

STATE BUILDING CODE INTERPRETATION I-09-07

April 5, 2007

The following is offered in response to your March 22, 2007 request for a formal interpretation of the provisions of Section R401.3 of the 2003 International Residential Code (IRC) portion of the 2005 State Building Code.

Question 1. “What is ‘surface drainage’?”

Answer 1. “Surface drainage” is not a term specifically defined within the family of International Codes. As such, Section R201.4 of the IRC tells the user to apply “ordinarily accepted meanings such as the context implies.” In the context of Section R401.3, surface drainage is meant to mean the movement of water over the surface of the land adjacent to new construction. The code intends to regulate such drainage to minimize the impact of water intrusion into the building and also to regulate any surface drainage issues created by or made worse by regulated construction. The referenced section contains two important provisions. The first is that surface drainage must be diverted or collected so as not to create a hazard. This means that any normally occurring sheet flow drainage pattern that is disrupted by regulated construction to create a concentration of water, such as swales, yard drains, foundation drains or roof leaders must be dealt with by dispersion or collection and absorption in such a manner that such concentrated water will not flow off site.

The second provision regulates the slope of the finished grade surrounding foundation walls. The intent of these requirements is to prevent water from pooling up against the foundation in an attempt to minimize any intrusion of water into basement or crawl space areas under the home.

Question 2. “Can the water collected from a roof by a gutter system be discharged onto the property and then allowed to follow the natural grade as a sheet flow across the property?”

Answer 2. Yes, providing the point of discharge is a sufficient distance from the property line to allow dispersion and absorption to occur so the water does not leave the property in a concentrated flow.

Question 3. “Can water from footing drains or curtain drains come to daylight on the property and then be allowed to follow the natural grade and sheet flow across the property?”

Answer 3. Yes, providing the point of discharge is a sufficient distance from the property line to allow dispersion and absorption to occur so the water does not leave the property in a concentrated flow.

Question 4. “Is there an appropriate distance from the property line for the above noted drains to come to daylight, or is that distance at the discretion of the building official?”

Answer 4. Since the code does not offer a prescriptive answer to this, a performance approach must be taken in determining the distance. The actual distance from the property line will vary depending on the volume of water, the slope of the finished grade and the texture and absorption rate of the surface over which the water travels. When sufficient distances are not available due to lot configuration it may be necessary to terminate roof or foundation drainage lines in drywells to hold and disperse the water.

Question 5. “When constructing a house on the side of a hill, most or all of the trees are removed and the area is converted to lawn without noticeably changing the original grade of the hillside. It’s likely that some of the rain water that previously would have permeated the ground will now run off. Is that water regulated by Section R401.3?”

Answer 5. No. Water has always flowed down the hill. Since the cutting of trees is not a regulated activity with respect to the building code, the effect on drainage from tree cutting and landscaping would not be regulated by Section R401.3.

Question 6. “Is the building official empowered to require a ‘stamped’ drainage design plan before issuance of a building permit and then a ‘stamped’ drainage as-built before issuance of a certificate of occupancy?”

Answer 6. In the statutory scheme of things, a licensed architect is only required for single-family homes over 24,000 square feet in total gross area (See section 29-276c of the Connecticut General Statutes), so unless the home were over that size it would be inappropriate to request such a plan from an architect. The statute governing the services of a professional engineer, on the other hand, generally state at section 20-306a that if engineering is required it must be performed by a professional engineer licensed by the State of Connecticut. If the proposed drainage system were of such complexity that the local building official determined that engineering was required, it would be appropriate to require the design to be signed and sealed by the engineer who prepared or oversaw the design. In the circumstances described above in connection to construction of a single-family residence it would, in my opinion, be unusual to require an engineered drainage system; therefore obtaining signed, sealed drainage design drawings for a detached residence would be a rare occurrence.