A Perfect Storm

We all know that a foundation should be exposed above grade by 8" or more. In the Calgary Alberta market where I inspect, this rule is generally ignored by the builders and city inspectors. Basement walk outs typically have no foundation exposed on the back of the house. Calgary is dryer than most cities, so they get away with a lot here. In fact both the 1997 and the 2006 Building Code make two separate statements on this issue.

"Exterior foundation walls shall extend not less than 150 mm (6") above finished ground level." (Alberta Building Code 9.15.4.3)

"Not less than 200 mm (8") clearance shall be provided between the finished ground level and cladding that is adversely affected by moisture such as wood, plywood, OSB, waferboard and hardboard." (Alberta Building Code 9.27.2.2.(1))

These two statements may appear to be in conflict with each other but really they are not. Some siding materials are not adversely affected by moisture, for instance synthetic stucco, because it is waterproof. So, why then would the building code insist that there be 6" of foundation (concrete) above grade. PWF's are another discussion. The reason is that concrete wicks up water. If a house is situated in an area with a high water table, either seasonal or otherwise, the concrete will wick up the water, and yes it will wick up 8' and more. That 6" of exposed concrete at the top of the foundation gives the water the chance to evaporate out of the concrete. There's a vapour retarder on the inside and waterproofing on the outside, up to grade level. If the water is not allowed to escape above grade where will it go?

In a situation I was involved with over ten years ago when I was in Ontario, the brick on the lower third of the house was destroyed. The house was situated on a lot with a high water table, grading was flat, and the house had been built with no foundation exposure. Water wicked up through the concrete and saturated the brick. The water then froze, and expanded. The result was badly damaged brick. This of course is an extreme case, but there is a lot to be learned from extreme cases.

I was inspecting 4 year old house recently that had no foundation exposure, and poor grading. There was a sump pump in the basement, indicating that someone believed that there was a high water table, either seasonal or otherwise. The siding on this house was synthetic stucco, you know, the waterproof type. When I put the pieces together, I noticed I was cursing under my breath. The stupidity of it stunned me. Where is the water going to go? Into the wall of course. How will it get out? It won't. Will there be enough water to wick up into the framing? Can't tell. How much damage will it do, and how soon? Don't know.

That was a tough report to write.

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