# Dramatically Demonstrate Avoided Flood Damage Two Cities, One Tale...

## HAZARD MITIGATION - THE CORNERSTONE OF EMERGENCY MANAGEMENT

Since the Midwest Floods of 1993 deluged nine states leaving \$12 billion of damage in their wake, the Federal Emergency Management Agency (FEMA) has increased its effort to assist states in developing hazard mitigation projects to reduce future disaster losses.

# CEDAR FALLS AND INDEPENDENCE, IOWA

Experts agree that we can't afford the costs of these disasters.

We must break the repeated cycle of flooding and rebuilding.

The way to do this is through sound floodplain management and hazard mitigation.

### Hazard mitigation is sustained action that reduces or eliminates longterm risk to people and property from natural hazards and their effects.

Mitigation is the cornerstone of emergency management. It is the ongoing effort to lessen the impact disasters have on people and property. Some examples of mitigation involve removing homes from floodplains, engineering bridges to withstand earthquakes, creating and enforcing effective building codes to protect property from windstorms—and more.

The good news is that communities everywhere are taking the responsibility for alleviating the impact of disasters. All over the country communities, businesses and involved citizens are doing their part to protect themselves.

**Hazard mitigation programs** have been put to the test in those nine midwest states since the 1993 floods. More than 20,000 buildings have been cleared from the floodplain since the program was implemented in the area. In lowa, one of the states heavily hit in 1993, FEMA's hazard mitigation offer was readily accepted, setting in motion one of the most aggressive floodplain acquisition programs in the nation.

Since the 1993 floods, lowa has initiated more than 46 acquisition or relocation projects, according to Dennis Harper, the State of lowa hazard mitigation officer. More than 1,000 properties have been removed from flood-hazard areas in the state. Over 20 critical facilities, such as hospitals, have been protected. At least 66 projects have been funded, with a total investment of \$54 million in FEMA, state and local community funds. The long-term payoff is two dollars returned for every dollar invested, Harper says. In some communities the payoff is already greater.

The 1993 Midwest
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In the spring and summer of 1999, Iowa was again inundated with heavy rains. Two federal disasters were declared. In May, 16 counties were declared for tornadoes and floods. In July, 21 counties were declared for severe storms and floods again.

Many of the same counties were declared in both disasters. Fortunately, eight of the 1999 declared counties elected to participate in a hazard mitigation buyout program after the 1993 floods. In these eight counties 271 families who were affected by the 1993 floods avoided the trauma and loss due to flooding because they no longer lived in the floodplain.

Black Hawk was one of the counties declared a disaster area in both events. Cedar Falls on the Cedar River has actively pursued participation in the buyout program.

The community's story follows.

**Cedar Falls, Iowa,** is a quiet residential community of 34,000 people in Black Hawk County. In a more heavily populated area it would be considered suburban in the true American sense. The University of Northern Iowa, a state college with an enrollment of 13,000 students, is the city's largest employer. Some residents work in local light industry. Others commute to nearby Waterloo, many to work in the John Deere tractor factory, the largest tractor factory in the world. Locals, however, consider Cedar Falls a "college town."

Wide streets, lined with old growth maple, oak and walnut trees shading grand Victorian homes, traverse a gently sloping hill and wander through a flourishing downtown business area which abuts the Cedar River. North of the downtown area, across the river, in a low lying area along the north bank and in the floodplain, is the "Cedar City" neighborhood, an area of single family houses, mobile homes and industrial buildings.

The City of Cedar Falls reports that the river has crested above flood stage at least 94 times since 1929. Since 1990 Black Hawk County, including Cedar Falls has had six federally declared disasters for floods.

### After contending with back-to-back floods in the spring and summer of 1993,

the city elected to take action to break the constant cycle of flooding and rebuilding. Cedar Falls applied for assistance in buying out homes in the frequently flooded Cedar City area.

Flood protection projects are developed at the local level and submitted to the state for approval under FEMA's Hazard Mitigation Grant Program (HMGP) and HUD's Community Development Block Grant program (CDBG). These acquisitions are commonly called "buyouts."

The buyouts began in December 1993. By the time this program was completed in September 1997 the city had purchased 99 properties. Ninety-eight homes and one lot were purchased. Ninety-six of the homes were demolished. Two were moved to higher land. In all, 89 families were moved to safety from the floodplain.

The first 12 properties were purchased with CDBG grants. The other 87 were purchased with money from FEMA HMGP grants (75 percent) and state and local community financing (25 percent) assisted by CDBG grants. The total cost of the program was \$4,330,000. This expense includes acquisition, demolition, appraisals, relocation assistance, closing and legal costs. Of the 89 families relocated, 46 found replacement housing in Cedar Falls, 18 relocated to nearby Waterloo and 25 moved to other areas of Iowa. Local officials say there was little loss to business or the tax base.



Ninety-eight homes have been removed from the floodplain in "Cedar City."

The State of Iowa projects the 30-year benefit from this project to be over \$6.6 million in avoided damages. Since the beginning of the project in 1993, \$872,022 in damages have been already been avoided. Estimated avoided damages from the recent May and July flood are \$4,472,333: the total avoided damage for these events is \$5,344,355, over \$1 million more than the cost of the hazard mitigation project.

All acquired properties are deed-restricted and must remain in public ownership permanently. The Cedar City property will be saved as green space. Parks will be built, bike trails laid out and possibly a campground built. All will be connected to existing parkland in the area.

Marty Ryan is the City Planner in Cedar Falls. When asked if the city has any further plans for buyouts Ryan replied, "After the July floods this year we sent a survey to the 125 remaining residents in Cedar City. Almost immediately we received 78 answers, all wanting to be bought out. We will begin the next phase as soon as we have funds."

How do the people in town feel about the buyouts? Barb Hugi, the city planner who handled the buyouts in 1993 says, "I've never run into any person who was not happy to be moved from that area."

Sandy Albert and her husband Brian moved the house she grew up in. They had bought it from her mother three months before the April 1993 flood. She was attached to the house and did not want to see it demolished. "It's the best thing I've ever done," Sandy said while sitting on the sundeck of her relocated house less than two miles from Cedar City. "My house is adding value now rather than subtracting value. I would highly advise anyone still there to get out."



Sandy Albert with her daughters and their friends spend a sunny day at her relocated home.

# Independence is a classic Iowa farm community of 6,000 people.

The towering grain elevators of the local co-op, the Buchanan County Fair grounds, the ubiquitous Wal-Mart, and a neighborhood of well-kept single family homes frame the downtown area. Corn and soy beans grow to the very edge of downtown. It is the Buchanan County seat and center of this agricultural county's business community.

The city is divided east-west by the Wapsipinicon River and north-south by First Street, its main street. The low lying area in the northwest section of the downtown, boarded by the "Wapsi," as local folks call the river, and First Street is a residential area of well-kept single family homes. This area is in the floodplain and has been a constant flood pain for the city.

From 1968 to July of 1999 the Wapsi has overflowed its banks at least 11 times, wreaking havoc on the homes in this northwest neighborhood. Three of these flood events were declared federal disasters: one in 1993, two in 1999. In the May floods of this year 328 homes were flooded again. In the July floods the number was 186.

After the Midwest Floods of 1993 the City of Independence decided it could no longer live with the constant flood-rebuild-flood again situation that was a severe drain on local resources. They applied for assistance in buying out



The City of Independence had been declared a federal disaster area three times in the 1990s.

homes in the frequently flooded northwest neighborhood along the river.

Independence submitted a buyout plan to the State of Iowa, the plan was approved and the buyouts began in 1993 and were completed in 1994. Twenty-eight families were moved from the floodplain. Twenty-six of the houses were demolished, two were moved to higher, dryer ground. Most of the families stayed in the city. There was negligible loss to community businesses or the tax base. No businesses had to be relocated.

The buyouts were funded with FEMA HMGP grants (75 percent) and state and local community financing assisted by CDBG funds. The total cost of the program was \$754,295. This expense includes acquisition, demolition, appraisals, relocation assistance, closing and legal costs.

The State of Iowa projected the 30-year benefit from this project to be a little more than \$800,000 in avoided damages. Since the beginning of the project in 1993 more than \$2 million in damages have already been avoided. Estimated avoided damage from the recent May and July floods alone are \$1,869,028. Savings to date are 2.5 times the original estimate.

All the acquired properties are deed restricted and must remain in public ownership permanently. The Independence properties will be converted to green space. "Teachers Park" will be built along the Wapsi with baseball, football and soccer fields. The John Deere plant in nearby Waterloo is donating EPA approved foundry sand to raise the elevation and level the playing fields. This approach is a win-win situation for the city alleviating a constant drain on precious emergency resources and creating an attractive park in the downtown area.

Greg Knott is the Building Official, Zoning Administrator and Floodplain Manager in Independence. He has applied to the state for funds to buyout 50–65 more homes. When asked how the people of Independence feel about mitigation now he replies. "Not all of the people were concerned after the May flood. After the second flood this year, the July flood, everybody is in favor of mitigation. They just wish it would hurry up.

"Historically we're going to get more floods on the Wapsipinicon. That's a gimmie. If we can move 65 more homes out of there that's 65 more families who are not going to be in danger again," said Knott. "That's the whole process of mitigation. Not only that, it's going to relieve the disaster funds required to give them assistance in the future. It's a good investment because you're operating against something that's going to happen."

### Conclusion

The recent unfortunate flooding in lowa shows the importance of the hazard mitigation. The same cities and towns in the same counties have been flooded again and again.

The avoided damages in Cedar Falls and Independence in 1999 have proven the value of the buyout investment. More than \$7 million in potential savings has been realized in these two cities alone.