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Mr. & Mrs. Smith
3718 W. Dravus St. Seattle, WA 98199

Saturday, February 25, 2013

RE: Limited Condition of Building Survey: 5443 Any Ave W. Seattle, WA.

Dear Mr. & Mrs. Smith,

At your request, we conducted a limited visual survey of specific construction components of the single-family residence at the property referenced above on Friday, February 24, 2006.

The survey was limited to observing the components listed below. It has been our intent to provide you with an outline of our observations of the conditions requiring repair and or further analysis to these components. It is not the intent of this report to list every item that may be in need of repair or replacement. We have not performed an in depth engineering analysis nor conducted technically exhaustive studies.

Our findings are is follows:

1. Deck and deck rail water migration analyses:

Visual inspection: The visual inspection revealed that the deck rail systems had been well installed using proper drip cap flashings and a self adhesion rubberized ice dam material at the top of the wall system to direct all runoff away from the rail enclosure. Close attention to water migration issues appears to have been used in the deck construction.

However, a few areas of concern on the rail system were noted. The first is the area where the rail caps meet the sidewalls of the structure. Because of the window configuration the deck rail overlaps the windows framing in some areas creating a void that could allow water migration into the wall system. The second area of concern is the area of the water migration damage to the deck sheathing materials visible at the lower corners of the first floor decks where the deck system meets the sidewall of the house and at the first floor south side deck where the rail meets the window system.

Figure 1: The damaged sheathing material is located directly behind the lowest trim board on the deck structure.

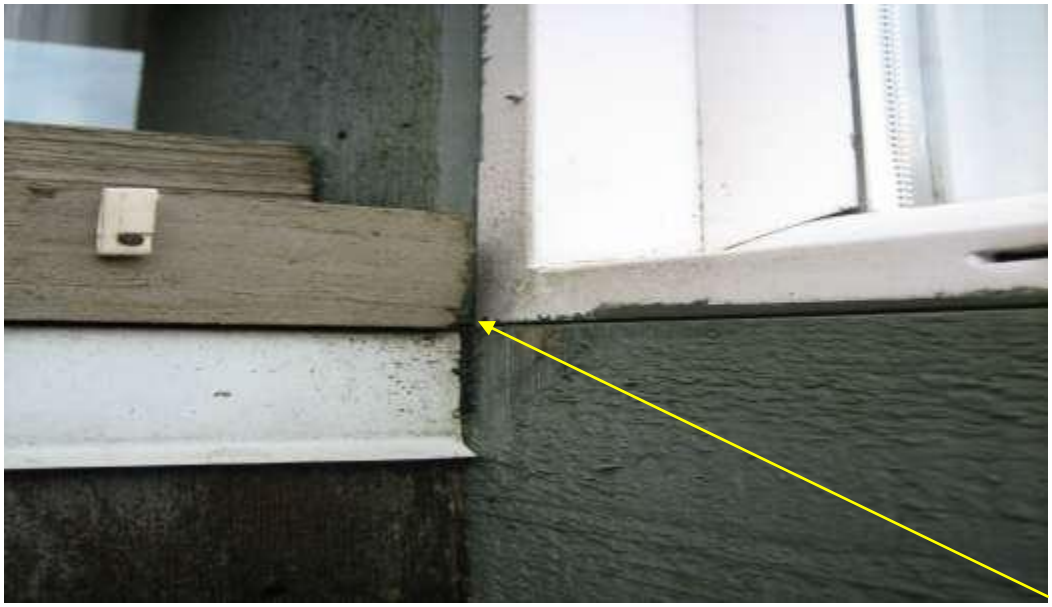

Figure 2: The deck rail system is installed directly adjacent to the window framing. This creates a void at the top of the rail system that could, over time allow water migration into the wall system.

Invasive testing: After our visual inspection was complete we used a Delmhorst deep wall probe moisture meter system to complete an invasive moisture inspection at the water migration points and at a random number of control points.

This inspection protocol first establishes base line moisture content present in the exterior wood products. The base line was established at 14.80% MC.
After the baseline is established moisture readings were taken starting at the lowest point of the deck system along the trim board then moving in 6 inch increments up the siding material at the structural sidewall to deck rail joint. The wall probes take a reading only from the first eighth inch of the probe meaning

the reading is at the deepest point of the probe into the wall system. The resistance of the probe entering the wall system also indicates the condition of the wall system. Water damaged material will allow the probe to enter with very little resistance. Any MC over 20% can be conducive to fungal decay.

Moisture and Conditions for Wood Decay

When unprotected wood is exposed to the elements, excessive moisture, or contact with the ground, it is susceptible to decay. Four conditions are required for decay to occur: moisture, favorable temperature (approx. 50 to 90 degrees Fahrenheit), oxygen, and a source of food (wood fiber). If any of these four conditions is removed decay or infestation will not occur. Mold requires moisture to survive, so protecting lumber and wood structures from moisture will prevent mold growth and decay.

Wood Moisture Content (MC) and Decay Conditions:

- **Optimum decay condition, MC 25%+**
- **Marginal decay condition, MC 20 - 25%**
- **No decay, MC 20% or less**

Findings: Lower decks:
South deck:

The south lower deck shows signs of water migration at the top of the
deck rail where the window meets the railing; this area had a moisture content of 51.2%. Some limited areas of damaged sheathing material were found along the siding to corner board joint. This damage does not extend out into the wall system or down to the deck joist system.

Figure 3: The only area of high moisture content related to the deck rail cap joint was at the lower south side deck. This is the deck with the most exposure to driven rain. Minor damage to the sheathing material was noted in the area.

Figure 4: This deep wall probe is inserted directly inside and below, at the sill plate, the probe in the photo above. The 9% MC reading confirms that the moisture from deck rail outside has not entered the wall cavity.

North deck:
The north lower deck shows the most sever damage to the sheathing
material at the bottom trim board. As seen in the photos below the damage stops at the top of the lower trim board and does not extend up the wall system.

14.8%

42.7%

Figure 5: This photo shows the moisture readings at the south corner of the first floor north side deck. The moisture readings confirm that the water migration damage to the sheathing material was caused by the faulty drip cap flashing at the top of the trim board not by water migration into the wall system from the rail cap or sidewall connection above. The heavy mildew growth at the sidewall shakes and bevel board siding appears to be from a lack of direct sun on this wall so the wall does not dry not from excessive runoff at the rail cap.

Upper decks:
Neither of the upper decks had any high moisture readings.

All decks were tested in a random number of areas for high moisture content.

The deck floor joist bay vents allowed a visual inspection of some sections of the deck joist and rims. The vents showed no excessive amount of staining from water entering the joist bays. No damage was visual from the vent areas.

The upper south deck did have staining present at the lower outside edge of the joist bay but this was caused by water running off the sidewall not from inside the joist bay.

Corrective actions suggested: Although some water migration damage was located it was not to the extent that the wall systems should be dismantled for repair. The amount of damage for an eight year old deck

system was typical with the exception of the damaged sheathing at the lower trim areas of the lower decks. Even this damage does not encompass a large enough area to require replacement as long as steps are taken to stop the damage at its current state.

The repair suggested at this time is to properly caulk all deck railing to sidewall connections paying particular attention to the rail to window areas, all sidewall shake to corner boards, and at all lower drip cap flashing corners were the deck meets the kick out of the house.

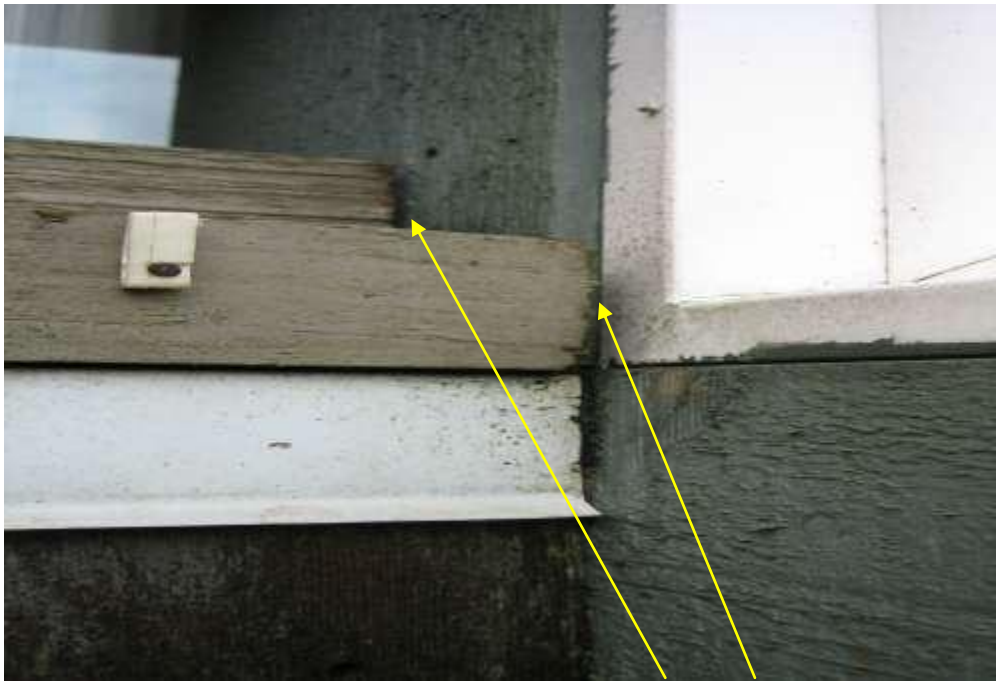

Figure 6: The most critical caulking joint is at the deck rail to window and sidewall all decks. This area should be filled with a commercial grade caulking material.

When the house is repainted it is highly recommended that all caulking at all windows, doors, etc. is inspected and replaced as found to be required by the painting contractor.

Thank you for asking Inspection Services Northwest Inc., to perform this important survey for you. We look forward to working with you again in the future. If, after carefully reviewing this report, you have any questions regarding this survey, please contact our office.

Sincerely,
Inspection Services Northwest Inc.

Wade A. Pennington
President
W.S.H.I. # 326
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