

## Mitigation Leads to Preservation and Economic Recovery For One Community: Darlington, Wisconsin

### The Effects of Flooding

During the past half century, multiple flooding events along the Pecatonica River took a toll on Darlington, the county seat of Lafayette County, population of 2418. Numerous times the river wreaked havoc with its destructive force, leaving a trail of mud, debris and bacteria, and contributing financial stress to both families and businesses. Repetitive flooding deteriorated structures and lowered property values. Owners experienced substantial loss of business during the times of flooding, cleanup, and repair. The buildup of mold and mildew in constantly flooded structures led to unhealthy conditions in the buildings.



### Preserving Main Street

After the 1993 flood, the community adopted four goals, as part of a comprehensive plan, in order to retain the historic and community value of Darlington's Main Street as well as to mitigate against future flood damage:



1. Preserve the historic downtown business district
2. Restore the downtown economic base
3. Develop an urban river open space park and recreation area
4. Eliminate or substantially reduce flood damage in the future

### Partnering for Success

The city needed to obtain funding and expert knowledge to implement the plan. The success in reaching the city's goals depended on forming an interagency coalition and promoting the cooperation of government – local, state, and federal – and businesses. Multiple agencies contributed grants and/or expertise to the project, including:

- Federal Emergency Management Agency (FEMA); Hazard Mitigation Grant Program (HMGP) and the National Flood Insurance FMA program
- Wisconsin Emergency Management
- Wisconsin Department of Natural Resources
- Wisconsin Department of Commerce
- Wisconsin Department of Administration
- Wisconsin Historical Society
- Economic Development Administration
- Southwest Wisconsin Regional Planning Commission

## Local Involvement Leads to Mitigation Strategy

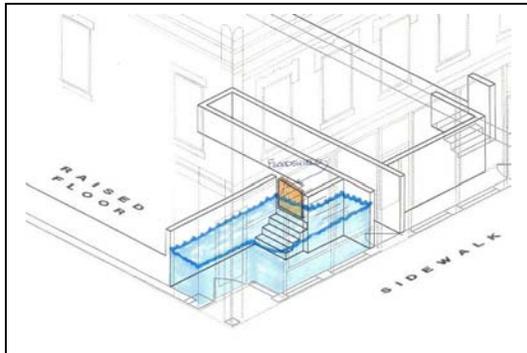
In developing the mitigation goals as part of the city's Flood Mitigation Plan, officials ensured efforts were locally-based by involving civic leaders, business owners and residents in the planning. They used a multi-objective approach to understand watershed problems, consider all flooding solutions, identify community concerns, obtain expert advice and build partnerships. Darlington's Hazard Mitigation Plan was the first in Wisconsin to be approved by FEMA. The plan included:

1. Acquisition and demolition of businesses adjacent to the river that are subject to severe floodplain damage (several contaminated properties from oil related businesses were cleaned up after the acquisition/demolition project).
2. Downtown businesses that were difficult to flood proof or elevate were afforded as much flood protection as possible by raising or flood proofing building mechanics, including electrical and plumbing.
3. Historic buildings in the downtown business district were retrofitted while maintaining their historic character.



To implement goal #3, one serious question had to be addressed: How do you meet floodplain requirements without destroying the historical significance of the building? Engineers were faced with the dilemma of raising the first floor several feet higher to meet the base flood elevation requirements while preserving the historic entrance.

The interagency coalition determined that the following actions would be taken to meet local zoning ordinances, historic preservation requirements and HMGP criteria:



- Fill-in basements
- Raise the first floor to the Base Flood Elevation (BFE)
- Dry flood proof first floor to Flood Protection Elevation (BFE plus 2 feet)
- Raise utilities to Flood Protection Elevation
- Construct interior floodwall

The engineered solution was to build a vestibule area as you step into the front door, at street level. Steps lead up to the elevated first floor level, and a floodwall separates the vestibule level from the first floor. (see picture)



When flooding is imminent, a flood shield slides into a frame at the top of the steps, creating a solid, sealed floodwall. The street level vestibule was constructed with materials that would not sustain flood damage, like ceramic tile or brick. Floodwaters are allowed to enter in the area in order to equalize the water pressure avoiding structural damages.



Other requirements:

- Property owners covered the costs for rehabilitation and historic preservation of the buildings
- Owners were required to purchase flood insurance, if they did not already have a policy
- Historic structures were brought into conformance with current building codes, including the Americans with Disabilities Act. (A shared concrete handicap access ramp constructed in the rear of the buildings could serve several buildings, and act as a floodwall.)



### A Community Benefits

- In all, 19 commercial buildings were flood proofed, while preserving the historic storefronts. (The City was honored with a State Historical Society of Wisconsin Historic Preservation Achievement Award.)
- Acquired and demolished 13 commercial properties.
- Developed a 33-acre business park out of the floodplain for relocated and new businesses
- The vacated land near the river was turned into a riverside park with a lighted 1.2-mile paved trail, campground and open green space. A portion of a 39-mile tri-county multi-use trail also runs through the park.
- Increased the property tax base. One city official estimates that property values for the refurbished commercial buildings along Main Street have nearly doubled – one building was valued at \$30,000 just after the 1993 flood and, after the flood proofing, it is now worth about \$60,000.



Of the eleven identified **Repetitive Loss Properties** (a term used by the National Flood Insurance Program) nine were mitigated in the Darlington project. Repetitive Loss Properties are defined as “buildings insured under the NFIP that have been flooded on more than one occasion and that have received flood insurance claim payments of \$1,000 or more for each loss.”

**Click here for more information about NFIP**

*For more information on mitigation in the state of Wisconsin, please contact Roxanne Gray, State Hazard Mitigation Officer, by phone at 608-242-3211 or email at [grayr@dma.state.wi.us](mailto:grayr@dma.state.wi.us). For more information about the Wisconsin Division of Emergency Management, see [www.state.wi.us/agencies/dma](http://www.state.wi.us/agencies/dma); click on Emergency Management Tab.*

*For further information on the City of Darlington's flood mitigation project, call Phil Risseeuw, Clerk-Treasurer, at 608-776-4972.*

**Captions:**

Picture 1

Flooding on Main Street in 1937.

Picture 2

These buildings are part of the six-block Main Street Historic District, (listed on the National Register of Historic Places) and were included in the HMGP mitigation project.

Picture 3

In 2000, floodwaters covered the riverside park where several businesses had been located before the implementation of the mitigation plan. No longer did the city have to bear the cost of emergency calls or clean-up measures.

Picture 4

This graphic design by Vierbicher Associates illustrates the elevation technique and vestibule flood shield used in mitigating the historic Main Street buildings.

Picture 5

The entrance of the hardware store leads into a tiled vestibule with a stairway leading to the elevated first floor retail space. The vestibules in many Main Street retailers function as display areas. When flooding is predicted, the owners remove the display items and slide a flood shield into place sealing the threatening floodwaters out.

Picture 6

The flood shields are stored on carts that the city houses and distributed to building owners when flooding threatens the downtown area. The flood shield is a cast aluminum plate with pressure locking handles that seal the plate tight against rubber gaskets in the opening frame of the floodwall.

Picture 7

Ramps located behind the downtown stores enable customers to easily enter the elevated first floor level.

#### Picture #8

The mitigation project combined historic renovation with major structural repair and detailed flood proofing. A brochure for Padley-McGann Construction, Inc., who completed the construction work, described the scope of the project: “Structures were shored up to withstand floods, as entire first floors, including joists, were removed. Basements were filled with as much as nine feet of compacted, pea gravel to four feet above the 100-year elevation. New slabs were poured over the filled basements, as much as 13 feet above the original basement elevation.” Padley-McGann Construction earned a special award in 1997 from the Associated Builders and Contractors of Wisconsin, Inc., for the flood mitigation project.

**LINK:** “Repetitive Loss” info Box ; link to [www.fema.gov/nfip/](http://www.fema.gov/nfip/)

**IN Repetitive Loss Box, Please set this up like the caption format for pictures. Add the following information so it appears when clicking on the blue “NFIP”**

#### **National Flood Insurance Program (NFIP)**

Communities participating in the NFIP agree to enforce floodplain management regulations in identified flood hazard areas. In return, citizens in these communities are eligible to purchase flood insurance that is not normally available through private insurance companies. Flood insurance may be purchased to cover structures (e.g. homes and businesses) as well as the contents of these buildings. Nationwide only one in five homeowners living in flood hazard areas participates in the NFIP, so encouraging greater participation in the program is an excellent way for your community to facilitate recovery following floods. FEMA initiated a Community Rating System (CRS) to reward communities that exceed the NFIP’s minimum floodplain management requirements. Under CRS, communities that have implemented flood loss reduction activities can apply for a classification that gives resident slower flood insurance premiums.

#### **Flood Mitigation Assistance Program (FMA)**

Under the NFIP, grants are provided to State and local governments for planning assistance and projects that reduce the risk of future flood damages, including elevating homes, conversion of property to open space, and minor drainage improvements. Funds also can be used to undertake comprehensive watershed management planning to identify land use changes and prioritize recommendations to reduce impacts of future flooding.