Perilous Stairs
by Pecorella Contracting and Consulting

126 Frank Street Medina, NY 14103

Inspection Report by Superb Carpenter

May 23, 2004

Miss Amy Rosier
17029 Gulf Road
Holley, NY 14470

Miss Rosier:

This is a description of what I observed when I looked at the newly built stairway at your residence, and later when I replaced that stairway.

First, I'd like to declare my qualifications to make such determinations. I am a Lead Carpenter who has done construction contracts for many large companies in the Rochester area. I have over 18 years experience in a wide variety of construction jobs such as, building decks, stores in malls, Sunrooms, and drywall repair.

Now, I'll state my synopsis of the stairway. In all of my years in construction, I have never seen anything so poorly constructed. There were approximately 25 things wrong with this stairway. The only thing that was right, was that the contractor used Pressure-treated lumber.

The worst factor was that new stringers were attached to old, deteriorated wood (which should have never been considered for use in building this staircase) and very poorly at that! The new wood stringers had very few screws driven into the old wood, and there was a gap of approximately ¼" between these on one side. In addition, the one old stringer was barely secured by only a few nails and screws to the house's outer wall. The opposite old stringer had none securing it to anything.

On the day that I dismantled this staircase, I tapped lightly with a hammer on one area of the rotten wood. The deteriorated wood crumbled away creating a hole measuring 4" x 4". A little more tapping, and I'm sure that the bottom few inches of the stringer would have fallen off.

There were five tips of screws protruding out from the lower section of one old stringer where someone could walk by, and be injured. These sharp projections ranged in length from 1/4" to 9/16". It was hazardous just being next to these steps, let alone being on them.

The handrail violated many building codes, and was ridiculous looking. The spindles were not parallel to each other, and varied in length. Measurements of the spindle lengths in the top

section of the handrail best illustrate how insolently this contractor built this handrail. The spindle at the bottom of this section measured 20" and the spindles at the top of this section measure 16 3/4". Even two handrail uprights weren't parallel to each other, and therefore both could not have been perpendicular to the ground. Distances apart measured 61 1/4" at the top, and 55" at the bottom.

One upright was 39" tall, and the upright at the top was only 33" tall (too low for the standard). A person automatically expecting the handrail at the top to be a uniform height with the rest of the handrail might possibly grab for the rail and miss, as the handrail would have been 6" below their reach. Injury or death is a real possibility, especially since this resulting fall would have been from two stories high.

The handrail was loosely attached to the staircase; I could grab the handrail and easily move it back and forth. A person grabbing for the handrail to steady himself or herself would most likely tumble when the handrail gave way. This handrail should have had at least one midway 4x4 all the way down to the ground to add stability; there was no such 4x4.

There is still another defect in the handrail. All spaces should be no wider than 4" so a toddler's head cannot pass through. I found the spaces in between the railing's spindles were 6" up to 8 3/4" wide. A toddler at the second story could fall through these wide spaces to his / her death.

The bottom step was partially detached when I first looked at the stairway. Upon investigation, I found that this occurred because the stringer on both sides supported only the rear 4.25 inches of the step tread. The front 5 inches were not supported by anything. This scenario made it inevitable that the step would break loose as people walked on it.

I noticed that the fifth step was not near level - a dangerous slip factor when it becomes icy.

The fourth step from the top had 3 screws on one end that did not penetrate into the stringer. This step would quickly become detached.

The top step tread was inserted into a slot, and then secured only by one screw at each side. Subsequently, as I was dismantling the top section, the very tip of the stringer broke off in my hand. It looked suspiciously like the contractor knew of the split, and tried to fix it with one screw.

Lastly, any staircase over 10 steps is required to have continuous stringers that are notched for the treads to be inserted. The new stringers built by this contractor were not of a continuous length as they should have been for proper structural support. Three sections measuring 5.5, 5.5, and 6 feet were fastened to the old wood. In essence, the deteriorated, crumbling, old wood was not used just for filler, but as the base for the new stairway. Also, I noticed as I removed the handrailing, that the joints of the stringers were extremely unsafe. The seams were at approximately a 45-degree angle to the ground. These seams should have (at the very least) been parallel to the ground. This configuration left this structure too treacherous for any occupancy, as it depended on the old crumbling wood as its main support. When the old wood deteriorates a little more, there will be nothing to keep the new wood from collapsing.

The average width of these stairs was very wide for the way they were constructed. Consequently, the stair treads bounced and flexed as I walked on them. I said average, because the width of every tread was different. The best range to illustrate these haphazard measurements was the top five treads: 42", 41 5/8", 41 1/4", 41 1/2", and 40 7/8".

You asked me why we couldn't reuse any of the materials: Briefly, materials were cut too short, attached incorrectly, stringers were not continuous, and endless other reasons; too many to list here. Additionally this "contractor" charged you way too much for this structure, taking into consideration the improper materials and poor-quality workmanship.

I'm surprised that no one got injured in the two months that the structure was there. This stairway was an accident just aching to happen. It is abundantly clear that the entire fabrication was in violation of the codes, rules, and regulations of NYS, which would have required proper diligence and care during the erection of a stable stairway. Obviously, the Code Enforcement Officer had no choice, but to condemn this contractor's work as unsafe.

It is my experience that you, as the homeowner and consumer, are not required to allow a contractor who does not build safely to make additional attempts to rectify these numerous flaws.

I suggest that this contractor try using a tape measure and a level on his next job. That might help!

Sincerely,

John

Staircase by Pecorella Contracting and Consulting

126 Frank Street Medina, NY 14103

Shows that the stairway was condemned

Shows how the stairway used the old, rotten wood as its basis. Also shows the span in between the spindles.

Shows my "liftable" bottom step; propped up by a white board for the purpose of taking the picture.

These lines were drawn to accentuate that the step below the area marked with the small arrow was not level.

Shows how crooked and ugly the handrail was. Spindles were not placed evenly or parallel.

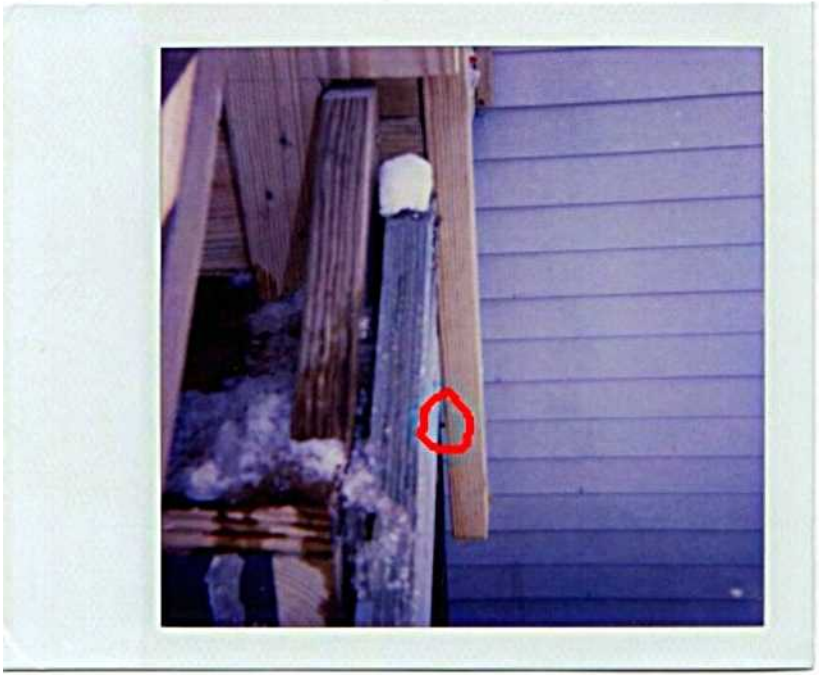
Spans were too wide, up to 8.75 inches - Code is less than 4 inches

These two pictures show that the handrail was different heights. My arm is straight at the top. Height = 33 inches

My arm is bent at half-point. Height = 39 inches

Shows the rotten wood that is the main support for the stairway. Also shows a screw point.

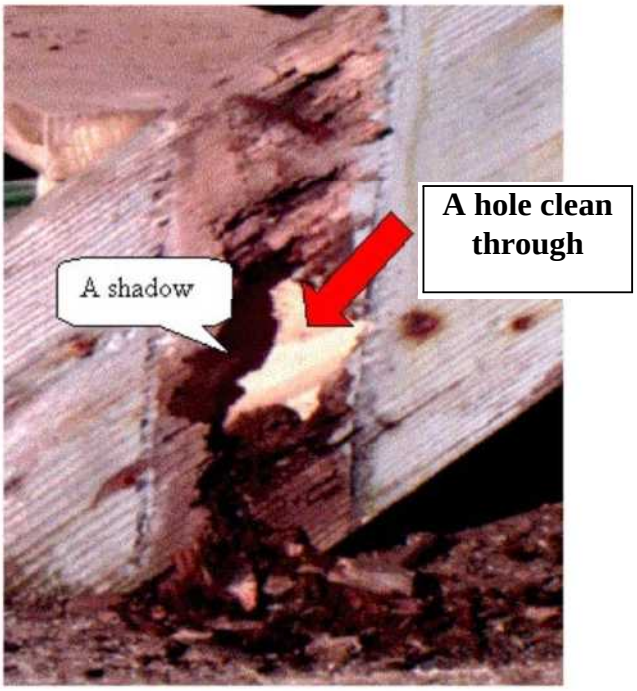
Shows more screw points protruding out where they could injure someone.



Shows the pitiful attempt at securing this board. You can see the one screw between the gap of new against old.

As new contractor was rebuilding, he tapped lightly with a hammer on the rotten wood. This resulted in putting a hole clean through the rotten wood.

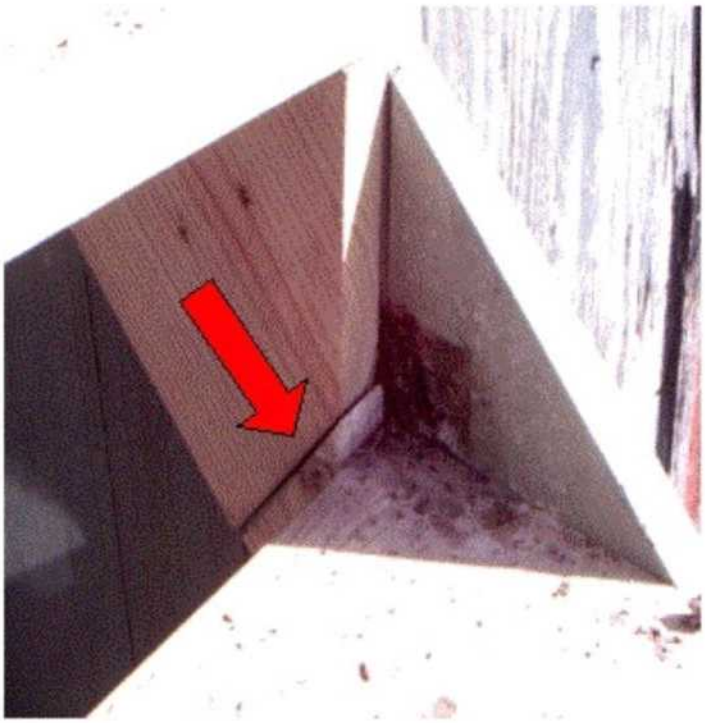
Closer View



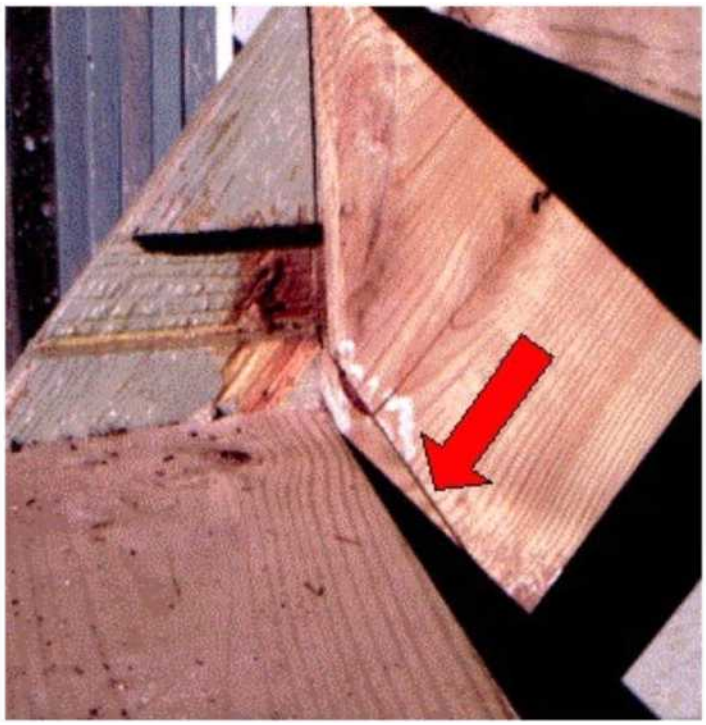
Close-up View

Another example of the rotten wood

Closer View



These pictures show the despicable method that Pecorella used to mount the new wood against the old-rotten wood. It is clearly shown that the rotten wood is the main support for everything above the bottom section. And then, this junction is slanted, making it virtually unsupported, and able to slide right down. The only thing preventing this slide are the screws holding the new wood to the rotten wood. Once the rotten wood deteriorates a little more, the stairway will fall apart, probably with a person on it.



The matching joint on the opposite side

These are pictures that were taken after the stairway was dismantled.

This is the bottom step as shown from underneath. It shows that the front five inches were ***not*** supported by anything. It was inevitable that the step would break loose as people stepped on it.

This is a picture of the old, rotten wood that Pecorella used as the basis (stringers) for the stairway.

This is a piece of wood that broke off in John's hand as he was taking the stairway down. This is at the very top of the stairs

This shows three screws that **missed** the stringer. They are holding nothing! You can see that the tread is already lifting away from the stringer.

These are more pictures, taken after the stairway was dismantled.

These two pictures show how poorly the new wood stringers were fastened to the old rotten stringers. In the picture on the right, I placed my finger into the gap in order to illustrate the span.

This is a picture of the top section of my ugly, crooked hand-rail. Look at the span just above support (about midway). That span, which is required by NYS Code to be less than 4 inches wide so a toddler's head can't fit through, is actually 8.5 inches wide.

This is a picture of what a new set of stairs should look like. {After I had a superb carpenter replace the shoddy ones built by Pecorella)