

Chapter 4: Mitigation Goals and Strategies

Chapter 4 discusses mitigation strategies for the hazards that have occurred and are probable in the City of Darlington, as indicated in Chapter 3. This chapter also identifies parties that would be responsible for implementation of the strategies and potential partners that could provide assistance. At the core of these mitigation strategies is education and cooperation. Community members are more likely to embrace mitigation measures if they understand how those actions can limit the economic, social, and environmental impact of hazards. Further, governmental agencies and jurisdictions are more likely to develop information networks when there is a clearly understood common goal of decreasing the impact of disasters.

Following the outlaying of overall goals, mitigation strategies that are applicable to all hazards are discussed first, followed by disaster specific mitigation strategies.

HAZARD MITIGATION GOALS

The Plan Commission participated in an exercise to identify the highest priority goals for this Multi-Hazard Mitigation Plan. The project team presented goals and objectives from the 2004 plan; through discussion, goal statements were clarified and revised to better match the current needs of the City. These are the goal statements upon which this Plan is based:

1. **Prevent future loss of life and property**
2. **Properly plan future land use and transportation systems to minimize hazards**
3. **Care for public and environmental health**
4. **Protect sensitive populations (elderly, children, low income families, tourists)**
5. **Prevent future risk of hazards in highly vulnerable areas**
6. **Help people protect themselves**
7. **Promote the use of partnerships in hazard mitigation**

HAZARD MITIGATION STRATEGY PRIORITIZATION PROCESS

The project team and members of the Plan Commission completed an assessment of ongoing or past mitigation strategies, and then used this information to revise, update, prioritize, and provide additional strategies. Additional guidance was attained from a FEMA State and Local Mitigation Planning How-To Guide.⁴⁴

A five-stage process was undertaken to identify priority mitigation strategies in this Plan.

Stage One: Assessment of Existing Strategies

During a worksession prior to the March 10, 2009, Plan Commission meeting, members of the Commission and the project team completed an assessment of all strategies from the 2004 plan. This assessment documented the current status of each strategy, whether it had been completed or was ongoing, and its overall effectiveness. Strategies with higher priority were emphasized during the worksession. Figure 4.1 documents the results of the worksession.

⁴⁴ Federal Emergency Management Agency. *State and Local Mitigation Planning How-To Guide: Developing the Mitigation Plan*. April 2003.

Figure 4.1: Assessment of 2004 Hazard Mitigation Strategies

▼ Strategies from 2004 Hazard Mitigation Plan ▼	Completed?	Ongoing?	Notes and Future Changes
FLOOD			
Remain knowledgeable of Flood Mitigation Plan		X	
Review Flood Mitigation Plan		X	To be reviewed as part of annual Tabletop Exercises
Analyze Repetitive Loss Properties	X	X	Completed, but should be revisited in new plan in the Flood Mitigation Section
Inventory all Properties in the Floodplain (Letters to solicit interested in floodproofing)	X	X	To be reviewed annually as part of the new Flood Mitigation Strategies
Continue River Maintenance Program		X	An ongoing program, included as part of Tree Management as well as Stormwater Enhancements
Assess Participation in Community Rating System			Not completed but suggested for future review in the Flood Mitigation Section
Invest in Ongoing Flood Education (Newspaper about flood related issues)	X	X	Not completed but suggested for public outreach and education
Periodically Review Emergency Response Process			Completed every 5 years
Distribute Flood Shields	X	X	Effective system in place - maintain
Update Flood Alert Warning (List of residents in harm's way)	X		Should be updated to include sensitive populations, documented in public outreach and education
Conduct Pre- and Post-Flood Inspection	X	X	Effective strategy that should remain in this updated plan
Document Flood Event	X	X	Effective strategy that should remain in updated plan
Regularly Review National Flood Insurance Program (NFIP) Regulations		X	Should remain as a strategy in new plan
Assist Mitigation Activity (Application for funding)	X	X	Very successful in attaining grant funding for flood mitigation; continue this
SEVERE THUNDERSTORM			
Include Severe Thunderstorm Education			Suggested to be included as part of Main Street Program activities.

▼ Strategies from 2004 Hazard Mitigation Plan ▼	Completed?	Ongoing?	Notes and Future Changes
Align Building Codes (to withstand high winds and hail)	X	X	City codes aligns with State standards
Maintain Early Warning System	X	X	2 warning systems in place, 1 st Wednesday of each month practiced
Manage Trees		X	County Forester maintains trees, Collaborative program between County and City suggested along the Pecatonica River
TORNADOES			
Increase Public Awareness about the Dangers of Tornadoes		X	Fire Department has training for storm spotters
Align Building Codes	X	X	City codes aligns with State standards
EXTREME TEMPERATURES			
Conduct Public Outreach			Should be coupled with other mitigation outreach efforts
WINTER WEATHER			
Maintain Roads	X	X	Cooperation with County, State, and Public Works
DROUGHT			
Invest in Water Conservation and Public Awareness			Should be coupled with other mitigation outreach efforts
MULTI-HAZARDS			
Provide NOAA Radios			Pursue grants through NOAA
Introduce Education			Should be coupled with other mitigation outreach efforts

Stage Two: Assembling Strategies

Following input from the project team and Plan Commission members on strategies from the City’s 2004 plan, a new list of strategies was developed. This list included strategies discussed at previous Plan Commission meetings, a revised list of strategies from the project team/Plan Commission assessment of the 2004 strategies, and new strategies appropriate for the City of Darlington from FEMA’s mitigation guide.

Stage Three: Strategy Review

With an understanding of hazard risks in the City, the Plan Commission’s initial input on mitigation strategy priorities, and initial community and jurisdictional input on mitigation strategies from previous meetings, the project team presented a list of potential strategies for each hazard at the March 10, 2009 Plan Commission meeting. The project team facilitated a dialogue with participants to elicit input, questions, and concerns for each strategy. Participants were then asked to prioritize their top strategies.

Stage Four: Draft Strategy Prioritization

Armed with a more thorough understanding of benefits, drawbacks, and perceptions of each strategy based on input from the Plan Commission, the project team then evaluated the benefits and drawbacks/costs of each strategy to develop a preliminary prioritization. This analysis is summarized in Tables B1 – B6 in Appendix B.

The following ten criteria were considered when identifying the benefits and drawbacks of each strategy. Criteria three through ten are a part of a prioritization system developed by FEMA called STAPLEE (based on the first letter of each strategy, as highlighted below). In part of their hazard mitigation planning, some communities have used a purely quantitative process to score each strategy for each of the STAPLEE criteria. In the case of the City of Darlington, it was determined that a qualitative, holistic evaluation process would produce the most meaningful prioritization.

1. Ability to achieve one or more of the City of Darlington Hazard Mitigation Goals
2. Community support
3. Ability to be implemented (potential funding available)
4. **S**ocial impacts
5. **T**echnical feasibility
6. **A**dministrative requirements
7. **P**olitical support
8. **L**egality
9. **E**nvironmental impacts
10. **E**conomic impacts / costs of implementing

Stage Five: Draft Multi-Hazard Mitigation Plan

Based on the input provided from the Plan Commission and the above criteria, the project team then refined the list of priority mitigation strategies and also identified responsible parties, potential partners, and implementation timelines. These were incorporated into the first Draft Multi-Hazard Mitigation Plan in June 2009, and included later in this chapter.

PRIORITY HAZARD MITIGATION STRATEGY SUMMARY TABLES

The following figures summarize the mitigation strategies, responsible parties, potential partners, and implementation timelines for each potential natural hazard in the City. These strategies are then discussed in further detail following these figures.

Table B1 – B6 in Appendix B lists all of the potential mitigation strategies that were evaluated for each hazard and describes the benefits and drawbacks/costs of each strategy. The highest priority strategies are divided into two categories; First Priority and Second Priority for each hazard. Following the detailed description of the highest priority strategies, “other” strategies are listed as a possible larger menu of potential strategies that the City may employ as it advances implementation of this Plan.

A summary table lists all strategies in Figure 4.2, their priority, and the location the strategy addresses. This table provides an overview of strategies that are discussed later in this chapter.

Summary Table – Figure 4.2

Figure 4.2: Summary of Priority Mitigation Strategies

Mitigation Strategy	First Priority	Second Priority
All Hazards	Pursue Regular Community Outreach and Education	Protect Critical Facilities and Infrastructure
	Improve Coordination and Communication Among Emergency Responders and Regional Groups	
	Engage in Annual Tabletop Exercises to Review Hazard Protocols	
	Maintain and Augment Hazard Warning Systems	
	Provide Adequate Emergency and Power Sources	
	Improve Planning and Regulatory Practices	
Flooding	Pursue Regular Community Outreach and Education	Re-Review Official Floodplain Maps
	Creatively Enhance Stormwater Management and Erosion Control	Pursue Targeted Approaches to Protect Water Quality
	Continue Removal of Structures from Floodplain, Focusing on Repetitive Loss Structures	* Increase Access to and Effectiveness of Flood Insurance
	Protect Critical Facilities and Infrastructure	
	Continue to Document, Analyze, and Learn from Flood Events	
	Promote Creation of a Pecatonica River Watershed Alliance	
Severe Storms/ Winter Storms	Pursue Regular Community Outreach and Education	Promote Active Tree Management
	Develop Reliable Evacuation Routes from Key Places of Assembly	Protect Critical Facilities and Infrastructure
Drought	none	Pursue Regular Community Outreach and Education
		Promote Use of Best Management Practices for Yards and Agriculture
Extreme Temperatures	Pursue Regular Community Outreach and Education	Promote and Improve Use of Cooling Centers
Earthquakes	none	Pursue Regular Community Outreach and Education
		Protect Critical Facilities and Infrastructure
Human-Caused Hazard and Disease Outbreak	Improve Coordination and Communication Among Emergency Responders	Identify and Address Infrastructure Hazard Vulnerability
	Pursue Regular Community Outreach and Education	Promote and Implement Modern Hazard Warning Systems

* Mitigation Strategies directly related to continued compliance with NFIP

Note: See Appendix B, Table B1 for list and description of all potential mitigation strategies.

Mitigation strategies are separated into priorities. First and Second Priorities are described in detail in this chapter. Additionally, future strategies for consideration for each hazard are included as “other” strategies.

- **First Priority:** Includes highest priority strategies; begin implementation in as soon as possible following adoption of Plan, and ideally complete within five years.
- **Second Priority:** Includes second-highest priority strategies; begin implementation following completion or at least initiation of First Priority strategies, or as unique opportunities may present themselves.
- **Other Potential Strategies:** Includes strategies that are not currently identified as priorities, but are included for future consideration as the City moves forward with implementation of this Plan.

The following acronyms are used in the identification of responsible parties and potential partners:

- FEMA Federal Emergency Management Agency
- WDOT Wisconsin Department of Transportation
- WEM Wisconsin Emergency Management
- WDNR Wisconsin Department of Natural Resources
- NRCS Natural Resources Conservation Service
- LCEM Lafayette County Emergency Management
- LCSWCD Lafayette County Soil and Water Conservation District
- UWEX University of Wisconsin-Extension
- USGS United States Geological Survey

PRIORITY MITIGATION STRATEGIES FOR ALL HAZARDS

The following five mitigation strategies are applicable to all types of hazards. These strategies should be considered and implemented in a comprehensive approach addressing multiple hazards.

Strategy 1: Pursue Regular Community Outreach and Education

Local governments are best equipped to provide residents and property owners with information about the effect of disasters, methods for preventing damages, and the actions to take when disasters threaten the locality. Ideally, such information is distributed annually or at the beginning of each hazard season. Traditional points of contact between the local government and the community are effective means to provide information and resources. Such points of contact include the City meetings; building, zoning, and burning permitting processes; parks and recreation permitting processes; and school classrooms. Web sites, e-mail list-serves, local cable and radio stations, newspaper articles, and informational fliers (that could, for example, be included with utility or tax bill mailings) can also reach a large audience at little cost.

Often there are misconceptions about the costs, benefits, and implementation of hazard mitigation strategies. Governmental jurisdictions, agencies, and organizational partners should lead by example to educate the public about good practices and disaster resistance. Visual and economic proof that mitigation strategies reduce the economic and social impact of disasters is one of the most effective educational tools available. Elected officials and department heads should be educated on the financial and social impacts of disasters, mitigation strategies, and the need to work together in order implement this Multi-Hazard Mitigation Plan most effectively.

Educational efforts should focus on the simple changes in behavior that can minimize risks. Self-instigated mitigation strategies can be accomplished at the household level; for example, clearing dead and downed timber and other debris from drainage areas or storm sewer inlets, observing construction site and farmland soil conservation practices, and using construction methods that reduce damage from hazards. Insurance agencies and lenders can help disseminate information on household mitigation strategies, as damages due to hazards have a direct impact on a property owner’s investment and possible insurance payouts.

Other specific examples of education and outreach tools include the following:

- **Web:** The City of Darlington may create a simple web page as part of the City’s site that provides information on disaster preparedness and hazard mitigation. The page would target both government agencies and the public within the City.
- **Wisconsin Main Street Program:** The community’s downtown Main Street program is an excellent tool to reach downtown businesses and property owners with information related to the City’s hazard mitigation efforts. Coordination with the Main Street coordinator will be key. As part of the “welcome package” for new businesses, residents, and property owners in the downtown, the City/Main Street program could include information on hazard preparedness.
- **Elementary and Secondary School Curriculum:** Curriculum may be enhanced by programs such as the “Master of Disaster” Program from Red Cross or the Project WET program on the water cycle.
- **Public Access Television:** Local public or government access cable stations can be used to play mitigation videos developed by state and national organizations and agencies.
- **Construction Education:** Area contractors and instructors of building vocations should be provided up-to-date information on hazard resistant construction techniques. Part of this could be accomplished through the normal land development and building permit processes.
- **Severe Weather Awareness Week:** This week occurs in March as a tool to promote awareness of hazard preparedness and mitigation. This week is an opportunity for schools, businesses, individuals, and organizations to review their severe weather action plans.
- **Education Targeting Vulnerable Populations:** Education and outreach efforts should be balanced between efforts to communicate to people city-wide and focusing particular attention on high risk groups, such as people residing in the floodplain, the elderly, low-income persons, and people residing in mobile homes.
- **Real Estate Deed Disclosure:** Informational fliers that identify rights and requirements of buyers, sellers, and lenders, and provide resources to conduct additional research on properties, could prevent people from investing in problematic properties. Such prevention will benefit everyone, as tax dollars fund disaster assistance and subsidize floodplain insurance payments, and high-risk properties inflate insurance premiums.

Priority: First Priority

Location: Citywide, with a particular focus on the downtown/floodplain area

Responsible Parties: City of Darlington

Potential Partners: WEM, Main Street coordinator, local media, Darlington School District, realtors

Funding Source: City of Darlington budget, with potential assistance from FEMA mitigation grant, other public grant funds, and/or private sponsorship

Strategy 2: Improve Coordination and Communication Among Emergency Responders and Regional Groups

Disasters cross jurisdictional boundaries and affect numerous aspects of a community, from physical safety to economic stability and environmental condition. Also, being aware of neighboring communities’ plans for growth and development or infrastructure improvements and expansions can lead to better decision making regarding regional land use and hazard mitigation. Therefore, effective mitigation requires that mitigation strategies also cross jurisdictional boundaries to include Lafayette County and neighboring townships, villages, cities, and counties, as well as across department and agency lines.

Through the planning process, the project team observed opportunities for improved intergovernmental/interagency coordination. In particular, City-County coordination on hazard mitigation and disaster preparedness could be improved. More coordinated regional approaches would improve rapid and cost-effective delivery of emergency services, given that the majority of disasters cause physical, economic, and environmental impacts at the regional scale. Opportunities for efficiencies are also present. Minimally, more regular meetings among emergency management personnel at the City and County are advised.

During the writing of this Plan, Lafayette County was going through an update to its hazard mitigation plan. As future hazard mitigation plan updates occur, the City and County can collaborate more on hazard mitigation to ensure the goals, objectives, and mitigation strategies properly align.

Priority: First Priority

Location: City of Darlington and surrounding areas

Responsible Parties: City of Darlington Emergency Management function

Potential Partners: County Sheriff's Department/LCEM, town governments

Funding Source: City of Darlington budget, with potential assistance from public grant funds and/or private sponsorship.

Strategy 3: Engage in Annual Tabletop Exercises to Review Hazard Protocols

A tabletop exercise is a low cost/low stress activity designed to simulate various emergency situations for key appointed/elected officials that play a role in emergency management situations. These exercises allow all participants the opportunity to openly discuss the various roles and actions that might result from a given situation.

The City of Darlington intends to conduct annual tabletop exercises to ensure all City staff, as well as elected and appointed officials, are aware of emergency management protocol. Annual exercises ensure that all new staff and officials are knowledgeable of emergency management. The City of Darlington will consider partnering with neighboring communities and the County to create a more comprehensive set of tabletop exercises. WEM provides guidance on conducting tabletop exercises for local communities.

As part of the annual exercises, the City will review the Flood Notification Plan and associated hazard mitigation planning documents to ensure their relevance.

Priority: First Priority

Location: City of Darlington

Responsible Parties: City of Darlington

Potential Partners: WDOT, County Highway Department, Sheriff Department, Fire Department, EMS LCEM, neighboring communities

Funding Source: FEMA Mitigation Grant Program, City of Darlington, WDOT

Strategy 4: Maintain and Augment Hazard Warning Systems

The City intends to maintain its current hazard warning system (sirens), while also providing seasonal reminders to residents on how to interpret the hazard warning system. Unlike many other communities, the City's siren system is functional. Many among the City's stable, aging population will likely respond better to sirens than to some of the more modern systems.

Additionally, the City will promote the use of more modern hazard warning systems such as NOAA weather radios. NOAA weather radios continuously broadcast National Weather Service (NWS) forecasts, warnings, and other crucial weather information as well as provide direct warnings to the public for natural, man-made, or technological hazards 24-hours a day. This network of radio stations is the primary trigger for activating the national Emergency Alert System (EAS) on commercial radio, television, and cable networks. NWS broadcasts also include post-event information for natural and human caused hazards.

In addition to NOAA radios, the City may update and expand its system of warning the public and local governments about impending hazards. For example, a modern system of automatic e-mails, phone messages, or cell phone text messages to warn of a hazard event will be explored as well as continued exploration into reverse 911.

Priority: First Priority

Location: City of Darlington

Responsible Parties: City of Darlington

Potential Partners: WEM, school district, owners/managers of facilities with vulnerable populations, LCEM

Funding Source: FEMA Mitigation Grant program, City of Darlington, with potential assistance from other public grant funds and/or private sponsorship

Strategy 5: Provide Adequate Emergency and Power Sources

Currently the City of Darlington does not have adequate facilities or equipment to operate the Emergency Operation Center (EOC) during the event of a natural hazard. The EOC is designated to the City Council chamber room in the Municipal Building, but this building lacks a generator for backup power and redundant communications systems. The

City of Darlington will work to equip the entire building with backup power, secure an additional phone line, and enhance and introduce other communication tools including the internet and mobile devices. The City may coordinate with the County in possibly seeking a joint grant for upgrading the Emergency Operations Centers, each of which are positioned across from each other on Main Street. Other key buildings including the hospital, schools, and the fire station do have backup power.

The City intends to also be equipped to provide emergency power sources to rural residents with less reliable power sources. The City will work to ensure that shelters are adequately equipped with emergency services for up to two weeks.

Priority: First Priority

Location: City Emergency Operations Center in the City Hall

Responsible Parties: City of Darlington, Utilities,

Potential Partners: Sheriff Department, Fire Department, LCEM, School District

Funding Source: FEMA Mitigation Grant program, USDA-Rural Development (Community Facilities Program), City of Darlington, Local utility companies

Strategy 6: Improve Planning and Regulatory Practices

This Multi-Hazard Mitigation Plan is an integral part of the City's planning and land use management efforts, since land use is a major factor in hazard vulnerability. The following specific examples of planning and regulatory practices will be a part of the City's multi-hazard mitigation strategy:

Integrate Flood Notification Plan, Emergency Operations Plan, and Hazard Mitigation Plan

The creation of this Hazard Mitigation Plan is most effective when it works in concert with other related planning efforts. The City has a completed Emergency Operation Plan that is currently maintained by the Police Chief. The City must ensure that the Emergency Operation Plan is regularly updated to properly provide City officials and staff with appropriate contacts and guidelines during an emergency. Additionally, the Flood Notification Plan provides data on flood elevations and which areas of the City are at risk during floods. This document should be updated as additional flood data is collected to ensure the flood warning levels are as accurate as possible. The City intends to combine both the Emergency Operations Plan and the Flood Notification Plan to create a more streamlined emergency management document in case of natural hazards, particularly flooding.

Pursue Joint Hazard Mitigation Plan and Comprehensive Plan Updates in 2014

Comprehensive planning processes provide opportunities to integrate hazard mitigation strategies into daily planning and land use policy decisions. Land use planning establishes guidelines for the use and development of land, and is generally used to guide decisions on zoning changes and subdivisions. Land use planning also helps communities organize the use of lands and their resources according to the land's capabilities to best meet people's needs over time. Land that is prone to natural hazards, due to location, topography, soils, geology, or plant cover, will be identified as hazard-prone within the land use element of the comprehensive plan, which must be updated by 2015 under Wisconsin law. The Risk Assessment Map at the end of Chapter 3 will prove particularly useful when considering future land uses.

While hazard mitigation was generally considered when preparing the 2005 City of Darlington Comprehensive Plan, the City has a unique opportunity to create an integrated plan in 2014-2015 when both the comprehensive plan and this Hazard Mitigation Plan will need to be updated. Combining both planning efforts at that time (and perhaps into one document) would result in improved efficiency, increase the potential for identifying joint grant opportunities to complete the plans, help further focus development away from high hazard areas, and in general arrive at paired land use/hazard mitigation strategies. Pursuing more sustainable community design techniques—such as progressive stormwater management, enhanced protection of steep slopes, and advancing alternative energy sources—through such an effort will also help to further minimize potential natural hazards.

Adopt Zoning Code Amendments and Consistently Enforce Code

When enforced, zoning is a powerful mitigation tool. A zoning ordinance is the set of rules that a local government adopts to regulate the future use of land, particularly when new development is proposed. Zoning ordinances may

also include rules for certain qualities of new development such as site planning, landscaping, and signage. The City is responsibly for enforcement and permit issuance within the City's municipal boundaries.

As rezoning of land is considered in the future, local officials should consider the potential impact that a zoning change could have on natural resources that could directly impact natural hazards. Further, the City's zoning ordinance should be updated, as necessary, to include the following requirements:

- Site plan review for larger projects and projects in flood-prone areas. A site plan is a map of a proposed development usually submitted as part of an application for zoning change, variance, or conditional/special use permit, and indicates site topography, drainage, vegetation, building location, parking, access, and utility locations.
- Preparation and submittal of a "site assessment checklist" that would identify natural features (and potential hazards) in and around a site before land is divided. The checklist could require that the developer compare the project to hazards shown on the Risk Assessment map in Chapter 3.
- Any new mobile homes must include anchored tie downs to protect these homes from severe storms.
- New or expanded mobile home parks, larger apartments, elderly care facilities, campgrounds, RV parks, and other similar facilities must provide a storm shelter.
- Modern environmental protection strategies, including on-site water infiltration and a requirement that all new development be kept out of the environmental corridor as mapped in the City's Comprehensive Plan, Planned Land Use map. The environmental corridor includes 100 year floodplain, wetlands, water bodies, and steep slopes.
- Containers of hazardous materials such as petroleum or chemicals must not be located in floodplain areas.
- The latest wetland and floodplain zoning models and standards to ensure that hazard-prone areas are considered in the process of obtaining a zoning or building permit.
- Utility lines should be installed underground wherever possible.

Update Subdivision Ordinance and Consistently Enforce

When including modern standards and consistently enforced, subdivision ordinances are effective hazard mitigation tools. A subdivision ordinance is the set of rules that a government adopts to regulate the division of larger parcels of land into smaller lots for sale and development. A subdivision ordinance typically defines requirements that the subdivider must meet before lots may be sold. These may include requirements for lot sizes, roads, utilities, grading, and stormwater management.

The City of Darlington will explore a complete subdivision ordinance re-write to incorporate more progressive methods to protect natural features and minimize natural hazards. The City's subdivision ordinance not only applies to the City of Darlington, but also to the 1.5 mile extraterritorial jurisdictional area (ETJ) beyond the City limits. Further, although the ordinance could be clearer, it is intended to apply to both larger subdivisions and certified survey maps for as few as one lot. Through a subdivision ordinance update, the City of Darlington can have the ability to improve land division to minimize erosion, stormwater, and other conditions that exacerbate flooding over a fairly large area.

An updated City subdivision ordinance should minimally include the following requirements, related to hazard mitigation:

- Land divider must provide, with preliminary submittals, a detailed "site assessment checklist" that would identify natural features (and potential hazards) in and around a site before land is divided.
- For each land division, submittal of detailed preliminary plats or certified survey maps with floodplain, wetland, steep slope, and other hazard-prone area boundaries clearly identified. At times, identification of these areas will require a detailed survey of the property, and its environmental features.
- Quantified stormwater management requirements that are based on the area of impervious surfaces, such as pavement and roofs, and Best Management Practices (BMPs) for stormwater management. BMPs are policies, practices, procedures, or structures that are recognized to be the most effective and practical means of managing a system, such as stormwater management or erosion control.

- All new buildable lots must be kept out of the environmental corridor as mapped in the City’s Comprehensive Plan, Planned Land Use map. The environmental corridor includes 100 year floodplain, wetlands, water bodies, and steep slopes.
- Developers of mobile home parks, industrial parks, and campgrounds should provide a storm shelter.
- New utility lines must be installed underground.

Update Comprehensive Outdoor Recreation Plan

The purpose of a comprehensive outdoor recreation plan, more commonly referred to as a park and open space plan, is to guide the acquisition, preservation, and development of land for park, recreation, and related open space uses in an entire community. These plans enable communities to obtain grants for park and open space land acquisition, which may serve multiple recreation and hazard mitigation objectives. In fact, if prepared and updated once every five years, this type of plan enables communities to apply to the state Stewardship or federal Land and Water Conservation (LAWCON) programs to fund land acquisition for conservation and passive recreational purposes. Open space designation of disaster-prone areas can eliminate the opportunity for development that will continue to incur repetitive damages.

The City intends to update the 2008 plan every five years and to include joint recreation/open space/hazard mitigation projects within it.



Maintain Effective Capital Improvement Planning

Decisions to extend roads, waste water treatment facilities, or utilities into hazard-prone areas will increase the risk that additional public funds will be necessary at some point to repair damage. Additionally, public investment in, and expansion of, public infrastructure in an area implies that the area is “safe” for development and private investment and may inadvertently promote private developments in hazard prone areas. Expansion of existing capital improvements, or investment in new capital improvements should be evaluated for “disaster sustainability.” Location and investment should be directed by risk assessment and best management land use practices, in addition to existing capital improvement criterion. This evaluation is extremely important in developing areas.

Consider Partnering on Purchase of Conservation Easements or Development Rights

By purchasing an easement, a local government, utility, or non-profit land conservation agency compensates an owner for partial rights to use a property. A common example is a utility easement: a property owner will provide the right to lay public utilities across their land and then agrees not to build in the area. As a hazard mitigation strategy, easements can prevent a property from being developed if to do so would not be in accordance with a community’s land use plan. This is typically referred to as a conservation easement, or alternatively as a purchase of development rights. Purchasing development rights (easements) of vacant, hazard-prone properties is sometimes possible where fee simple acquisition is not practical or desired.

While not necessarily a tool within the City limits, the City may benefit from partnering with Lafayette County or other regional efforts to secure conservation easements or development rights purchases in other parts of the Pecatonica River watershed. For instance, the City and County can work with the USDA-NRCS to create a program to purchase agricultural easements on frequently flooded and/or particularly erodible farmlands along the Pecatonica River and tributary streams, creating greater flood storage and restoring native vegetation in those areas.

Priority: First priority for ordinance updates, second priority for others

Location: City of Darlington and its 1.5 mile extraterritorial jurisdiction as focus

Responsible Parties: City of Darlington, Lafayette County

Potential Partners: City of Darlington Plan Commission, LCEM, USDA-NRCS, WDNR, County Soil and Water

Funding Source: “Smart Growth” comprehensive planning/hazard mitigation planning grant funds, City of Darlington, USDA-NRCS (easement program)

Strategy 7: Protect Critical Facilities and Infrastructure

Protection of critical facilities is a vital hazard mitigation measure to ensure that emergency responders and their facilities are protected from disasters, so that they are able to respond quickly during hazard events. Critical facilities include emergency operations centers, police and fire stations, courthouses, rescue/ambulance services, medical facilities (hospitals, nursing homes, and clinics), utilities (water, sewer, electric, gas, and communications), and transportation facilities (critical roads, bridges, and airports). For Darlington, these critical facilities are illustrated on the Risk Assessment map in Chapter 3.

In addition to these critical facilities, major places of assembly should also be particularly prioritized in the event of disaster to protect these concentrations of people. Major places of assembly include schools, major employers, large multi-family housing complexes, auditoriums, campgrounds, the County Fairgrounds, and other large facilities. Protection of safe routes and communications to and from these places should be prioritized, as well as evacuation plans. Major places of assembly are also illustrated on the Risk Assessment map in Chapter 3.

Lastly, protection of critical infrastructure, including major roads and utilities, is essential to ensuring access to and from communities, neighborhoods, and places of assembly (e.g., fairgrounds) during disasters as well as providing needed services including water, communications, and power, to residents and businesses in the City. The Main Street bridge is perhaps the single, most important transportation route in the City. The City will work with WDOT, WDNR, and others on efforts to assure that this bridge remains open during natural hazard events.

Priority: Second Priority

Location: Citywide, and in key locations such as the Main Street Bridge

Responsible Parties: City of Darlington, utilities, fire department, police department

Potential Partners: School District, owners/managers of places of assembly, sheriff’s department, County highway department, LCEM, WDOT, WDNR

Funding Source: City of Darlington, with potential assistance from public grant funds and/or private sponsorship; WDOT/federal transportation grants

PRIORITY FLOOD MITIGATION STRATEGIES

Strategy 1: Pursue Regular Community Outreach and Education

Strategy 1 under the “Priority Mitigation Strategies for All Hazards” section above provides an overview of the Community Outreach and Education strategy.

As it relates to flooding specifically, continual outreach with the community is critical to ensure that the objectives of the City’s flood mitigation and preparedness programs are understood and that residents, businesses, and property owners have several mechanisms for getting accurate information, voicing opinions, and shaping actions. Specifically, the flood mitigation outreach and education should focus on communications in the following areas:

- **Maintain List of Floodplain Property Owners:** To better document flood hazards and maintain communications, the City created a list of all property owners that may be impacted by flooding as a result of the 2004 plan. The City intends to annually maintain this list to ensure contact information and property owners are accurate. The City will then utilize this list for multiple purposes related to flooding.
- **Communicate Flood Mitigation Strategy:** As the City and other partners work to implement this Multi-Hazard Mitigation Plan, it will be critical to keep the community continually up-to-date and treat community members as implementation partners on the objectives, details, and progress of the flood mitigation actions being proposed and executed. Updates will be explored through information shared with community organizations such as the

Main Street program, community-wide meetings and direct project update mailings to residents, property owners, and business owners in areas vulnerable to flooding.

- **Enhance Awareness/Reminders of Procedures During Flood Events:** Coordination of appropriate procedures for emergency providers, as well as instructions for homeowners and residents, will help prevent and reduce loss to life and property during flood events. The City will look to the Emergency Operations Plan to determine the appropriate emergency management personnel. Additionally the Flood Notification Plan will be used to guide the City in evacuations, flood shield distribution, and road/bridge closures. The possibility of combining the Emergency Operations Plan and Flood Notification Plan in one document will be explored. The City will ensure that new property owners in the floodplain are aware of the flood shields, their distribution, and their application; the Main Street program could be utilized to help distribute this information. The City intends to explore the possibility of developing a dedicated webpage on its site for up-to-date information. Finally, each spring, the City intends to work with the local media to publish a story reminding the area residents to be prepared for spring and summer flooding.
- **Increase Awareness of Floodplain Regulations:** Frequently, City residents and property owners do not understand the limitations to improvements that can be made to structures in the floodplain and floodway due to local, state, and federal floodplain regulations. The City can help allay these frustrations by providing published materials that explain the regulations in lay terms and also give clear definitions and examples of what does and does not constitute a “substantial improvement” to property; this threshold initiates stricter regulations. The City also intends to work with the community to ensure current individuals enrolled in the program remain in good standing.

Priority: First Priority

Location: Citywide, particularly in flood prone areas identified on the Risk Assessment maps

Responsible Parties: City of Darlington

Potential Partners: Red Cross, Main Street program, Utilities, WEM, local media, local organizations and community groups, lenders, contractors

Funding Source: City of Darlington, Red Cross, with potential assistance from public grant funds and/or private sponsorship

Strategy 2: Creatively Enhance Stormwater Management and Erosion Control

The City of Darlington intends to pursue various initiatives to improve stormwater management and erosion control in and near the City. Improved stormwater management and erosion control practices have the potential to minimize the effect of flooding on private property and business activities. The range of approaches that the City may pursue includes:

- Incorporate progressive stormwater management and erosion control provisions in its recommended zoning and subdivision ordinance updates. (See Strategy 7 under “Priority Mitigation Strategies for All Hazards.”) The effort would require progressive erosion control practices during private development site construction and ongoing stormwater management after construction for subdivisions and other larger projects to prevent flooding and protect water quality.
- Promote Best Management Practices for agriculture and open space to reduce stormwater run-off erosion and ensure existing practices remain in place. Examples of such practices include contour farming, planting hydrophyte crops that have a high water absorption rate, conserving crop residues after harvesting, limiting tillage depth and speed, extending crop rotations to reduce incidence of summer fallow, strip cropping, fertilizing with animal manure, and maintaining vegetative buffers along the Pecatonica River and its tributaries. Projects that utilize native vegetation would be eligible for the WDNR Landowner Incentive Program targeting the Driftless Area through 2010 (see sidebar box).

Driftless Area Prairie and Savanna Habitat Landowner Incentive Program 2009-2010

- \$950,000 set aside for private land habitat management.
- Projects include control of invasive species, planting native species, and other projects to manage or restore prairie or oak savanna/woodland habitat for Species of Greatest Conservation Need.

- Conduct regular inspections and clearance of culverts, ditches, and storm sewer inlets to assure that they are free from blockage.
- Consider storm sewer shut off valves that allow water to travel in one direction – down storm sewer inlets and away from the City. City officials document that some downtown flooding is a result of water backing up and then pouring up and out of certain stormwater inlets.
- Coordinate with others on the management of debris in the Pecatonica River and its tributaries. The City may coordinate with the County and the University of Wisconsin-Extension to organize an annual spring survey and removal of obstructions in the Pecatonica River and its tributary streams. Such a survey would allow the City and County to better understand the surface water system and repeat problem areas. The City may also encourage the Soil and Water Conservation Service and/or the University of Wisconsin-Extension to help educate property owners on river management techniques.
- Explore the possibility of partnerships for broader restoration projects along the Pecatonica River and its tributary streams to minimize flood impacts downstream, in part by reconnecting waterways with their natural floodplains (see second sidebar box).

East Branch Pecatonica Restoration

The Nature Conservancy—in partnership with WDNR, the Wisconsin Waterfowl Association, and UW-Madison—have restored two sections of the East Branch of the Pecatonica River on its land south of Barneveld in the past three years. The restoration work resulted in the removal of excess sediment from the stream bank that has prevented the waters of the Pecatonica from reaching its floodplain during flood events. The project is expected to double the amount of floodplain in this part of the river, so that it can store more water and retain nutrients that would otherwise contribute to flooding and pollution problems downstream. The projects have been very successful to date and have suggested a model for additional restoration work.

Priority: First Priority for ordinances, second priority for other listed efforts

Location: Citywide, and areas upstream

Responsible Parties: City of Darlington, Lafayette County Soil and Water Conversation District, NRCS, property owners

Potential Partners: LCEM, University of Wisconsin-Extension, the Nature Conservancy

Funding Source: FEMA Mitigation Grant Program, City of Darlington, WDNR stormwater planning grants, USDA-NRCS, The Nature Conservancy

Strategy 3: Continue Removal of Structures from Floodplain, focusing on Repetitive Loss Structures

Acquisition and relocation of buildings out of the floodplain is a mitigation strategy that offers the potential to *eliminate* vulnerability to flood hazards in heavily and repeatedly affected areas. The City of Darlington has secured millions of dollars in grant money to relocate businesses out of the floodplain. Still, repetitive loss structures remain within the 100 year floodplain. Specifically, there are 11 repetitive loss structures that remain in the downtown area of the City of Darlington that have accumulated insurance claims of over \$324,000. Advancing the purchase and relocation of these buildings will reduce flood damages and provide the City with new opportunities. Map 6 illustrates structures that remain in the floodplain.

Priority: First Priority

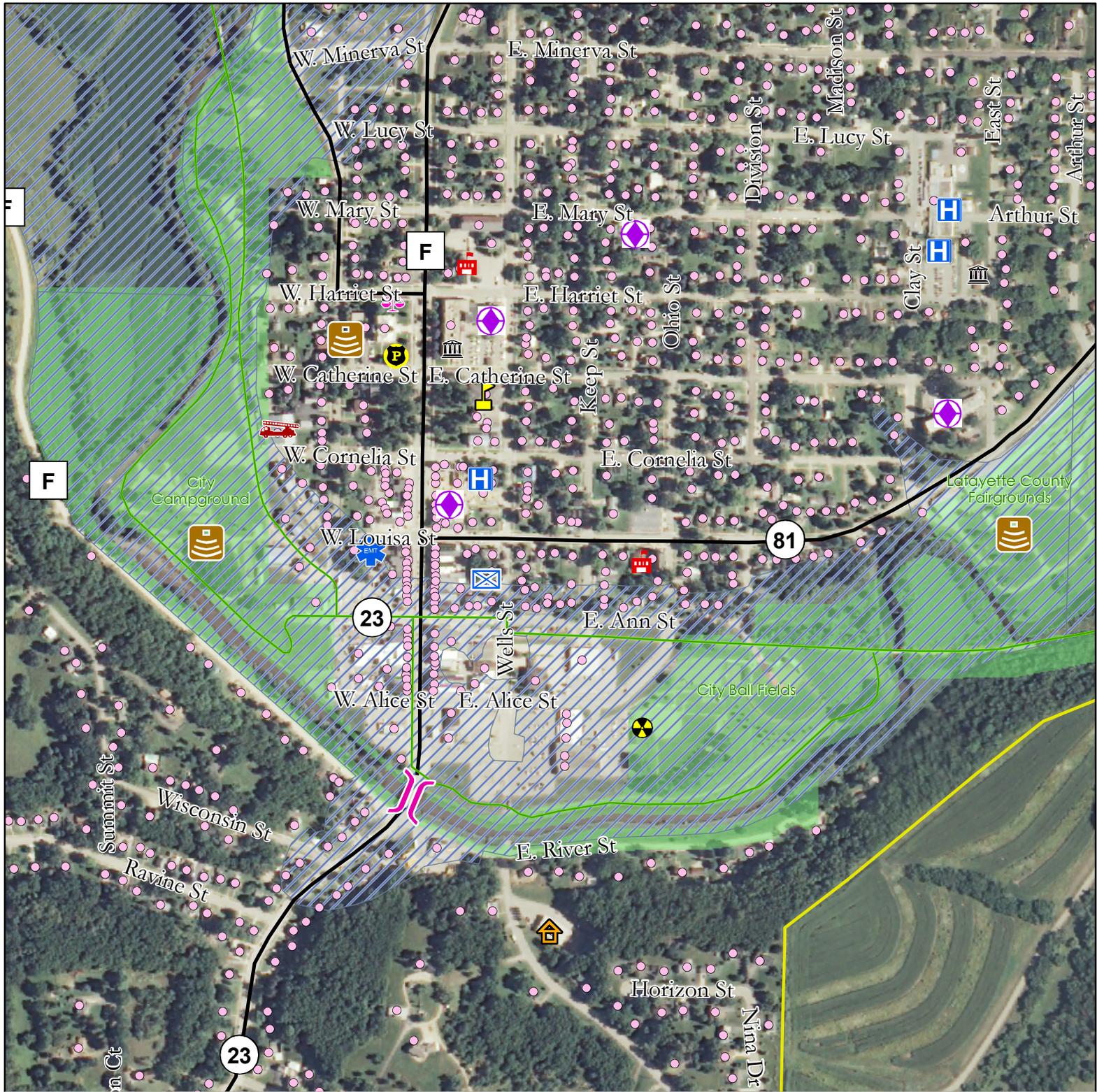
Location: Downtown City of Darlington

Responsible Parties: City of Darlington

Potential Partners: WEM, LCEM, Local institutions, community leaders

Funding Source: FEMA Flood Mitigation program, City of Darlington, State Stewardship or Federal LAWCON programs (where future is for park or open space preservation)

Map 6: Downtown Flood Areas



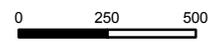
**Map
6**

Downtown Flood Areas

- City of Darlington Multi-Hazard Mitigation Plan -

- | | | | | | |
|--|-----------------------------|---|------------------------|---|----------------------------|
|  | Municipal Boundary |  | School |  | Post Office |
|  | Major Roads |  | Municipal Building |  | Water Tower |
|  | Multi-Use Trails |  | County Courthouse |  | Healthcare Facility |
|  | Electric Transmission Lines |  | Fire Station |  | Volunteer Rural Medical |
|  | Power Facility |  | City Police Department |  | Wastewater Treatment Plant |
|  | Main Street Bridge |  | County Sheriff's Dept. |  | Buildings |
|  | Hazardous Materials |  | Library |  | 100-year Floodplain |
|  | Vulnerable Population |  | City Garage |  | Public Open Space |
| | |  | Gathering Place | | |

Sources: Lafayette County, WEM, USGS, US Census Bureau, FEMA, HAZUS Modeling Software, City of Darlington
5/15/2009



Feet
VANDEWALLE & ASSOCIATES INC.
Shaping places, shaping change



Strategy 4: Protect Critical Facilities and Infrastructure

Protection of critical facilities from flooding is a vital hazard mitigation measure to ensure that emergency responders and their facilities are protected from disasters so that they are able to respond quickly during hazard events. This strategy applies to all hazards and consequently is discussed in detail under the above “Priority All Hazards Mitigation Strategies” section.

As it applies specifically to flooding, protection of critical infrastructure, like emergency and protective services buildings and road and bridge access, is also an important strategy. For residents, it can be a matter of making sure people have a route to dry land and safety. For businesses, it is critical to have reliable property access to maintain cost-effective operations. Without such reliable access, businesses that rely on local roads for shipping and receiving, as well as customer and employee access, will suffer. Despite the efforts of the City to floodproof and relocate businesses, a threat remains to critical facilities, the Main Street bridge, and other infrastructure in the floodplain.

A particular focus in the protection of critical facilities will be placed on the Main Street bridge (the only bridge in the City and immediate surroundings), which is critical north/south connection across the Pecatonica River. The City’s Flood Notification Plan indicates that the bridge closes once the river reaches 15.5 feet. Most recently the bridge closed three times in 2008. There may be no practical opportunities for constructing a second bridge across the Pecatonica in the City of Darlington. Therefore, the City advises completion of an engineering study to explore ways to better keep the Main Street bridge open during flood events.



The City also intends to not only be prepared to re-route traffic in the event of a major flood, but will effectively communicate this information to people. The City intends to explore web-based technologies to display updated road and bridge closures and local hazard information.

Priority: First Priority

Location: City of Darlington, particularly focused on the Main Street bridge

Responsible Parties: City of Darlington, WDOT, fire department, police department

Potential Partners: Schools, WDOT, Sheriff’s Department, County Highway Department

Funding Source: FEMA Mitigation Grant Program, WDOT/federal bridge aid and other transportation programs, City of Darlington

Strategy 5: Continue to Document, Analyze, and Learn From Flood Events

Through the years, the City of Darlington has maintained very good flood records for large flood events. This information has contributed greatly to the City’s Flood Notification Plan, the City’s flood mitigation efforts to date, and the City’s understanding of the behavior of the river. Still, as land use, land management, climate, and river form continues to change, the characteristics of flood events and flood depths will vary. In addition, new City officials and emergency responders will continue to need education on flood patterns.

The City intends to continue to collect and maintain detailed and consistent data on flood events in the City. All historical data and new data should be made available to City residents via the City’s website, as should the DFIRM maps and the Risk Assessment map from this Plan. This information will not only be useful to the residents of Darlington, but will serve as a concise database of information for future grant applications related to flood mitigation.

Documentation should occur both during and after flood events. In addition to documenting flood heights, detailed post-flood analyses will be conducted to determine the extent of damage, debris accumulation, and other key aspects of the flood. Understanding the location of debris accumulations and typical damage will increase cleanup efficiency.

Priority: First Priority

Location: Citywide

Responsible Parties: City of Darlington government

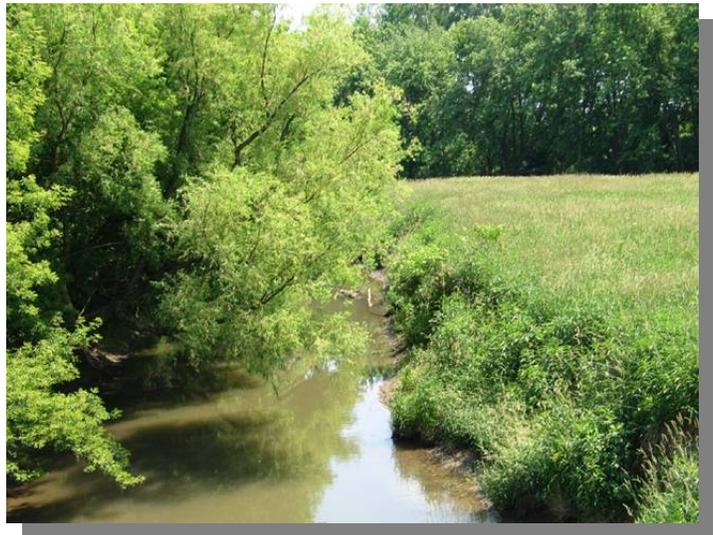
Potential Partners: LCEM, WDOT, WDNR, LCSWCD

Funding Source: City of Darlington

Strategy 6: Promote Creation of a Pecatonica River Watershed Alliance

Participants in this planning process emphasized the importance of regional cooperation to help minimize the impact of flooding. Crossing municipal boundaries can be politically challenging, especially in the case of the Pecatonica River which not only flows through multiple counties but through the state of Wisconsin into Illinois. The University of Wisconsin-Extension maintains a Basin education group dedicated to the Pecatonica/Sugar River Basin. Still, it appears that little effort has been placed towards the middle and upper portions of the Pecatonica River, especially when compared to other rivers in southern Wisconsin (e.g., Yahara, Rock, Wisconsin).

The City intends to advance a bi-state Pecatonica River Watershed Regional Alliance to help fill this gap. This group would include representatives of local governments and people representing environmental, hazard mitigation, economic development, and recreation interests in the region. This alliance would help bring together diverse interests to work in partnership to promote the long-term health and vitality of the Pecatonica River watershed.



A regional approach provides numerous benefits including the ability to merge funding sources, gain collective experience and knowledge, and prioritize mitigation efforts. Though the focus of this organization should be on mitigating flood hazards there could be additional objectives such as promoting the natural resources of the region through tourism. Given the natural beauty of the Pecatonica River, the trail system, and the surrounding hills and rural areas communities will leverage the region as a tourist destination.

Priority: First Priority

Location: Pecatonica/Sugar River Watershed

Responsible Parties: City of Darlington, other local, county, and state governments within the watersheds, County Land and Water Conservation departments

Potential Partners: Southwestern Wisconsin Regional Planning Commission, WDNR, UW-Extension, Illinois DNR, USEPA, NRCS

Funding Source: Municipal governments within the watershed, Foundation grant support, USEPA grants, Southwestern Wisconsin Regional Planning Commission funding

Strategy 7: Re-Review Official Floodplain Maps

FEMA is currently updating their Digital Flood Insurance Rate Maps (DFIRM) throughout the country. In the fall of 2003, the City of Darlington received its updated DFIRM maps. Through the Hazard Mitigation Planning process, City officials voiced their concern for the accuracy of the new floodplain maps. Further, City officials did not believe they received adequate time to review the new floodplain maps. For these reasons, the City would like the boundaries to be “re-reviewed.” The City’s concern over the accuracy of the current floodplain lines is supported by the data illustrated in Map 3. The flood modeling software provided by FEMA predicts that significant portions of the

downtown that are in the approved 100 year floodplain would actually not be inundated by a 100 year flood. Given that the DFIRM maps dictate decisions that have community, legal, and financial ramifications, they should be accurate.

The City of Darlington intends to initiate contact with the FEMA Cooperating Technical Partners Program to determine the specific requirements and timeframe for a formal review and update of the DFIRM maps. The City of Darlington will provide FEMA with documentation on the historical extent of flood events, the results of the HAZUS model (i.e., Map 3 of this Hazard Mitigation Plan and any supporting data requested by FEMA), and its Flood Notification Plan data.

One possible avenue for assistance in updating the DFIRM maps is the FEMA Cooperative Technical Partners (CTP) Program. CTP works with communities to use local analysis, permitting, and planning data as the basis for the DFIRM map. This cooperative process provides an opportunity to interject a tailored, local focus into the national floodplain program. For participating in the CTP Program, the City would also receive Community Rating System credits, which may lead to discounted flood insurance premiums for property owners. Eligibility requirements and benefits can be found at http://www.fema.gov/plan/prevent/fhm/ctp_qa1.shtm.

Following completion of the DFIRM map update, amendments and revisions should be made to all the Hazard Mitigation Plans, Comprehensive Plans, and other maps that rely on the DFIRM maps for source data. This updated information will help provide more accurate warning to residents in the floodplain, and better identify the risk of flooding in the community, and provide a more defensible regulatory tool.

Priority: Second Priority

Location: City of Darlington, particularly focused on the downtown area

Responsible Parties: City of Darlington

Potential Partners: WEM, FEMA, Army Corps, LCEM

Funding Source: City of Darlington, FEMA Mitigation Grant program, FEMA Cooperative Technical Partners (CTP) program, US Army Corps Planning Assistance to States program

Strategy 8: Pursue Targeted Approaches to Protect Water Quality

The City intends to pursue and support targeted approaches designed particularly to limit water contamination when flooding events do occur. These approaches may include the following:

- Adopt zoning measures to restrict the storage of petroleum or chemicals in the floodplain. If such a location is necessary, containers need to be anchored and sealed to limit the potential for water contamination and damaging effects of flooding by causing fires or explosions.
- Support remediation of the “old dump” identified on lands just east of the downtown near the ballfields. This site has been degassing for several years and poses a potential threat to public safety. This site and others like it are illustrated in Map 5 at the end of Chapter 3.
- Explore the feasibility of installing shut-off valves to help control the backup of stagnant water onto City streets from storm sewer inlets that may occur during flood events.
- Work with the County to encourage proper manure, nutrient, pesticide, and soil management near waterbodies and wetlands and along steep slopes. Utilization of grassed waterways, contours, and other conservation measures should be implemented and properly maintained to provide continued water quality benefits.



Priority: Second Priority

Location: City of Darlington and along nearby waterways and steep slopes

Responsible Parties: City, property owners

Potential Partners: WDNR, LCEM, LCSWCD

Funding Source: City of Darlington budget, USEPA and WDNR Brownfields Grants, USDA, individual landowners

Strategy 9: Increase Access to and Effectiveness of Flood Insurance

National Flood Insurance Program policies are available to all property owners and renters in communities that participate in the program. Communities that choose to participate in the NFIP must adopt ordinances that at a minimum meet base-level federal and state requirements, which Darlington has done. Properties do not have to be located in a floodplain to be eligible for flood insurance, and consequently, owners of properties in floodprone areas outside of mapped 100 year floodplains should consider purchasing NFIP insurance. Insurance against property damage due to flooding can help to prevent financial devastation when damaging flooding occurs. Although flood insurance does not prevent flood damage from occurring, it may help mitigate a property owner's financial exposure to flood damage.

FEMA created the initial flood hazard boundary maps (FHBM) October 26, 1973 and the initial flood insurance rate maps (FIRM) September 15, 1978. The current maps were effective November 5, 2003.

The City can help increase flood insurance program participation rates through the outreach and education efforts on the National Flood Insurance Program (NFIP), such as through printed materials and workshops. According to FEMA, often insurance agents are either uneducated about the benefits and applicability of the NFIP, or simply do not inform customers of its availability because its processing costs are high, profit to the agent is low, and it requires significant paperwork. The City intends to work with local insurance agents as well as WEM, FEMA, and the NFIP to create and undertake an outreach and educational effort to enroll municipalities that currently do not participate in the program, and inform property owners of floodprone property of the availability of flood insurance and provide a guide to enrollment.

Property owners should be educated about both the opportunities and limitations of policies provided by private insurance providers as well as the National Flood Insurance Program (NFIP). Often, coverage is inadequate to enable full recovery from a flood event. Consumers should also be aware of the documentation required in their private insurance policies in order to be reimbursed for personal property and property improvements; without requisite documentation, insurance agencies can refuse payouts. There is also some local concern that the FEMA damage assessment process is inconsistent and underestimates damage reimbursements. The City advises that an audit team, made up of the Public Works Department, Plan Commission, and Police Chief, follow the FEMA assessment teams to survey the quality of residents' experience and evaluate the agency's damage estimates.

Increased access to flood insurance could be improved by reducing the cost of flood insurance. The best way to accomplish this may be for jurisdictions that participate in the NFIP to enroll in the Community Rating System (CRS). Depending on the amount of effort put forth by the City, flood insurance rates for landowners in the 100 year floodplain could be reduced by up to 40 percent. The CRS is a FEMA-sponsored program that rewards communities for taking flood mitigation actions above NFIP minimal requirements by reducing flood insurance premiums in the community. Conducting this hazard mitigation process earns the municipality points in the CRS, as will conducting ongoing outreach with residents, among other initiatives. Many aspects of this Plan could be utilized for credit towards the CRS rating. Additionally, many of the suggested mitigation strategies address opportunities to gain additional points towards a higher CRS rating. Specific actions that can be taken to reduce premiums include:

- Additional flood data (new flood elevations, floodway delineations, more restrictive mapping standards)
- Flood data maintenance
- Stormwater management
- Acquisition and relocation of floodprone structures
- Drainage system management (ensuring all channels and retention basins are clear of debris)

Priority: Second Priority

Location: City of Darlington

Responsible Parties: City of Darlington, property owners

Potential Partners: Insurance providers, WEM

Funding Source: FEMA Mitigation Grant Program, City of Darlington, real estate interests

PRIORITY SEVERE STORMS/ WINTER STORMS MITIGATION STRATEGIES

The City of Darlington is vulnerable to thunderstorms, severe wind (including tornadoes), and winter storms. Although the frequency, severity, and other characteristics of these different storms vary, the mitigation strategies associated with them are similar enough that they are grouped under this overall “Severe Storms” category.

Strategy 1: Pursue Regular Community Outreach and Education

Strategy 1 under the “Priority All Hazards Mitigation Strategies” section above provides an overview of the City’s Community Outreach and Education strategy.

As it relates to storms specifically, continual outreach with the community is critical to ensure that residents, businesses, and property owners are sufficiently prepared to protect themselves and their property from damages due to storm events. Specifically, severe storm preparedness will focus on:

- **Vulnerable properties:** Mobile homes, campgrounds, certain industrial buildings (e.g. pole sheds), and camping trailers are most vulnerable to damage from severe storms. Additionally, certain elements of a building are most vulnerable to storm damage, including windows, doors, garage doors, and roofs, and consequently the City can educate property owners on structural retrofitting techniques.
- **Vulnerable populations:** The following populations are most vulnerable to injury or death due to severe storms: people in automobiles; people that occupy vulnerable properties including mobile homes, campgrounds, industrial buildings, and camping trailers; the elderly; the very young; the physically or mentally impaired; people who may not understand a severe storm warning due to language barriers; and livestock. In order to best reach these groups, educational efforts can be directed to places such as schools, campgrounds, and driver’s education courses.
- **Vulnerable times of year:** Educational efforts will be most concentrated at the beginning of the severe storm and winter storm seasons each year, and during the summer tourist season. Wisconsin has established a Lightning Safety Awareness Week in June and a Winter Weather Awareness Week in November.



The City of Darlington’s Public Works Department and Police Department could team with local utilities and insurance agencies to provide household, tourist, and traveling preparedness information annually or with new accounts.

Priority: First Priority

Location: City of Darlington

Responsible Parties: City Public Works Department, Police Department,

Potential Partners: Chamber of Commerce/Main Street program, Utilities, WEM, local media, local organizations, WDOT, insurance agencies

Funding Source: City of Darlington budget, Red Cross, Tourism funding sources (room tax), with potential assistance from public grant funds or other resources

Strategy 2: Develop Reliable Evacuation Routes from Key Places of Assembly

The efficient and appropriate evacuation of people during a storm is crucial in maximizing safety. Schools, large employers, campgrounds and parks, the County Fairground, and other concentrated populations are documented on the Risk Assessment map in Chapter 3. The City of Darlington intends to coordinate with the Fairground operator, the Darlington School District, and other key players to determine appropriate multiple, reliable, and safe evacuation routes.

Focus will be placed on places that lack appropriate shelter in severe storms, such as the campground in Riverside Park and the County Fairgrounds. Managers of these properties, through the assistance of the City, County, and Highway and Sheriff's Department, will identify the most appropriate evacuation routes. The City has identified the hospital, manor, schools, and fire station as appropriate shelter locations.



Priority: First Priority

Location: City of Darlington, particularly from Fairgrounds and Campground

Responsible Parties: City of Darlington, facility managers

Potential Partners: County Highway and Sheriff's Departments, LCEM

Funding Source: City of Darlington and County budget, with potential assistance from public grant funds or other resources

Strategy 3: Promote Active Tree Management

Tree pruning can reduce the potential for trees falling on and breaking power lines, damaging buildings, and obstructing waterways in the event of flooding. The City of Darlington intends to work with local utilities to educate property owners on the benefits of proper tree management. Additionally, the City could partner with the County to develop a larger outreach program that provides property owners with educational materials regarding the benefits of tree management, and provides a contact that can help with questions and concerns well before trimming activities take place. Annually, local utilities could distribute educational information regarding the benefits of tree management with customer bills, or when establishing a new account. The City could also promote tree management during the Canoe Festival the second weekend in June.

Priority: Second Priority

Location: City of Darlington

Responsible Parties: City of Darlington

Potential Partners: LCEM, County Highway and Land Conservation, Utilities

Funding Source: City of Darlington, private utility companies, with potential assistance from public grant funds or other resources

Strategy 4: Protect Critical Facilities and Infrastructure

This strategy, as it relates to storms, focuses on protecting critical facilities (e.g., police and fire stations, emergency operations centers, and hospitals) and major roadways and utility lines from storm damage to ensure that emergency responders are able to respond quickly during hazard events. This can be accomplished in the following ways:

- **Active Tree Management:** Owners and operators of critical facilities should ensure that trees on or near critical facilities are well managed, therefore not posing a significant risk of damage during a major windstorm.

Additionally, the City intends to work with local utilities to ensure active tree management along above-ground utility transmission and distribution lines.

- **Undergrounding Utilities:** When serving new development in the City, utilities in City of Darlington should be required to place new electric and communications infrastructure underground. Additionally, opportunities to place existing infrastructure underground should be explored as infrastructure improvements are made.
- **Structural Retrofitting:** Existing critical facilities that exhibit vulnerability to severe storms should undergo structural retrofitting such as bracing roofs, doors, and windows.
- **Maintenance of Winter Storm Equipment:** The City intends to prepare for severe winter weather by ensuring that plowing and sanding equipment is operational and prepared to handle potential emergencies.
- **Snow Fences:** Using snow fences or "living snow fences" (rows of trees or other vegetation) can limit blowing and drifting snow over critical segments of roads. Living snow fences are longer lasting than standard snow fences and are permanent so they do not require the time of municipal staff to seasonally install and dismantle them. The City intends to work with the County to prioritize areas for snow fences.

Priority: Second Priority

Location: City of Darlington and surrounding roads

Responsible Parties: City of Darlington, County Highway Department

Potential Partners: LCEM, WDOT, utilities

Funding Source: FEMA Mitigation Grant Program, City of Darlington or County Highway Department budget, private utility companies, with potential assistance from public grant funds or other resources

PRIORITY DROUGHT MITIGATION STRATEGIES

Strategy 1: Pursue Regular Community Outreach and Education

Drought is a long-term condition and therefore is best mitigated through improved water use and conservation practices that take time to understand and implement. Consequently, a priority drought mitigation strategy is community outreach and education to property owners, particularly surrounding agricultural land owners, to encourage implementation of the following strategies. The City will likely play only a support role on most of these efforts.

- **Agriculture and Irrigation Best Management Practices:** Area organizations that support agriculture should coordinate to provide educational materials and programs to farmers on Best Management Practices for agriculture and irrigation including erosion control techniques, use of drought-resistant crops, and irrigation practices to ensure that irrigation systems are used most efficiently and soil retains water most efficiently. These agencies include Lafayette County Soil and Water Conservation District, Natural Resources Conservation Service, University of Wisconsin-Extension, Lafayette County Farm Bureau, and the USDA Farm Service Agency.
- **Yard Irrigation Best Management Practices:** Area organizations that educate property owners on lawn and garden maintenance, such as University of Wisconsin Extension, should focus educational materials on Best Management Practices for yard irrigation. These practices include using native plants, capturing rainwater through cisterns or rain barrels, promoting stormwater infiltration through rain gardens, mowing at proper frequency, and watering in the evening.
- **Water Saving, Storage and Use Restrictions:** When the City and surrounding areas experience a drought, techniques to conserve water intend to be employed, including prohibiting use of water for certain non-essential activities such as washing vehicles, prescribing certain days of the week that lawns can be watered, etc.



- **Drought-Proofing Wells:** The City of Darlington can educate residents of unincorporated areas surrounding the City that rely on well water about drought-proofing wells. Drought-proofing entails either improving the pumping system within the well or digging a deeper well.
- **Emergency Assistance Programs:** Agricultural droughts typically trigger the availability of several USDA emergency assistance programs; the City will work with the organizations responsible for these programs to ensure that information is clear and readily available to farmers. These programs include Farmers Home Administration loans, Agricultural Stabilization and Conservation Service disaster assistance payments, Natural Resource Conservation Service technical assistance, and Federal Crop Insurance Corporation loss claims.

Priority: Second Priority

Location: City of Darlington and surrounding areas

Responsible Parties: LCEM, County Soil and Water, Farm Bureau, UWEX

Potential Partners: City of Darlington, local media

Funding Source: Farm Bureau, with potential assistance from public grant funds or other resources, CRP and related programs on agricultural land around the City

Strategy 2: Promote Use of Best Management Practices for Yards and Agriculture

In addition to educating farmers and property owners on Best Management Practices for yards and agriculture (BMPs are described in Priority Strategy 1 above), the City can help to ensure the use of these practices by:

- **Passing a Water Conservation Ordinance:** Such an ordinance can reduce water consumption, thereby using community water systems more efficiently through provisions such as limiting lawn watering to early morning and evenings and on alternate days of the week and requiring that hoses for washing vehicles have automatic shut-off nozzles.
- **Using BMPs on Publicly-owned Land:** The City can set an example by using BMPs for lawns (drought resistant plants, rain gardens, etc.) on publicly-owned lands.
- **Providing Incentives for Use of BMPs on Privately-owned Land:** Incentives can be provided to encourage more efficient water use. For example, water utilities can provide a rebate on the purchase of rain barrels and high efficiency washing machines.

Priority: Second Priority

Location: City of Darlington and surrounding areas

Responsible Parties: City of Darlington, LCEM, County Soil and Water

Potential Partners: Farm Bureau, Lafayette County Soil and Water District, NRCS, UWEX

Funding Source: City of Darlington budget, with potential assistance from the County, public grant funds or other resources, CRP and related programs on agricultural land around the City

PRIORITY EXTREME TEMPERATURES MITIGATION STRATEGIES

Strategy 1: Pursue Regular Community Outreach and Education

Exposure to extreme temperatures poses a considerable risk of illness, injury, and even death, particularly for vulnerable populations. Armed with good information about the risks of exposure to severe temperatures and ways to avoid exposure, this risk can be avoided. Consequently, education and outreach are key strategies for mitigating extreme temperature disasters.

As described in the Hazard Identification and Risk Assessment chapter of this Plan, the following are populations most vulnerable to illness or injury from extreme temperatures and intend to be targeted in educational programs and materials:

- Elderly persons
- Low-income persons (at risk of not being able to afford sufficient heating or cooling)
- Young children
- Sick persons

- Overweight persons
- Persons with alcohol problems
- Men (due to higher rate of sweating and increased dehydration)
- People in urban areas (higher urban temperatures due to urban heat island effect)

Educational materials intend to provide information about:

- **Avoiding and Recognizing Illness/Injury from Extreme Temperatures:** These materials focus on steps to avoid overexposure to extreme heat or cold as well as warning signs for recognizing the onset of heat stroke, hypothermia, and other temperature-related illnesses.
- **Providing Cooling Centers:** Locations and hours of centers, transportation to and from centers, and rules (e.g. parents/guardians must accompany children, alcohol is not allowed, etc.)

Priority: First Priority

Location: City of Darlington

Responsible Parties: City of Darlington

Potential Partners: LCEM, WEM, Red Cross

Funding Source: City of Darlington, with potential assistance from public grant funds or other resources, Red Cross, AARP

Strategy 2: Promote and Improve Use of Cooling Centers

Currently, the City has an agreement with the Manor to use the facility as cooling centers during periods of extreme temperatures. While the number of these centers is adequate, the use of them could be improved. Improved education and outreach about the availability and rules associated with these centers would improve their efficacy. Additionally, focusing outreach on vulnerable populations will improve the use of these facilities.

Priority: Second Priority

Location: City of Darlington

Responsible Parties: City of Darlington

Potential Partners: LCEM, Red Cross, Utilities, WEM

Funding Source: City of Darlington with assistance from public grant funds or other resources, Red Cross

PRIORITY EARTHQUAKE MITIGATION STRATEGIES

Strategy 1: Pursue Regular Community Outreach and Education

Because earthquakes are so infrequent in the Midwest, the population tends to neither be aware of, nor prepared for, the potential impacts. And, as described in the Risk Assessment section of this Plan, the City of Darlington is at low risk of experiencing significant impacts of earthquakes due to its distance from the New Madrid fault.

That said, the City of Darlington has felt several earthquakes originating from different parts of the region. Consequently, the City of Darlington intends to include earthquake preparedness as part of a comprehensive hazard mitigation educational program. Specifically, education will focus on:

- **Having a home disaster kit and plan:** including a few days supply of food and water, a fire extinguisher, smoke alarms, a properly equipped first aid kit complete with any necessary prescription medication in sufficient quantities to last a few days to a few weeks; organizing and testing a family emergency plan which would help ensure each family member's survival; having residents know how to turn off gas supply to building.
- **Eliminating/reducing earthquake hazards in properties:** such as free standing water heaters, stoves, and other gas or electric appliances which could move or fall during an earthquake; bookshelves or filing cabinets which are free standing or bookshelves with objects stored above head level; water or gas pipes which are not fastened well to walls or ceilings and large panes of glass which could fracture.
- **Taking steps to take in the event of an earthquake:** These steps include staying inside a building (if already inside), and ducking, covering, and holding. Find protection next to or under heavy furniture. Avoid running

outside as falling building parts can fall. Avoid rooms with a lot of ceiling fixtures. Avoid large spans of windows. Avoid large rooms with open-span ceilings or roofs.

Priority: Second Priority

Location: City of Darlington and surrounding areas

Responsible Parties: City of Darlington

Potential Partners: LCEM, Red Cross, schools

Funding Source: City of Darlington budget, with potential assistance from public grant funds or other resources

Strategy 2: Protect Critical Facilities and Infrastructure

Public buildings, such as schools and community halls, are critical facilities not only because of the large and often-vulnerable population they accommodate, but also because they are often identified as shelter sites for a community. Therefore, it is essential that these buildings are safe and can function after a seismic event. The City could work to develop a survey procedure and guidance document to inventory structural and non-structural hazards in and near designated shelter sites. Survey results can be used to determine mitigation priorities that can be incorporated into capital improvement plans. Such surveys will take into account that existing shelter sites are often constructed of brick and mortar, which is intolerant of earth shaking movements.

Additionally, the City intends to evaluate access to communications and power utilities. This infrastructure will be “looped.” That is, utility distribution lines will enter a community from at least two points so that if damaged on one end, the community is still served from the lines entering from the other location.

Priority: Second Priority

Location: City of Darlington

Responsible Parties: City of Darlington, utilities, fire, police

Potential Partners: LCEM, schools

Funding Source: City of Darlington budget; fire district budgets; with potential assistance from public grant funds or other resources

PRIORITY HUMAN-CAUSED HAZARD AND DISEASE OUTBREAK MITIGATION STRATEGIES

Strategy 1: Improve Coordination and Communication Among Emergency Responders

One of the City’s most critical hazard mitigation tools is an efficient communication and coordination system among emergency responders in the City as well as with agencies in the region and State. The City will continue to work with the County and neighboring communities in the distribution of resources and response. Methods to strengthen existing relationships will continue while exploring future measures to create regional and local communication and coordination. This strategy is discussed in further detail as Strategy 2 in the “Priorities Strategies for All Hazards” section of this Plan.

Priority: First Priority

Location: City of Darlington and surrounding areas

Responsible Parties: City of Darlington, Fire Departments, Police Departments, EMS

Potential Partners: WEM

Funding Source: City of Darlington, with potential assistance from public grant funds or other resources

Strategy 2: Pursue Regular Community Outreach and Education

Another key hazard mitigation tool for human-caused hazards and disease outbreaks is education and outreach. This strategy is discussed in further detail as Strategy 1 in the “Priorities Strategies for All Hazards” section of this Plan. Specifically, for human-caused hazards and disease outbreaks, education and outreach can play a role in educating people on:

- Family emergency plans and home emergency kits
- Safety guidelines and regulations, such as handling hazardous materials, traffic safety, and fire safety