

Providing Shelter from the Storm



Photo of one of the purchased storm shelters

Juneau County, WI – Dating as far back as August 1863 to August 2005 the National Weather Service has recorded 33 tornadoes, ranging from F0 to F4 on the Enhanced Fujita scale, in Juneau County. The storms accounted for approximately 16 deaths and 88 injuries. Concerned for the safety of the residents, the county’s emergency management director initiated a project that has been deemed the first of its kind in the state of Wisconsin!

“There’s a place called Darlington, Wisconsin where a mitigation grant was awarded to raise a host of buildings on Main Street to keep them from flooding. That got me interested,” said Gervase Thompson, Director of

Emergency Management. “Everybody seemed concerned about mitigation measures aimed at saving buildings, dams and dikes. What about lives? I wanted to address mitigation that would help to save lives.”

Knowing his county’s vulnerability to tornadoes, Thompson with help from local resident, Clyde Keller, decided to gather information on storm shelters.

“We looked at a variety of shelters before settling on the one that we have. In Texas, tornadoes are quite prevalent. We got a hold of a business in Odessa, Texas who agreed to sell us the shelters. So we applied for a hazard mitigation grant,” said Thompson.

In November 2004, the county was awarded a \$123,225 grant from the Federal Emergency Management Agency through its Hazard Mitigation Grant Program to defray the cost of 31 tornado shelters to be placed on homeowners’ properties throughout the county. This amount represented 75 percent of the total project cost. State and local governments provided 12.5 percent each, to equal the 25 percent non-federal share (\$41,076).

What was the determining factor in who gets a unit?

First and foremost, a resident had to be living in a mobile home in a rural setting or in a home without a basement. Secondly, though residents were advised that securing a unit was on a “first come, first serve basis” certain agreements had to be met. These included: (1) it was to be used solely as a shelter; (2) it had to be accessible to anyone in need of sheltering from the storm; (3) owners had to put an attachment onto their deed that the unit remains on the property should the owner decide to move; (4) owners had to describe the exact location of the unit in relationship to the home. Thirdly, the ability to pay \$560 of the \$5,300 total cost of a shelter to defray the 12.5 percent local share (\$20,538).

Prior to shelter installation, owners had to attend a meeting informing them of their responsibilities as shelter owners. Safety measures were also discussed, including what to do

should storm debris block the entrance to the unit. Owners were advised to purchase a two-ton hydraulic jack and two 2”x 4” boards and to house them inside the shelter (jack is for lifting the door to exit the shelter and the 2x4’s are used to support the door in the jacking process).

Designed for backyard installation, the fiberglass shelter normally takes 3-4 hours to install. The shelter features an 8-foot diameter sphere and 7-foot, 10-inch ceiling; molded interior seating for 10 to 12 adults; a safety handrail; and, six standard sized steps.

A backhoe is required to dig the hole and help with the backfill. The installer has to make certain the backhoe can access the area and there are no utility lines where the hole will be dug. If unable to confirm, the Utility Locator service in the area should be contacted. Approximately 60 inches of the shelter is placed below ground. The shelter is anchored to a cement slab utilizing five anchors which are power driven into a hole and the unit is tied down with cable and turnbuckles.

On August 18, 2005 the fifth of 27 tornadoes to touch down in Wisconsin on this date (a single day record for the state), touched down along County Road N, in eastern Monroe County and continued on a 10 mile track into Juneau County. The F1 storm caused agricultural and structural damage. A home, which was under construction, was completely destroyed. Three other homes sustained minor damage. Corn was flattened and there was significant tree damage as well. This tornado caused \$100,000 in property damage and \$25,000 in crop damage in Juneau County alone. No injuries were reported.



Located in the city of Mauston, a shelter owner stands in front of his tornado shelter.

While the shelters have provided a welcoming security measure, Thompson is concerned about (1) the fact that more of them are needed throughout the county and, (2) the lack of tornado sheltering in mobile home parks. There are probably eight to ten parks within the county, averaging 20 to 100 units. The mobile home court’s liability insurance company requirements call for enough shelters to hold 110 percent of the population. Each resident has to be able to get into the shelter and 10 percent is for visitors. Unfortunately there is a lack of sufficient land space to accommodate the units.

In an average year, 800 tornadoes are reported nationwide. Every state is at some risk from this hazard. The most violent tornadoes are capable of tremendous destruction.

“I believe in the shelters. If given the funds, I’d repeat the mitigation effort,” said Thompson.

For additional information regarding tornado facts and what to do to minimize the risk associated with tornadoes please visit www.fema.gov to access a copy of the January 2007 publication – FEMA 556.