(b)(2)(iv):[The Enhanced Plan must document the] system and strategy by which the State will conduct an assessment of the completed mitigation actions and include a record of the effectiveness (actual cost avoidance) of each mitigation action.

Assessment of mitigation actions in Iowa is an on-going process. Assessment is necessarily linked to the multi-hazard approach taken by the state. This approach involved the creation of a permanent framework for interagency cooperation known as the State Hazard Mitigation Team (SHMT). The SHMT priority and the focus of hazard mitigation grant programs in Iowa have focused on immediate hazard mitigation needs related to numerous flood disaster events since 1993. The SHMT framework supports this process by providing a mechanism for long-term approaches to specific hazard mitigation initiatives. The Iowa Homeland Security and Emergency Management Division (HSEMD) participate as the primary manager of Federal Emergency Management Agency (FEMA) hazard mitigation programs.

Iowa records and monitors mitigation actions or measures identified through the agencies and reporting of the SHMT, through grant applications received for hazard mitigation grant programs administered by HSEMD and through review of Local Hazard Mitigation Plans. The monitoring process is outlined in the table found in the Plan Maintenance Section 1.6.

In order to collect and analyze local mitigation planning data, each local plan must complete the *Local Hazard Mitigation Plan-Data Collection Worksheet*. This tool is

used to organize data and information that is required for the local mitigation plan and provides an electronic format for data collection at the local level. The Local Data Collection Worksheets are used as a method of validating the State's existing hazard assessment, vulnerability assessment, goals, objectives, proposed and completed mitigation measures, and local plan integration.

For future updates the existing and future Local Data Collection Worksheets will be consolidated and analyzed to determine statewide trends of hazard mitigation planning and activities. Based on planning grant performance periods for local hazard mitigation plans, the information available for comprehensive consolidation is limited for this update. As local hazard mitigation plans are reviewed, data will be compiled on an ongoing basis and the state mitigation actions/projects will be expanded reflecting the projects identified by the local jurisdictions.

Iowa's strategy is to conduct analysis to determine actual avoided damages following disaster events by using information from the Local Hazard Mitigation Plan – Data Collection Worksheets and data from the new disaster to estimate and calculate avoided damage. During this update of the State Hazard Mitigation Plan, the SHMT captured examples of mitigation activities by their respective departments or by local and state partners within their areas of influence. Standard plan Mitigation Strategy and Annex 1.4-A documents mitigation actions from the goals and objectives initiated and/or accomplished from 2007 to present.

Examples of mitigation actions completed during the last update 2007-2010 and closed include:

- Acquired and demolished 12 substantially damaged or destroyed properties in four communities. These properties were located in a Special Flood Hazard Area. Although the respective project subgrants have not closed, the State has acquired 682 properties and demolished 311 through HMGP 1763 funding in 35 communities. Of those 682 acquired properties 82 repetitive loss properties were acquired in 17 communities.
- 6 tornado safe rooms
- 124 local hazard mitigation plans
- 9 emergency back-up power generator projects under the 5% initiative
- Relocated lift station
- 4 Infrastructure projects including the construction of a protective flood berm to protect a critical facility

Multiple mitigation actions were in progress during the time period of this update and will be completed and discussed in future plans.

In Iowa's implemented strategy to document the benefits of hazard mitigation, HSEMD mitigation staff members utilize some or all of the following methods depending on the particular disaster event; conduct site visits, contact local and county officials and research flood stage data in a deliberate and honest attempt to evaluate whether mitigated properties or critical facilities would have been damaged by the event. This process is conducted as close to the actual disaster

event as possible with timelines influenced by the circumstances of the given disaster event. As an example, during the flood event occurring in May of 2004 (DR-1518-IA), analysis determined that 511 properties that were acquired or relocated, would have sustained damages from the recent flood. The actual dollar amounts of avoided damages are determined by applying the actual flood depth data from the disaster event to the actual BCA files (aggregate BCA by project) that were used to determine eligibility during the application process of the respective mitigation grant.

In May of 2008, the State of Iowa experienced catastrophic flooding receiving Presidential Disaster Declaration 1763. Due to the magnitude and severity of the flooding, new disaster information was available in determining losses avoided due to past mitigation measures specifically associated to the conversion of property to open space. The HSEMD Mitigation staff conducted a loss avoidance study, *2008 Iowa Mitigation Success Story – Avoided Losses through Property Acquisition and Relocation for Open Space* (Annex 4-A). The study focused on 12 Iowa communities with evaluation of 703 properties that were acquired from past flood events and would have sustained damages again due to the magnitude and severity of the 2008 floods. A total of \$98,707,041 in losses were avoided due to past mitigation measures that converted property to open space/green space.

Communities that were included in this study are those that have had a significant number of acquisitions from past events and experienced at least a 100+ year flood event in 2008. The reasonable assumption is that properties which were mitigated during past disaster declarations would have been impacted again in the 2008 disaster due to the magnitude of this event. The result being that the 703 properties included would have sustained substantial damage and/or been destroyed. Significant losses were avoided because the properties had previously been acquired and converted to green space.

The study calculates the net present value of past projects to determine losses avoided by acquiring the properties. This value is used as the cost figure in the final Benefit-Cost ratio and was necessary so that current costs could be compared to current benefits. The total 2008 losses avoided are the benefits in the final Benefit-Cost ratio. This figure is comprised of avoided costs for replacement value, contents, and displacement. The results of the final analysis are included within tables providing the actual loss estimates for various properties and estimates leading to the overall benefit of the mitigation projects.

An average of \$104,408 in present day costs was avoided for each property that was converted to open space. Comparing the total net present value (or present day costs to acquire past properties) which equals \$45,016,192, to the total losses avoided (which are considered to be our benefits in this study) results in a positive benefit cost ratio of 2.19. Please refer to the 2008 Iowa Mitigation Success Story (Annex 2-C) that where appropriate, provides the best information available to date on the methodology for the loss avoidance study, costs, benefits, and community summaries of additional losses avoided.

The goal of this study was to evaluate the losses avoided due to mitigation measures completed in Iowa prior to the catastrophic flooding event that occurred in 2008. These measures removed structures in special flood hazard areas and returned the property to open space through acquisition/demolition and acquisition/relocation projects. This study illustrates the losses avoided due to past mitigation efforts and the importance of continuing to implement mitigation measures in the State of Iowa.

Funding sources from these acquisition projects include the Hazard Mitigation Grant Program, Flood Mitigation Assistance, Repetitive Flood Claims, Pre-Disaster Mitigation program, Community Development Block Grants, and State and Local funds.

Currently a study is in progress through the HMTAP in which FEMA partnered with the State of Iowa to conduct a loss avoidance study of flood mitigation projects that had been implemented in the State of Iowa. URS was contracted by FEMA to document losses avoided through two studies. One study is the benefits and costs avoided for flood control measures. The other study is the benefits and costs avoided for acquisitions.

The Loss Avoidance Study – Iowa, Building Modification Projects was recently completed in April of 2010. This loss avoidance study evaluated 74 flood mitigation projects completed between 1994 and 2008. This information was not available prior to the data collection deadline for the 2010 update.

In assessing mitigation actions or projects executed in Iowa through Federal Emergency Management Agency (FEMA) programs, the Hazard Mitigation Grant Program is the most critical program for Iowa, based primarily on the amount of grant funding made available. The HMGP is the driving grant source behind local government interest in hazard mitigation programs and projects. However, it is also true that annually funded programs like the Pre Disaster Mitigation Program and Flood Mitigation Assistance Program provide the means to sustain the program long-term.

Evaluations of the past accomplished mitigation actions and relative benefits has provided the knowledge to develop improved methods of future data collection for easier, more accurate and more consistent evaluation of future mitigation projects. The vast majority of projects implemented through FEMA's mitigation grants programs have been to reduce the effects of flooding. Likewise, the majority of declared disasters in Iowa have been from flood events. As a result, flood hazards have been the focus of Iowa's assessment of completed mitigation actions. In an effort to capture mitigation data from other hazards and from completed mitigation actions not funded through FEMA's mitigation programs. HSEMD has implemented a mitigation data collection tool. The "Mitigation Data Worksheet" is an Excel-based database that local jurisdictions use in the mitigation plan development and update process.

Information collected includes the following:

1. Mitigation goals, objectives, and measures
2. Completed or in progress mitigation actions, loss avoidance, effectiveness assessment
3. Local capabilities summary
4. Vulnerability assessment
5. Critical facilities assessment
6. Hazard ranking

All mitigation planning grants starting with the PDM 2007 include language in the State/Local grant agreement that requires the completion of the Mitigation Data Worksheet as a condition of the grant. The mitigation section of HSEMD will compile the local data after each mitigation plan is approved by FEMA. This will provide the SHMT with additional local data to conduct assessments of completed mitigation actions. This tool will be continually evaluated for effectiveness and will be modified, if required, to best meet our assessment needs. The following evaluations of past mitigation planning and actions assisted in the development of this data collection tool.

In 2000, HSEMD initiated the Hazard Mitigation Benefits Report – the Iowa Success Story. This report documents a 10-year history of cost avoidance focused on hazard mitigation grant projects and initiatives, managed or administered through HSEMD. FEMA grant programs in Iowa resulted in funds totaling more than \$70 million in the decade from 1990-2000. The areas of hazard mitigation specifically supported by FEMA grant programs in Iowa during that time include funding to:

- Acquire, relocate, or elevate structures located in flood hazard areas;
- Protect critical public facilities and important commercial and business areas;
- Enhance statewide National Oceanic and Atmospheric Administration (NOAA) Weather Radio transmitter coverage and better provide “all hazard” early warning capability;
- Construct tornado safe rooms in public facilities and homes;
- Support the development and adoption of Local Hazard Mitigation Plans and enhance the capability of communities for effective hazard analysis and risk assessment; and
- Educate and market hazard mitigation to Iowa citizens and to promote safer homes and safer more disaster resistant communities.

Iowa’s grant priorities have consistently targeted locally identified projects that would remove residential and commercial structures from flood hazard areas. Careful attention has been paid to ensure that all funded projects are evaluated to determine the likely economic benefit through the use of Benefit Cost Analysis (BCA). Iowa’s criteria for grant funding ensures that the greatest number of flooded homeowners are provided with assistance, and also prioritizes funding to ensure the greatest benefit in future avoided damage.

An additional benefit of acquiring and removing residential structures is the enhanced cost effectiveness of contributing effectively to the larger disaster recovery process. In Iowa it has been realized that quick and efficient delivery of community home acquisition and relocation projects under the HMGP within flood impacted areas, nearly eliminates needs associated with short term replacement housing, Individual Assistance, Flood Insurance, or home rehabilitation.

Protection of critical public facilities is also one of Iowa's leading types of mitigation measures. Protecting critical public facilities has particular advantages for many communities in Iowa. A natural hazard event which disrupts or shuts down wastewater treatment systems, electrical generation facilities, and water treatment plants serves to magnify the effects of a disaster event and encompass citizens and areas otherwise not directly impacted. Great benefit can be achieved by ensuring that critical public facilities are sufficiently protected from hazards and risks, often times ensuring that the impacts of natural hazards do not become a "disaster event."

The Great Midwestern Flood of 1993 was the most devastating flood event in U.S. history. In 2001 a study was completed in Iowa of eight jurisdictions in four communities along the Mississippi River to demonstrate avoided losses resulting from the use of the Hazard Mitigation Grant Project Program. The study assessed the damage done in this event although other flood events had also occurred during the intervening years. The eight jurisdictions are as follows:

- Louisa County,
- Scott County,
- City of Davenport,
- City of McGregor,
- Des Moines County,
- City of Burlington,
- Muscatine County,
- City of Muscatine

The following examples are from this study:

- The City of McGregor had experienced flooding in 1951, 1952, 1965, 1967, 1969, 1973, 1975, twice in 1986 (spring and fall), and 1993. Following the flood of 1993, the City of McGregor, in coordination with HSEMD, developed a local mitigation strategy that gave priority to protecting a critical public facility, the McGregor Municipal Utility, to ensure continuity of electric power following a major flood. The municipal power plant had sustained flood levels of at least 18 feet on 21 different occasions. In the 1993 flood, the Mississippi reached a peak elevation of 22.5 feet. Half of McGregor's 50 businesses were closed for two weeks. The McGregor Municipal Utility did not flood due to sandbagging efforts that cost \$12,256. After the flood, a decision was made to build a floodwall around the utility to provide protection for a 500-year event. HMGP funds were used, with a total project cost of \$212,424.40. The losses avoided from the flood of 2001 are

- estimated at \$11,000. While this is only about 5 percent of the total project cost, this was from just one event. Also, the avoided losses were 90 percent of the actual losses suffered in 1993 and from a flood event that was not as severe as the 1993 flood.
- Scott County lost 46 homes in the flood of 1993, while an additional 536 homes sustained minor to major damage. In cooperation with HSEMD and FEMA, Scott County identified six properties in the flood hazard area for acquisition or elevation. Four of these properties were acquired and two were elevated. Their pre-flood market values ranged from \$20,000-\$60,000. The total project cost was \$207,473. Following the flood of 2001, the losses avoided were estimated at \$34,511, or about 17 percent of the total cost of the mitigation project.
 - The City of Davenport also suffered disastrous losses as a result of the flood of 1993. After the flood, the city engaged in two projects. One was its own Residential Acquisition Program, and the other a project in partnership with HSEMD and using HMGP funds. The total cost of the project was \$191,307. The flood of 2001 resulted in avoided losses of \$41,392, or about 22 percent of the total cost of the project. Since this area has a flood frequency of about once every five years, avoided losses in the future should easily pay dividends for the cost of this project.
 - The 2008 Iowa Mitigation Success Story included a loss avoidance analysis of the City of Davenport which acquired 45 properties in 1993 and 2001 due to the declared disasters for severe flooding (0096 and 1367). The project costs were over \$2 million. In 2008 the Mississippi River crested around 21 feet which is 6 feet over the flood stage. More specifically the Duck Creek which runs through central Davenport topped 4 feet over the flood stage. It is estimated that \$7,384,134 was saved due to past acquisitions in the City of Davenport.
 - Flooding in both the City of Muscatine and Muscatine County led these two jurisdictions after the 1993 flood to cooperate in a mitigation effort to reinforce a levee system against a 200-year flood event. This joint project cost \$8 million. Also, the City of Muscatine acquired six houses with a total replacement value of \$119,000. Muscatine County acquired two houses and elevated two houses with a total replacement value of \$137,000. When the flood of 2001 occurred, Muscatine County avoided \$34,537 in losses and the City of Muscatine avoided \$31,268 in losses.
 - Louisa County suffered very heavily from the 1993 flood. Following this flood event, the county acquired a total of 176 houses, of which 77 were demolished and 99 were relocated. The project cost \$9.7 million. After the flood of 2001, a study of losses avoided included data on just 69 of the 176 acquired houses. Yet this study concluded that avoided losses from just these 69 houses totaled \$1,256,815. This figure was calculated by including the avoided costs of repairing damaged buildings, replacing damaged

contents, and displacement costs such as lodging, food, and associated costs.

- The 2008 Iowa Mitigation Success Story included a loss avoidance analysis of Louisa County where a large number of acquisitions resulted in savings of approximately \$22 million after the 2008 event, which completely inundated almost 30 square miles of flood prone area in southern Louisa and northern Des Moines counties. The county had acquired 167 properties in 1993 during disaster declaration 0996. At the time, these 167 properties were acquired for \$9,772,868. The county is in the process of acquiring an additional 31 properties that were destroyed as a result of the 2008 flood event. But this is a far cry from what would have been necessary had the previous projects not been completed, especially considering the breadth of floodwater inundation in the most recent disaster.
- Des Moines County also experienced extensive flood damage in 1993. In the aftermath, the county worked with HSEMD to obtain an HMGP grant to acquire 46 houses and elevate 3 more houses. After the flood of 2001, an assessment of avoid losses was calculated on 16 of the 46 houses acquired. The estimate showed that \$193,346 in losses was avoided from this one flood event.
 - The 2008 Iowa Mitigation Success Story included a loss avoidance analysis of Des Moines County including 56 properties that were acquired in past disasters (46 in Disaster 0996 – 1993 and 10 in Disaster 1367 – 2001). The county was hit very hard in 2008 whereas 30 square miles was covered in deep water. Although they are currently in the process of acquiring additional properties, there is significant savings due to past acquisitions with over \$12 million in loss avoidance contributable to prior mitigation projects.
- The City of Burlington, located in Des Moines County, met the flood threat in 1993 by sandbagging and emergency pumping when the Mississippi River crested ten feet above flood stage. The major threat in the city was to the Burlington Municipal Water Works plant. Although the sandbagging and pumping were successful in keeping the plant from being flooded, Water Works and City officials concluded that a more permanent solution was needed. This was because of the recurring costs of sandbagging and pumping, the unreliability of these measures, and the potential loss of water to the city for an extended time (over \$800 million worth of property would be exposed to fire without water for firefighting.) An HMGP project constructed retaining walls, stop logs, and three permanent pumps. The project cost \$295,962. The 2001 flood crested seven feet above flood stage. Expenditures for flood protection were reduced by almost \$50,000 for this one flood event alone.

Since these reports were published and during the time period from 2004 to 2007, 56 flood-prone properties were mitigated in eleven communities through the HMGP

(47 properties), PDM (3 properties), FMA (4 properties), and the RFC (1 property). Two additional small flood control projects that protect critical facilities in two communities were approved through the PDM program are almost complete. The construction of tornado/storm shelters to protect citizens from the effects of tornadoes is a mitigation measure that is increasingly identified in local mitigation plans and also project applications. Iowa reviewed nine tornado safe room project applications from 2004 to 2007. This was in part due to the dynamics of the FEMA PDM program, which has provided competitive grant funding over the last several years.

Over the last three years, several mitigation measures have been completed including approximately 124 FEMA approved local hazard mitigation plans, 4 infrastructure projects, 12 acquisition projects, 6 tornado safe rooms, and 9 generators under the 5% initiative. A large amount of funding provided through the PDM and HMGP programs have contributed to hundreds of current mitigation measures that are in development. Many local hazard mitigation plans are in progress including both initial and updates. Several mitigation projects will be completed or be near completion during the 2013 update.

5. Effective Use of Available Mitigation Funding

Requirement 201.5(b)(3):[The Enhanced Plan must demonstrate] that the State effectively uses existing mitigation programs to achieve its mitigation goals.

The State of Iowa has experienced many long-term successes with mitigation from 1990-2010. More specifically, during the last three years, multiple mitigation measure projects in development coincide with many of the objectives and goals in the State Hazard Mitigation Plan to prevent and reduce the risks of lives, property, and economic activity from the effects of all hazards. Iowa communities have benefited and are benefitting from mitigation activities such as local hazard mitigation planning, critical facilities protection, infrastructure drainage, electrical retrofit, property acquisition/relocation/elevation, safe rooms, NOAA weather radio transmitter installations and through various training, workshops and mitigation related legislation. These mitigation measures are making communities across the state safer and more secure against the negative impacts of natural and man-made hazards. The State of Iowa continues to effectively implement mitigation programs towards achieving its goals as identified in this plan:

Goal 1.1: Deaths, injuries, property loss, and economic disruption due to **river flooding** will be reduced.

Goal 2.1: Deaths, injuries, property loss, and economic disruption due to **tornadoes** will be reduced.

Goal 3.1: Deaths, injuries, property loss, and economic disruption due to **severe winter storms** will be reduced.

Goal 4.1: **Levee failures** will be deterred in order to protect Iowa's residents and their property as well as the state's natural resources.

Goal 5.1: Deaths, injuries, property losses, loss of services, and economic disruption due to **thunderstorms and lightning** will be reduced.

Goal 6.1: Deaths, injuries, property loss, and economic disruption due to **flash flooding** will be reduced.

Goal 7.1: Deaths, injuries, property loss, and economic disruption due to **hailstorms** will be reduced.

Goal 8.1: **Animal health** will be protected, safeguarded, and improved in Iowa by eradicating or controlling infectious and contagious diseases.

Goal 9.1: The risks to life and property from **dam failure** in the State of Iowa will be decreased.

Goal 10.1: Regulation of the transportation of **radioactive materials** across Iowa will be maintained and improved when necessary in order to assure that the health and safety of residents and the environment are protected against any incident resulting in a release of such materials, nuclear reactors (and waste water facilities).

Goal 11.1: Efforts to prevent terrorist attacks, to reduce the State's vulnerability to **terrorism**, and to protect human life, property and critical assets will be continued and enhanced.

Goal 12.1: Exposure of residents of the state to **hazardous materials** releases will be prevented, abated, and controlled.

Goal 13.1: Deaths, injuries, property loss, and economic disruption due to **drought** will be reduced.

Goal 14.1: The health, safety, and quality of life of Iowa's residents shall be protected by preventing, controlling, and ensuring an immediate and effective response to **diseases and epidemics** that cause injury, disability, or death and to keep economic loss and social disruption to a minimum.

Goal 15.1: The number and severity of **transportation incidents** in Iowa shall be reduced in order to alleviate death, injuries, environmental impact, and property losses and provide and improve adequate, safe, secure, and efficient transportation services.

Goal 16.1: Deaths, injuries, and property loss due to **infrastructure failure** will be reduced and limited by effective inter-agency cooperation in order to restore services in a timely manner and ensure the health and safety of Iowa's residents during infrastructure failure emergencies.

Goal 17.1: Deaths, injuries, property loss, and economic disruption due to **extreme heat** will be reduced.

Goal 18.1: The susceptibility of Iowa's **grassland and wild land to fire** will be managed in the interests of its residents and the natural environment.

Goal 19.1: Deaths, injuries, property loss, and economic disruption due to **windstorms** will be reduced.

Goal 20.1: Damage to property, structures, and infrastructure from **sinkholes** will be reduced.

Goal 21.1: Long-term property losses and disruption of communities, transportation corridors, communication linkages, and other critical assets due to **landslides** and other ground failure hazards will be reduced.

Goal 22.1: Property damage, economic loss, and disruptions in commercial and industrial activities in Iowa due to **earthquakes** shall be limited.

Goal 23.1: Damage to structures, roads, highways, and bridges from **expansive soils** will be decreased.

From 2007-2010, the State of Iowa has received eight Presidential Declared Disasters, which emphasized the vulnerabilities and obstacles the state faces in relation to natural hazards such as flooding, tornadoes, and severe storms. The multitude of these disasters has offered opportunities for the state to strengthen their mitigation capabilities through HMA funding. Federally approved and funded mitigation projects are being administered by the state to include the HMGP and PDM programs. These programs have enabled mitigation projects to address the State's hazard mitigation goals and objectives meeting the priorities and criteria outlined in Section 2.2 – 2.6.

In addition to federal programs, several programs at the state level support the goals and objectives outlined and are utilized in advancing mitigation statewide. The following are a few of the programs and initiatives currently supporting mitigation in Iowa:

- SF2389 Smart Planning; establishes principles for state agencies, local governments and other public entities to use in preparing economic growth and to mitigate future disasters. Provides resources for evaluating and identifying hazards and mitigation within communities throughout the state with a tie to comprehensive planning.
- HF705 Safe Rooms; The development and dissemination by the Building Code Commissioner, the Rebuild Iowa Office, the Division of Homeland Security and Emergency Management, the Department of Natural Resources, and other interested state agencies of informational and education materials on the design, construction, use, and maintenance of weather safe rooms, to encourage their construction in or proximate to

facilities where their availability could significantly mitigate potential injury and loss of life from tornadoes and other extreme wind events.

- HF822 Iowa Flood Center and Flood Prevention; The State Board of Regents shall establish and maintain in Iowa City as a part of the State University of Iowa an Iowa Flood Center. Appropriation of \$1.3 million for an Iowa Flood Center to develop hydrologic models, frequency and flood forecasting and improve flood monitoring and predictions, share resources and expertise, and develop a workforce knowledgeable regarding flood research, prediction, and mitigation strategies. Research and education conducted by the Iowa Flood Center is funded by the State of Iowa with additional support for Center projects from Iowa Department of Natural Resources, The National Science Foundation, National Aeronautics and Space Administration, The University of Iowa, and the City of Coralville. Center research and education program collaborators include Iowa Department of Natural Resources, Iowa State University, National Weather Service, National Oceanic and Atmospheric Administration, National Resources Conservation Services, U.S. Army Corps of Engineers, Rock Island District, and the communities of Elkader, Des Moines, Charles City, Iowa City, Coralville, Cedar Rapids, Cedar Falls, and Waterloo.
- LiDAR; Creation of interactive topographic maps to cover the State of Iowa by using the LiDAR system of light detection to obtain elevation data across the state. The Iowa Department of Natural Resources and The United States Geological Survey have partnered to collaborate on this project. Funded through the partnership among IDOT, IDNR, NRIS, and IDALS to complete LiDAR topographic maps, elevation maps and available data to be provided at no cost for all Iowans.
- Public Assistance 406 Mitigation; Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act establishes the program for the repair, restoration, and replacement of facilities damaged as a result of a presidentially declared disaster. Through federal, state and local government partnerships, these funds are used for hazard mitigation measures that a state or local government determines to be necessary to meet a need for governmental services and functions in the area affected by the major disaster.

Annex 1.4-B further demonstrates the capabilities of the State's mitigation programs administered by both federal and state agencies. Annex 1.4-A identifies completed and ongoing mitigation projects funded to date throughout the State of Iowa.

In an effort to establish a prioritization of mitigation measures, HSEMD conducted an analysis to determine which of the mitigation measures were consistent with FEMA HMA project implementation guidance. These high pay off measures are measures that are technically feasible and cost effective. They also provide multiple benefits or risk reduction related to multiple hazards as well as those hazards that have been evaluated in accordance with the State's vulnerability assessment.

Additionally, measures that are prioritized are associated with hazards of a higher risk as demonstrated by the hazard analysis and risk assessment process.

In evaluation of all measures identified and prioritized, it was determined that measures including planning, electrical utility system retrofit/hardening, infrastructure, property acquisitions, and tornado safe rooms are considered high priorities for the State of Iowa.

Ongoing Hazard Mitigation Grant Program funding has been available to accomplish mitigation projects and local hazard mitigation plans over the last three year time period. Nearly 2,500 acquisition projects have been completed and are in development following the catastrophic flooding in 2008 (DR-1763) that substantially damaged thousands of properties. The HMGP funds are currently providing funding for acquisition/demolition of 957 properties with approximately 1,500 additional properties which are being acquired through CDBG funding by the Iowa Department of Economic Development.

Mitigation measures providing property acquisitions directly address objectives for river and flash flooding and infrastructure failure hazards. (Obj.; 1.1.2, 4.1.2, 5.1.2, 6.1.2, 9.1.2, 16.1.2) Acquisition, repair or retrofitting of property and acquisitions and use of equipment will be used to prevent or reduce risks to property from river flooding. Acquisition and improvement of property as well as acquisition, use/or installation of equipment will be used to prevent or reduce risks to property from flash flooding.

River flooding is the #1 ranked hazard in this plan. Acquisition for demolition/relocation/elevation is ranked 4th priority for mitigation measures in this plan. More than 2,500 properties in special flood hazard areas have been acquired with PDM, HMGP, and CDBG funding available following the catastrophic floods of 2008. These projects will directly reduce deaths, injuries, property loss, and economic disruption from river and flash flooding future events. Studies such as the 2008 Iowa Mitigation Success Story demonstrate the impact that mitigation actions for acquiring property and converting to open/green space have on the total losses avoided contributable to previous mitigation actions.

Planning mitigation measures address multiple objectives in the State Plan that largely impact the state goals for the prevention and reduction of risks to lives, property, and economic activity from the effects of all hazards. Planning is ranked as the number one mitigation measure for implementation in the State of Iowa. These plans offer communities the opportunity to identify and evaluate hazards, assess risk, probability, vulnerability, impact, and develop mitigation goals and actions for the prevention and preparation of future hazard events. There are approximately 307 jurisdictions with FEMA approved local hazard mitigation plans and nearly 700 jurisdictions are currently in the process of developing local hazard mitigation plans. These plans include updates and initial planning efforts.

The State of Iowa is promoting multi-jurisdictional planning to achieve all-inclusive plans across the State. Overall, multi-jurisdictional planning is a benefit to local jurisdictions, counties, State, and FEMA by creating a more streamlined process in

developing plans. Multi-jurisdictional planning will cover more area within the state and address the health, safety and general welfare of all communities from potential hazards. Planning initiatives address objectives 1.1.1, 1.1.3, 1.1.5, 2.1.1, 2.1.2, 2.1.3, 2.1.4, 3.1.1, 3.1.3, 3.1.4, 4.1.1, 4.1.3, 4.1.5, 5.1.1, 5.1.3, 5.1.4, 6.1.1, 6.1.3, 6.1.5, 7.1.1, 7.1.2, 7.1.3, 8.1.1, 8.1.2, 8.1.3, 9.1.1, 9.1.2, 9.1.4, 10.1.1, 10.1.2, 10.1.3, 10.1.5, 10.1.6, 11.1.1, 11.1.2, 11.1.3, 11.1.4, 12.1.1, 12.1.3, 12.1.5, 13.1.1, 13.1.3, 13.1.4, 14.1.1, 14.1.3, 15.1.1, 15.1.2, 15.1.3, 16.1.1, 16.1.3, 16.1.5, 17.1.1, 17.1.3, 17.1.4, 18.1.1, 18.1.3, 18.1.4, 19.1.1, 19.1.3, 20.1.1, 20.1.2, 21.1.1, 21.1.2, 21.1.3, 22.1.1, 22.1.3, 22.1.4, 23.1.1, 23.1.2 to “Develop/update/publicize mitigation plans.”

Following extreme ice storms and severe winter weather, HSEMD and the Iowa REC Association have worked in partnership to develop and fund REC projects. These electrical retrofit projects in development are to upgrade and strengthen conductor, increase pole size, reduce pole spans, convert overhead electrical distribution lines to underground power lines, and ensure a more reliable supply of power to critical facilities. These projects involve hundreds of miles of transmission, distribution, and electrical infrastructure. These projects reduce the future risk of life safety and health, property loss and economic disruption effected by hazards from severe winter storms, wind storm, power failure, tornadoes, and lightning. Electrical utility system retrofit/hardening mitigation measures are ranked 2nd of the overall prioritized measures. (Obj.: 1.1.5, 2.1.4, 2.1.5, 3.1.5, 4.1.6, 5.1.2, 5.1.4, 6.1.2, 6.1.6, 16.1.1, 16.1.2, 16.1.5, 17.1.2, 19.1.1, 19.1.4, 19.1.5)

HSEMD and eligible communities throughout the State have worked in partnership to develop infrastructure mitigation projects. These mitigation projects are broadly defined as drainage and flood control type mitigation. Mitigation projects in development are intended to retrofit existing drainage systems to more effectively handle riverine and overland flooding, protect commercial, residential, and governmental facilities critical to the health, safety and welfare of the populations they serve, and reduce and/or eliminate the long term risk to people and property from natural hazards. These projects involve storm sewer systems, sanitary sewer systems, potable water treatment facilities, wastewater treatment, buildings, equipment and life safety.

The following is addressed by the above infrastructure mitigation projects, “Construct, retrofit or maintain drainage systems (pipes, culverts and channels) to provide adequate and proper functioning systems to include sewage systems and retention and detention systems”. This mitigation measure is ranked 3rd priority for this plan and addresses river flooding, levee failure, flash flood, dam failure, drought, human disease, infrastructure failure, and sinkhole hazards. (Obj.: 1.1.6, 4.1.5, 6.1.1, 6.1.2, 6.1.6, 9.1.5, 13.1.1, 13.1.2, 14.1.6, 16.1.1, 16.1.2, 16.1.6, 20.1.3)

Construction of safe rooms and maintenance of other structural projects will be used to prevent or reduce risks to life and property from the hazards of tornadoes, thunderstorm & lightning, hailstorms, and windstorms. Safe rooms are long-term hazard mitigation measures implemented to reduce the loss of life and property,

lessen the impact to local communities due to natural disasters, and enable recovery after a disaster. Overall safe rooms are ranked 5th out of the prioritized mitigation measures for Iowa.

Iowa currently has eight tornado safe rooms built to the FEMA Publication 361. A total of 24 safe rooms have been awarded or are pending FEMA approval. Multiple applications are currently under HMGP development and State review. Safe Rooms address objectives 2.1.1, 2.1.2, 2.1.5, 5.1.2, 5.1.5, 7.1.4, 11.1.4, 19.1.2, and 19.1.5 to “Construct public safe rooms for government facilities functions, critical facilities functions, recreational areas, manufactured home parks, schools, and day care centers.”

Safe rooms for schools have been encouraged throughout the state. Eleven of the 24 safe rooms under development are multi-purpose safe rooms for schools. Also, the Public Assistance staff has worked closely with the HMGP Mitigation staff to complete joint projects incorporating PA building replacement and Mitigation safe rooms in the communities of Palo, Greene, Waverly and Cedar Rapids.

From 1990 – 2010 the State has experienced many long-term successes with mitigation. Iowa communities have benefited through such mitigation activities as local hazard mitigation planning, critical facilities protection, property acquisition/relocation/elevation, NOAA weather radio transmitter installations, and safe room construction. As a result, the State of Iowa has made substantial progress in making communities across the state safer and more secure against the negative impacts of natural and man-made hazards.

Since 1990, Iowa Homeland Security and Emergency Management Division (HSEMD) managed and administered hazard mitigation initiatives and grant projects totaling more than \$550 million dollars. During the time-frame of this update, the State of Iowa has received eight Presidential Declarations to include DR-1688, DR-1705, DR-1727, DR-1737, DR-1763, DR-1854, DR-1877, and DR-1880. For declarations DR-1688 through the DR-1854 time period an estimated total of more than \$422 million has been made available through the Hazard Mitigation Grant Program.

The last two disaster declarations occurring February 25, 2010 (DR-1877) and March 2, 2010 (DR-1880) are currently estimated at a combined total of \$18 million in HMGP. The HMGP funding is in addition to the Pre Disaster Mitigation grants for PDM 2006, PDM 2007, PDM 2008, and LPDM 2008 which have provided nearly \$3.5 million dollars for mitigation projects and local hazard mitigation plans

These figures show that the HMGP continues to be the most critical program for Iowa. It has provided the largest grant source and encouraged local government interest in hazard mitigation programs and projects. However, funding from sources such as PDM, FMA, RFC, and SRL though considerably smaller, provide the means to continue and maintain programs and projects long term.

The State of Iowa had 1 property acquisition under the Repetitive Flood Claims Program for mitigation projects in 2006. The FMA program provided grants for 2

property acquisitions in 2003, 1 project and 3 plans in 2004 and 1 flood pump in 2006. There were no projects funded under the RFC and FMA programs during the current time period for this update 2007-2010.

The Severe Repetitive Loss Program (SRL) eligible properties included only 3 properties documented by FEMA in February of 2008 and following the floods of 2008 the total number of properties has reached 21, the total documented in June, 2010. The properties now listed are not located in acquisition communities affected by the floods of 2008. Although funding is made available annually for these programs, ongoing funding from PDM and the HMGP has reduced demand for funds from the FMA, RFC, and SRL programs for present time mitigation funding needs. In particular, since the State contributes 10% cost share for the HMGP, local jurisdictions generally choose not to seek funding for other HMA programs when HMGP funding is available.

Hazard Mitigation Grant Program Funding			
2007-2010			
<i>Disaster</i>	<i>HMGP Allocation</i>	<i>Projects Awarded</i>	<i>Projects Submitted to FEMA -pending award</i>
1880-DR-IA	est. \$16,080,000	IP	IP
1877-DR-IA	est. \$2,712,000	IP	IP
1854-DR-IA	est. \$1,683,000	IP	IP
1763-DR-IA	\$391,950,377	\$102,922,119	\$231,963,228
1737-DR-IA	\$6,825,807	\$1,388,247	\$5,379,550
1727-DR-IA	\$1,625,857	300,294	\$1,336,700
1705-DR-IA	\$4,394,983	\$3,521,974	\$747,500
1688-DR-IA	\$16,210,031	\$3,763,322	\$12,921,628

Pre Disaster Mitigation Funding			
2007-2010			
<i>Grant</i>	<i>PDM Total Projects Awarded</i>	<i>Federal Share</i>	<i>Non-Federal Share</i>
PDM 2008	\$328,350	\$241,200	\$87,150
LPDM 2008	\$591,500	\$398,836.79	\$192,663.21
PDM 2007	\$2,270,441.33	\$1,702,830.07	\$567,611.26
PDM 2006	\$305,550	\$229,162.50	\$76,387.50

Through this funding, Iowa invested in a large number of diverse types of hazard mitigation projects. The table below shows the number of FEMA supported projects by funding and project type

Hazard Mitigation Grant Program and Pre Disaster Mitigation – Mitigation Measures					
	<i>Acquisition/ Relocation or Elevation of Flood Prone Properties</i>	<i>Infrastructure REC Critical Facility Protection</i>	<i>Local Hazard Mitigation Planning</i>	<i>Tornado Safe Room Construction</i>	<i>Emergency Storm Warning Sirens</i>
DR-1763:	957	25	43 Plans (305 jurisdictions)	22	-----
DR-1737:	-----	8	23 Plans (105 jurisdictions)	1	-----
DR-1727:	-----	3	14 Plans (14 jurisdictions)	-----	1
DR-1705:	20	8	26 Plans (59 jurisdictions)	1	-----
DR- 1688:	-----	10	133 Plans (216 jurisdictions)	-----	-----
PDM 08:	-----	-----	32 Plans (50 jurisdictions)	-----	-----
LPDM08:	1	-----	-----	-----	-----
PDM07:	-----	-----	55	3	-----
PDM06:	-----	-----	-----	1	-----
TOTAL:	978	54	326	28	1

Demonstrates projects completed or are submitted and pending FEMA approval

The Pre Disaster Mitigation (PDM) grant program has become an increasingly valuable funding source for mitigation measures in Iowa. It provides a stable funding source for mitigation measures. PDM 2005 & 2006 resulted in 60 mitigation approved planning grants and 4 approved project grants totaling over \$2.5 million. Iowa submitted for national consideration, 45 planning and 6 project applications for a total of \$6,124,584.

The PDM 2007 grant award has been the best PDM grant year for the state thus far providing \$2,270,441.33 in funding for mitigation projects. The PDM 2008 and LPDM 2008 grant awards have provided over \$900,000 dollars in funding for mitigation projects. PDM 2007 and PDM 2008 have resulted in 87 approved mitigation planning grants. PDM 2007 also provided funding for three tornado safe rooms. Over the past several years these PDM funds have allowed local communities in Iowa to fund a variety of mitigation projects.

Following PDM 2008, PDM funding opportunities have become less desirable to applicants upon the availability of HMGP funding. Multiple disaster declarations including DR-1688 (3/14/2007), DR-1705 (5/25/2007), DR-1727 (9/14/2007), DR-1737 (1/4/2008), DR-1763 (5/27/2008), DR-1854 (8/13/2009), DR-1877 (2/25/2010), and DR-1880 (3/2/2010) have provided ongoing funding opportunities through the HMGP. This large amount of hazard mitigation funding will provide approximately \$441.5 million in HMGP from 2007 to present.

The HMGP requires only a 15% local match and the availability of funding ensures that eligible and cost effective projects have a higher likelihood of getting approved. Whereas the PDM program requires a 25% local match and goes through a national competitive process for approval. Through a partnership between HSEMD

and Iowa Department of Economic Development (IDED), Community Development Block Grant (CDBG) funds are currently providing 100% of the non-federal share for HMGP and IDED program acquisitions under DR-1763. The CDBG funds alleviate financial burden for both state and local entities and further benefit applicants under the HMGP. These factors also demonstrate the decreased need for using the FMA, RFC, and SRL programs at the current time.

Although funding is made available annually for these programs, ongoing funding from PDM and the HMGP has reduced demand for funds from the FMA, RFC, and SRL programs for present time mitigation funding needs. In particular, since the State contributes 10% cost share for the HMGP, local jurisdictions generally choose not to seek funding for other HMA programs when HMGP funding is available. Once all funding has been utilized from these disasters, potential future projects will be reviewed for eligibility within each of the additional funding opportunities under the PDM, FMA, RFC and SRL programs.

All Iowa counties have been declared as Federal Disaster Areas since 1990. Many of these counties have been impacted by more than one Presidential disaster declaration. Consequently, the State of Iowa has had to ensure that all funded projects were evaluated through the use of Benefit Cost Analysis (BCA) in order to determine the economic benefit. The BCA determined that there were numerous counties and communities would benefit from the projects. But sufficient funds were not available to meet all cost beneficial project applications. BCA ranking determined funding priorities.

Another prioritization factor is the use of mitigation funds to address long-term housing recovery needs when other disaster programs are unable to meet those needs. Priority is given to uninsured or underinsured structures or to the inability of property owners to service replacement housing loans on structures that are substantially damaged or destroyed because of flooding.

The Iowa hazard mitigation program tracks potential hazard mitigation projects from local Notice of Interest (NOI) and local plans that include hazard mitigation measures. This allows the Iowa mitigation staff to determine Unmet Needs trends related to disasters and to share those needs with the representatives of mitigation programs from other agencies of the SHMT.

Iowa also tracks approved projects to determine actual avoided damages that result from completed mitigation projects. This data that is collected is used to support legislative initiatives and adoption of mitigation related codes and standards and to secure state hazard mitigation matching funds.

Hazard Mitigation In Iowa: Measuring Success, an independent study developed in conjunction with FEMA and URS Group, confirmed Iowa's effective use of mitigation programs. This study concluded:

“Examination of Iowa communities implementing flood hazard mitigation programs and projects reveals that mitigation efforts can have measurable benefits after only one event of similar magnitude...the reduction in federal

assistance and the losses avoided to structures and infrastructure following the 2001 flood confirms that flood mitigation efforts throughout Iowa have been worthwhile.”

The *2008 Iowa Mitigation Success Story – Avoided Losses through Property Acquisition and Relocation for Open Space*, a study completed by the HSEMD mitigation staff illustrates the losses avoided due to past mitigation efforts and the importance of continuing to implement mitigation measures in the State of Iowa. There was a total of \$98,707,438 of losses avoided due to past mitigation measures that converted property to open space in this study of 12 communities which had a significant number of acquisitions from past properties and experienced at least a 100+ year flood event in 2008. The mitigation efforts from previous disasters provided considerable benefits following the catastrophic flooding of 2008 once again confirming that mitigation efforts throughout Iowa have been worthwhile.

6. Commitment to a Comprehensive Mitigation Program

Requirement 201.5(b)(4)(i-vi): [The Enhanced Plan must demonstrate] that the State is committed to a comprehensive state mitigation program, which might include any of the following:

- A commitment to support local mitigation planning by providing workshops and training, State planning grants, or coordinated capability development of local officials, including Emergency Management and Floodplain Management certification.
- A Statewide program of hazard mitigation through the development of legislative initiatives, mitigation councils, formation of public/private partnerships, and/or other executive actions that promote hazard mitigation.
- The State provides a portion of the non-Federal match for HMGP and/or other mitigation projects.
- To the extent allowed by State Law, the State requires or encourages local governments to use a current version of a nationally applicable model building code or standard that addresses natural hazards as a basis for design and construction of State sponsored mitigation projects.
- A comprehensive, multi-year plan to mitigate the risks posed to the existing buildings that have been identified as a necessary for post-disaster response and recovery operations.
- A comprehensive description of how the State integrates mitigation into its post-disaster recovery operations.

The State of Iowa has demonstrated that it is and has been committed for years to the establishment, updating, and monitoring of a comprehensive hazard mitigation program as prescribed in Chapter 44 of the Code of Federal Regulations (44 CFR), Section 201.5(b)(4) (i-vi). A review and summary of this plan shows the activities the State has been involved in that fulfill each of the requirements of these provisions in 44 CFR.

Section 201.5(b)(4)(i) calls for a “commitment to support local mitigation planning by providing workshops and training, State planning grants, or coordinated capability development of local officials, including Emergency Management and Floodplain Management certifications.”

Documentation of the Planning Process in section 1.2 describes that HSEMD was working with communities and counties prior to the enactment of the Disaster Mitigation Act of 2000 to encourage the development of local hazard mitigation planning. Many workshops were held to assist in the development of those plans. It was also noted that immediately after the publication of the Interim Final Rule in the Federal Register the HSEMD notified the SHMT of its substance and a few months later conducted a workshop for local governments using FEMA produced

manuals. The production and dissemination of planning guides and sample plans as tools for county emergency management coordinators to use was mentioned in section 1.2 under Integration with Other Planning Efforts. Training and certification for local officials, including floodplain managers is listed as a hazard mitigation goal and measure in the Mitigation Strategy section.

Iowa is committed to comprehensive mitigation programs. The commencement of the Local Hazard Mitigation Planning Initiative, illustrates the proactive nature of Iowa's commitment to support of local mitigation planning. In addition, local planning committees were often assisted by a professional planner from either a Regional Planning Agency or Council of Governments. Prior to the Planning Guidance under the Disaster Mitigation Act of 2000 "How to Guides" Iowa developed the Model Local Hazard Mitigation Planning Guidance Handbook to assist local jurisdictions through their planning process for natural hazard risk reduction. An analysis of the approved mitigation grants applications since 2000 reveal that the majority were for local planning grants.

Section 201.5(b)(4)(ii) states that evidence of commitment to a comprehensive state mitigation program can also be demonstrated by "A Statewide program of hazard mitigation through the development of legislative initiatives, mitigation councils, formation of public/private partnerships, and/or other executive actions that promote hazard mitigation."

Section 201.5(b)(4)(iii) states that if "The State provides a portion of the non-Federal match for HMGP and/or other mitigation projects" it is confirming its commitment to a comprehensive mitigation program. From the Hazard Mitigation Benefits Report: The Iowa Success Story. The report shows the substantial financial commitment of the State of Iowa to hazard mitigation. Over the ten-year period of the study, the state contributed over \$3,500,000 in matching funds for hazard mitigation activities. The State has provided an additional \$1,239,173.01 million in state match from 2007-2010 as of May 2010.

Section 201.5(b)(4)(iv) asserts that commitment can also be demonstrated when "To the extent allowed by State Law, the State requires or encourages local governments to use a current version of a nationally applicable model building code or standard that addresses natural hazards as a basis for design and construction of State sponsored mitigation projects." While the State of Iowa has no mandatory statewide building code, it has encouraged local jurisdictions to adopt one.

Iowa Code section 103A.8C, which was enacted as part of 2009 Iowa Acts, Chapter 142, authorizes the Building Code Commissioner to adopt standards for the design and construction of safe rooms and storm shelters. The rules in this chapter do not require the construction of a weather safe room or rooms for any construction project but establish standards for design and construction of weather safe rooms when their construction is required by another provision of law or is incorporated voluntarily in a construction project.

Section 201.5(b)(4)(v) affirms that “A comprehensive, multi-year plan to mitigate the risks posed to the existing buildings that have been identified as necessary for post-disaster response and recovery operations” also substantiates commitment to a comprehensive program. The administrative plan of HSEMD for the HMGP effectively addresses how mitigation follows post-disaster response and recovery operations.

Finally, Section 201.5(b)(4)(vi) establishes a commitment to a comprehensive program by requiring “A comprehensive description of how the State integrates mitigation into its post-disaster recovery operations.” That description can be found in section 1.5. Local Funding and Technical Assistance. It outlines the steps that the SHMO takes following a federally declared disaster. These steps essentially involve a preliminary damage assessment, consultations with FEMA, notification of potential applicants, and briefings on the Public Assistance program, application process and regulations for the complete process.

In addition, in the post disaster recovery environment, hazard mitigation briefings are performed concurrent with other disaster assistance briefings such as Public Assistance, Individual Assistance (IA), and Small Business Administration (SBA) or Farm Service Agency (FSA) programs. Hazard mitigation program staff is directly involved in the disaster assessment and damage assessment process related to the Governor’s Emergency Proclamation process as well as the Joint Preliminary Damage Assessment (PDA) process related to a Federal Disaster Declaration. In addition, the State Hazard Mitigation Officer (SHMO) coordinates directly with the State Public Assistance (PA) Officer on the implementation of PA Mitigation (406 Mitigation) conducting joint project reviews and joint Benefit Cost Analysis (BCA).

The Iowa hazard mitigation program tracks potential hazard mitigation projects from local Notice of Interest (NOI) and from various types of local plans that include hazard mitigation measures. In the post-disaster environment, hazard mitigation projects are prioritized with the intent of providing for both the most cost effective mitigation as well as for the long-term recovery. This is done specifically by prioritizing available mitigation funds to address long-term housing recovery needs when disaster programs are unable to meet those needs because of uninsured or underinsured structures or the inability of property owners to service replacement housing loans on structures that are substantially damaged or destroyed because of flooding.

The comprehensive tracking of mitigation projects also allows the Iowa mitigation staff to determine Unmet Needs trends related to disasters and to share those needs with the representatives of mitigation programs from other agencies of the SHMT involved in the larger recovery effort.

Finally, Iowa tracks all approved projects to determine actual avoided damages that result from mitigation projects that have been completed where damages that would have occurred are avoided. This long term effort along with the data that is collected is utilized to support legislative initiatives, promote ongoing state matching funds to support hazard mitigation, encourage adoption of mitigation related codes and standards.