

## **GREEN BUILDING: Limiting pollutants, moisture crucial to health of house**

By Cindy Meehan-Patton  
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This article is the last of a three-part series.

To create a healthier home, you need to be specific with a builder about what you want. Simple efforts will make a home more durable and sustainable for present and future occupants.

The first article in this series focused on the foundation of the home (or feet). The second looked at framing, insulation, siding and roofing (the head and core of the home). This final part will focus on heating, ventilation systems and air-conditioning systems, dehumidification and chemical pollutant issues (the immune system of the home).

Let's finish up where we left off in our implied conversation with a developer:

“Right after the HVAC duct returns are installed, don't forget to seal them up until we are completely finished with the construction of the house. I do not want this dangerous construction dust in my family's lungs. I understand that you will install the HVAC system in the crawlspace. But, please make sure the ducts are very tightly sealed with mastic. I found low-toxic mastic on the Internet, so I will be responsible for getting that to the HVAC installer.

“Speaking of HVAC systems, I do not want any combustible fuels (oil, propane or gas) in my house, which are not only a potential chemical and CO2 pollutant source, but they can cause condensation problems. I prefer an Energy Star-rated 17 SEER electric heat pump that provides central air conditioning and heating. I am not interested in paying for a big name unit, just one that has these features. I am shopping for a nonpolluting wood stove for backup in case I lose electricity.

“Some of my friends have built an airtight home and have informed me of the need for a fresh air system or mechanical ventilation system. I am looking for the most affordable unit. This is an essential addition to my HVAC system because it will act as the breathing machine or lungs of my home. I do not want to have to rely on natural ventilation because then I am just defeating the purpose of creating a dry, mold free home by letting all that moist and polluted air in. I will talk with the HVAC installer more about this too.

“Dehumidifiers, strategically placed, are needed for the many moderate temperature days we have that do not require heat or air conditioning, but are still too humid to open the windows. I need to monitor the humidity by checking the gauges placed strategically, like the kitchen and crawl space. When the humidity is 55 percent or higher, I will rely on my mechanical systems to keep my indoor air dry (between 42 percent to 55 percent humidity). When the humidity is below 55 percent, I can open my windows to let that dryer, fresher air in.

“I need to use the least toxic paints, stains, glues, caulk, flooring, cabinetry and furnishings available. The EPA regulates some volatile organic compounds. I do not trust labels. I will get specific content listings from manufacturers and be responsible for purchasing all of these products myself. Your timeline for my job will inform me of when I need to have them on site for you to install. This is so important to the health of my home and family.

“I have decided to put all this on a CD that you can copy into my contract so it is easy for you. I am so excited about being able to create a dry, healthier home on a budget. Thanks for agreeing to work with me on this.”

Cindy Meehan-Patton, President of Shelter Ecology, Inc. is a founder and past president of the WNCGBC. [www.shelterecology.com](http://www.shelterecology.com). For more information, visit the Western North Carolina Green Building Council Web site at [www.wncgbc.org](http://www.wncgbc.org), call the hotline at 254-1995 or e-mail [info@wncgbc.org](mailto:info@wncgbc.org).

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