

MOBILE/MANUFACTURED HOME DAMAGE ASSESSMENT FROM A TORNADO THAT HIT NEAR LAKE CITY



**Bureau of Mobile Home and RV Construction
Division of Motor Vehicles
Department of Highway Safety and Motor Vehicles**

December 29, 2006

MOBILE/MANUFACTURED HOME DAMAGE ASSESSMENT FROM A TORNADO THAT HIT NEAR LAKE CITY

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NOTE: LIMITATIONS OF THE REPORT

The purpose of this report is strictly for the use of the Florida Department of Highway Safety and Motor Vehicles to determine the effectiveness of current department administrative rules governing the installation of mobile/manufactured homes.

All statistics reported here are from a sample of mobile home parks and areas visited. In addition, due to debris, entry into some areas was not possible to make more specific determinations. Consequently, the statistics reported here are estimates. There may be differences between what is reported here and determinations by local building departments, insurance companies or other government agencies

When reporting the number of homes "destroyed or non-repairable" the totals represent homes with severe roof damage to the point of the roof being blown from the home, one or more exterior walls being separated from the home or water completely penetrating the unit.



State of Florida
DEPARTMENT OF
HIGHWAY SAFETY AND MOTOR VEHICLES
TALLAHASSEE, FLORIDA 32399-0500

FRED O. DICKINSON
Executive Director

DATE: December 29, 2006

TO: Phil Bergelt, Program Manager
Bureau of Mobile Home and RV Construction

FROM: David W. Cowfer, Community Assistance Consultant
Bureau of Mobile Home and RV Construction

SUBJECT: Manufactured Home study of tornado damage in Lake City, Columbia County, Florida

On December 25, 2006 several narrow bands of thunderstorms moved northeast across the Florida panhandle through the early morning hours. A tornado developed near Lake City approximately 8:00AM as the thunderstorms moved through the center of the state. One tornado developed northeast of Lake City at a subdivision with site built and manufactured homes. More than a dozen homes were damaged by an F-2 tornado. Eight manufactured homes were damaged, two of those destroyed. One home, a pre HUD double wide had perimeter floor joist rot which allowed the sidewalls and roof to be lifted and carried off with the winds. Fortunately the family inside held on and did not experience any injuries. The tie downs spaced at approximately ten feet on center did hold the floor and chassis down. The other home that was destroyed (age from about the mid 80's) did shift approximately twelve feet sideways. A large oak tree four feet from the homes original location assisted in keeping the home from rolling over or even being carried off. There is a large hole in the roof and sidewall of the home from being thrown into the tree. The reason this home left its pier foundations is due to the improper splicing of the tie down straps by the installer. ALL of the strap splices did not hold allowing the home to be uplifted by the tornado. None of the splice seals were crimped correctly and only one seal used per strap. (See photos)

The other manufactured homes ranging in age from the late 80's to mid 90's that received damage were mostly due to flying debris, such as tree limbs and other loose items. Several homes lost roof shingles. No other homes moved or shifted at all.

NOTE:

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All statistics reported here are from a subdivision near Lake City. In addition, entry into the manufactured homes observed was not possible to make more specific determinations. Consequently, the statistics here are estimates. There may be differences between what is reported here and determinations by local building departments, insurance companies or other government agencies.

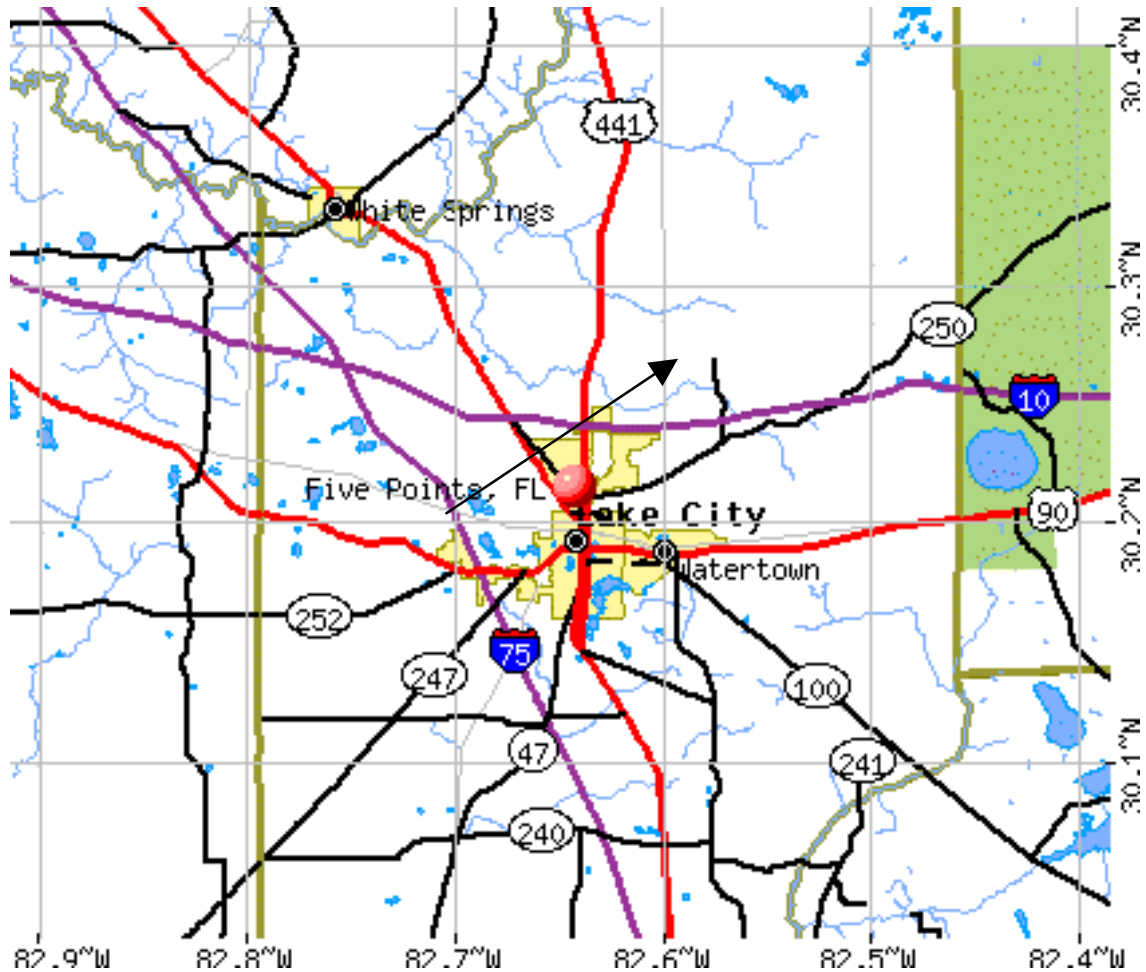
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When reporting the number of homes “destroyed or non- repairable” the totals represent homes with severe roof damage to the point of the roof being blown from the home, one or more exterior walls being separated from the home, or water completely penetrating the unit.

FIGURE 1

THE PATH OF THE TORNADO NEAR LAKE CITY, FLORIDA

(See Arrow)



**PHOTOS OF
MOBILE/MANUFACTURED HOME
DAMAGE CAUSED BY THE TORNADO
THAT HIT NEAR LAKE CITY**



This photo and the next two are of a 1980s vintage home that was uplifted from its original location and thrown against a large oak tree.





This was the original location of this home.



This photo and the next one are of the crimp seals that are used to add length to strapping. All of the strap connections were spliced together. Three over the roof ties and five frame ties were installed on each side of the home. An inspection of all these strap splices revealed the reason for this home to shift. All the splices were not made properly. Two strap seals are required to make splices in strapping and only one was used on each splice made. Also, these strap seals are to be crimped twice. Only one crimp was found on several splices. The straps pulled loose from the seal connections when the home was uplifted by the winds. The auger anchors installed (five each on each side of the home) did not show any movement since the straps pulled apart at the splices.



NEWS ARTICLES ABOUT THE TORNADO THAT HIT NEAR LAKE CITY

Tornado destroys two homes, damages more than a dozen others: No deaths or major injuries reported

December 25, 2006

By Karl Burkhardt



Lake City Journal photos

Half of the home of Wayne and Karen Lewis (above) was torn to pieces by a tornado on Christmas morning. Nick and Amanda Vercher and their 2-year-old son were in their mobile home, next to the tree (below). They escaped without injury, but their home and car were destroyed.



Amanda Vercher said she had no warning before the tornado struck shortly before 8 a.m. There was a loud noise and then the house began to shake. “We ran into the hall and held on to each other – and the house fell down around us,” she said.

A few seconds later, she and her husband, Nick, stood on the floor of their mobile home at 172 N.W. Oglethorpe Terrace. They were unharmed, but the walls, ceiling and all the furnishings had vanished. “My son slept through it!” she said. The boy is 2. “Our angels were with us today,” Amanda said.

Everything they owned was scattered around the neighborhood. Their truck was damaged by a falling tree. One car behind the home was ripped apart and another buried in debris.

Two families in the Woodborough subdivision on Lake Jeffery rushed to their windows when they heard a tornado warning on television. They saw a huge white wall of water racing across Lake Jeffery.

Karen Lewis was thrown against the kitchen wall as the tornado struck. She had cuts on one arm from flying glass. Her husband, Wayne, was in the back of the house and was unhurt, although half of the house was demolished. Their daughter and two dogs were in the house and were unhurt.

Next door, Glenn Owens heard the roar. Later when he went outside, the only damage he found was a broken two-by-four that lodged in his roof. Pieces of boathouses on the lake were strewn through area yards.

Two houses to the west, Carolyn Nakpoda and her husband, Francis, heard the TV warnings. They saw the huge white wall of water racing straight at them and heard the roar that sounds like a freight train. “Let’s go to the inner bathroom,” she yelled to her husband.

“It ended in about three seconds,” Francis said. On the other side of the house, facing away from the lake, part of the soffit was torn away.

“I heard the tornado report on the TV and looked out the window and there it was!” Carolyn said. “It was so scary, I’ve never been through anything like that.”

Wayne Lewis was more subdued. “I’ve been through this before,” he said. It was more than 20 years ago when he lived in Hawthorne.

Debris was scattered for several miles, including several kinds of metal roofing.

Each of the witnesses said they heard a loud boom, more like an explosion than a thunderclap, just before the tornado struck.

Storm track

Columbia County Sheriff Bill Gootee said the damage was 500 yards wide, on a seven-mile path from U.S. 90, near the Plantations subdivision, to State Road 42 near Interstate 10, where a gas station was damaged.

Heavy rain, loud thunder and frequent lightning preceded the tornado.

Chunks of debris were scattered on U.S. 90 West. Trees fell on houses in the Plantations subdivision.

Steel roofing and walls exploded in all directions at Horizon Industries and nearby buildings as the tornado crossed Interstate 75. A trail of debris and broken trees show where the tornado entered the Woodborough subdivision and entered Lake Jeffery.

Water was whipped high into the sky as the tornado churned through the lake, then hit the Lewis home on the north side. Power lines were damaged as the storm crossed Lake Jeffery Road, heading for the mobile homes in the Moore Haven area.

On Moore Road, two semi trailers were knocked on their sides and an empty mobile home was demolished. Its roof hangs in a tree across the road.

The home of Nick and Amanda Vercher took a direct hit and the house flew apart while they were inside. Neighboring homes were hit with flying debris and falling trees.

Along the path, some trees were snapped in half, next to rows of other trees that were uprooted. Seven miles from where it started, the tornado smashed into a gas station and disappeared into the sky.

Shayne Morgan, Emergency Management Specialist who tracked the damage reports as they came in, said there was only one injury (Mrs. Lewis) requiring medical attention. Lake City Division Fire Chief David Boozer reported numerous call for downed power lines and trees that fell on houses and across roads. Fortunately, there were no fires.

Workers from Florida Power & Light responded quickly to repair damaged lines Christmas Day. Many homes had power restored by late afternoon.

Red Cross and Catholic Charities representatives visited the families to offer housing, clothing, food and help with other needs. Suzanne Edwards, Director of Catholic Charities, said about 15 families needed assistance.

Industrial damage

A few miles southwest of them, where Lake City Avenue ends at Interstate 75, several large industrial buildings were shredded.

The metal walls of an addition to Horizon Industrial Supplies were torn away and the debris could be seen across an adjoining field, I-75 and in trees on the other side of the interstate. The older building attached to it had part of the roof torn away and a wall buckled.

Dale Racine, the general contractor who was building the addition, said it was three or four days from being completed. The steel framework was mostly intact, but the roof and walls must be replaced, he said.

Plywood patched the walls of the D.L. Nickelson & Co. building, but it appeared to be otherwise intact.

Workers from several companies patched walls and covered open areas of buildings with tarps.

Other weather

The tornado was spawned by a fast-moving line of thunderstorms, ahead of a cold front that will bring cold air to the region on Tuesday.

The same line of storms reportedly included tornadoes in the Tampa Bay area and in Leesburg, both causing injuries.

The U.S. Weather Service reports rain in Columbia County was about two inches. As the storm moved eastward, it dumped from five to seven inches of rain on St. Augustine, causing flooding in some areas.

The storm has not officially been classified as a tornado. However, several witnesses reported seeing the funnel-shaped storm and the Weather Service issued a warning of a tornado on the ground about 8 a.m.



Lake City Journal photos

'Our angels were with us,' said Amanda Vercher, who was in this home with her husband, Nick, and 2-year old son. Only a chair, sink and water tank remain on the base of the home.



This side of the Lewis home faces Lake Jeffery and took the full force of the tornado. A workshop is in the left front of the photo



This boathouse, and several others on Lake Jeffery, lost their roofs when the tornado struck. The deck chairs were placed on the deck after the storm.



Numbers on a map at the Emergency Management Center show the track of the tornado and the sequence of reports



Emergency Management Specialist Shayne Morgan (left) shows Sheriff Bill Gootee the latest information about storm damage.



Lake City Journal photos

A trail of debris marks the tornado's path across Interstate 75, from Lake City Avenue. A building being constructed for Horizon Industrial Supplies is to the right. Debris can be seen on the median and the northeast side of the interstate.



Workers nail tarps over a collapsed building in an attempt to save the equipment buried in the rubble. This is one of several buildings on Lake City Avenue that were destroyed.



Nathalie Pozo of WCJB TV 20 videotapes damage on Joland Way, next to Moore Road. A mobile home was destroyed and two semi-trailers were knocked over there.



The pile of metal on the right is loose debris. The pile of metal in the background is what is left of a factory building.



Every road near the path of the tornado has debris strewn in the culverts and nearby trees.

Tornado victims getting help; hundreds volunteer for massive cleanup program

December 27, 2006

By Karl Burkhardt



Lake City Journal photo

Inmates from Columbia County Correctional Institute, corrections officers and area residents take a lunch break on N.W. Chadley Lane. Two homes and an unoccupied mobile home were destroyed and dozens of trees were broken or toppled in the area

A massive effort to clear debris and help victims of the Christmas Day tornado is underway in Columbia County.

At least four homes were destroyed and 12 damaged by the F-2 tornado, which had winds estimated at 113 mph to 157 mph. Two businesses were destroyed and one damaged.

Governor Jeb Bush declared an emergency on Tuesday, but the damage does not meet state criteria for disaster aid: 25 uninsured residential homes or five businesses, said Harvey Campbell, Columbia County Public Information Director.

However, if the state treats the other areas damaged by the Christmas Day storm as a collective disaster, they will meet the criteria for emergency SBA loans. Tornadoes spawned by the same squall line were reported in Pasco, Lake and Volusia counties Christmas morning.

Declaring a disaster area does not mean the state will send funds.

Inmate volunteers

However, the state sent workers to clean up debris.

Columbia County Correctional Institute has 63 inmates and 18 officers in the Moore Road area, cleaning up debris. Dozens of neighbors joined the effort, including women who cooked for the

group. The CCCI brought chain saws, rakes and other tools, said Assistant Warden John Griffiths. Sgt. Shane Kennedy brought his tractor with a log-loader on the front. Columbia County provided trucks, heavy-lifting equipment and large dumpsters to take the debris.

Inmates were taken to the scene yesterday to help and are expected to return Thursday. The Columbia County Sheriff's Office had two inmate crews helping clean up debris.

Helping victims

Ronnie McCardle, Columbia County Emergency Management Director, toured the area with State Representatives Debbie Boyd and County Commissioners Elizabeth Porter and George Skinner.

Other county officials visited the area with Suzanne Edwards, Director of Catholic Charities, who offered food, clothing and temporary housing for storm victims.

Edwards said one of the most urgent cases is a couple in their 70s, Ollie and Marquree Gibson, who are taking care of their four great-grandchildren. Their mobile home was moved 6 feet off its foundations and a sheet of plywood slammed through the side of the home, just missing their feet. The home was destroyed.

Edwards arranged for volunteers to help the Gibson family move their possessions out of the house. Ben Ellis loaned a U-Haul truck to move the clothing and furniture.

The Gibsons are raising their four great-grandchildren because the children's mother (their granddaughter) was shot and killed by her husband a year ago, on Christmas Eve, Edwards said. She also was told that Ollie Gibson has terminal cancer. The Gibsons are staying at a motel.

Anyone who wants to help the tornado victims can contact Catholic Charities at 258 Burk Avenue or call 754-9180. The office is open mornings. Money for temporary housing, clothing and food is needed. Catholic Charities provided 20 hot meals on Wednesday and expects to provide meals for the rest of the week.

"We need help preparing meals and I would like to get some toys for the children who lost everything," Edwards said. She also would like people to buy clothing for children. She has the sizes and names of the children and hopes people will shop for them.

Edwards said the Christian Service Center is working with them to assist families.

Laura Mager, Executive Director of the Red Cross office in Gainesville, said the Red Cross provided assistance to four families and two more are pending.

Other damage

The Gibson home on Joland Way was one of two occupied mobile homes that were destroyed. A block to the northeast, the home of Nick and Amanda Vercher on Oglethorpe Terrace, took a direct hit and disintegrated around them. Their two-year-old son was found asleep in his playpen, under pieces of plywood debris. They were not injured, although the roof and walls were torn away.

A brick building, the home of Wayne and Karen Lewis, was badly damaged. They are waiting for a structural engineer to determine if it is a total loss. Mrs. Lewis, who was thrown across the kitchen and cut by flying glass, was the only person who was treated for an injury.

On Lake City Avenue, the tornado smashed the Horizon Industrial Supplies building and badly damaged a steel addition under construction.

Nearby, a D.L. Nickelson & Co. building was damaged. Two other warehouses were destroyed.

A mobile home on Lake City Avenue, owned by Vicki Ward, was ripped apart.

On U.S. 41 near Interstate 10, a Texaco station was the last building in the tornado's seven-mile path. It was badly damaged and forced to close.

Hundreds of tons of debris

Bill Lycan, Columbia County Solid Waste Director, visited the Moore Road area, where much of the residential damage was concentrated. Some of the trees that are being cut up will go to the Olustee Battlefield for the Olustee Battle Re-enactment, February 16, 17 and 18, Lycan said. Metal will be recycled if it is not mixed with other debris, he said. Mixed debris and household items will be taken to the landfill.

Road report

Major Rick Carpenter of the Florida Highway Patrol said there were no reports of injuries or damage to vehicles on Interstates 75 and 10, although debris was scattered across both roads. "There were a lot of calls about debris on the road," Carpenter said. It would have been a disaster if the tornado struck at another time when there was heavy traffic, he said.

All that's left on one site:

Lake City Journal photos



A broken satellite dish and a power pole mark the site where the home of Nick and Amanda Vercher stood.



Two cars, smashed by the storm, await removal.



The upside-down base of the Vercher home lies in a nearby lot.



Trees, furniture, clothing, pieces of appliances and torn metal are piled in the Vercher yard, waiting to be taken to the landfill.