

June 12, 2008

Mr. Dave Romesburg
27 Castle View Drive
McKees Rocks, PA 15136

Re: Inspection of Water Leaks

Mr. Romesburg,

As requested, I visited your residence at 27 Castle View Drive in Kenney Township and conducted a visual structural inspection and reviewed photos taken during the construction and several repairs to the house. The inspection on October 27, 2007 was made to evaluate the foundation repairs and determine the cause of the continuing water leaks in the basement wall and at the front door.

Background

The townhouse is a two story wood frame structure with brick veneer on the front and vinyl siding on the end wall and rear. The house has concrete block basement walls. The town house was constructed in 2003 and is the end unit of a northwest facing building.

Several repairs have been made to the foundation waterproofing system and to the front door and stoop in 2005 and early 2006. Since then, numerous water leaks have occurred along the front of the house, primarily at the front door and living room window. Several repairs have been made by Heartland Homes, but to date have not succeeded in eliminating the water problem.

Inspection

The weather at the time of the inspection was partly cloudy and breezy with temperatures in the 50's.

The following is a summary of observations made during the inspection:

1. The brick on the front of the house is a lightweight type that is porous and tends to wick water into the wall cavity.

2. The bottoms of the brick on the front of the house are approximately 8” below the grade. No flashing or weep holes were observed along the top of the foundation. Without flashing and functioning weep holes, water in the wall cavity would run out at the top of the concrete basement walls.
3. The vinyl siding on the right side end wall is lapped from rear to front against the prevailing wind. The siding on two other end units with the same orientation in the complex was examined and they were both lapped front to back.
4. The top of the pediment over the windows was caulked, but the pediment over the front door had only a small amount of caulking.
5. At the front basement wall water stains were observed where water had run down the inside of the wall.
6. The electrical panel mounted on the front basement wall had a gray film over the circuit breakers. This appears to be from being moisture and indicates a potential for corrosion and malfunction of the circuit breakers. This should be checked by a qualified electrician.
7. There are stepping cracks in the basement garage wall. The cracks are 1/32” – 1/16” wide and no signs of water leaks were observed. These appear to be normal shrinkage crack and are not a structural concern. This type of crack would only need to be repaired if the water proofing on the outside is allowing water through.
8. Several moisture readings were made in the basement wall and wood framing. The reading in the wood framing were in a normal range from 7%-12 %. The relative reading observed in the block walls indicated a higher moisture at the tops of the wall than at the bottom and mid height.

Review of Photographs

Photos taken by Mr. Romesburg during the original construction and during repairs to the front porch and foundation walls were reviewed. The following comments are based on my review of these photographs:

1. The photos DSCN 3411 and 3412 of the side of the house taken in December 21, 2003 shows only a strip of tape over the top of the window and part way down the sides.

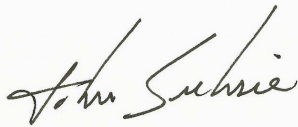
2. The water leaks observed in the photos appear to be from the top of the basement walls and many are above grade.
3. No evidence of weep holes installation was noted and the required flashing around the windows was not seen.

Findings

Within the boundaries of reasonable engineering certainty, and subject to change if additional information becomes available, it is my professional opinion that:

1. The primary source of the water leaks is from water that enters the wall cavity through the bricks and around the windows that does not have a proper outlet. The water then runs through the wall framing and onto the floors and down into the basement walls.
2. To correct the water leaks, flashing and weep holes must be installed in at the bottom of the brick veneer in accordance with the Internal Residential Building Code and the windows and doors must be properly flashed in accordance with the manufacturer's recommendations.
3. The vinyl siding on the side of the house should be removed and installed with fewer splices and lapped front to back. When the siding is removed the flashing around can be inspected and repaired as needed.

Sincerely,



John L. Suhrie, P.E.

