

Basements...Again

ARTICLE AND PHOTOS BY JUDITH CAPEN



ABOVE: This is the sort of window "well" your contractor is proposing, although you'll have to wait for the landscape.

LEFT: A historic window well. Not generous but the windows are generous and contribute lots of light to a basement.

BELOW: The historic area drain that the historic window well drains into.

Basement Basics

1. Basements, if not wet now, will be. And, if not actually wet, certainly damp, so get a dehumidifier or two.
2. Mold needs three things: spores (they are everywhere); food (everything organic); and moisture. You can't control the presence of spores, so you have to keep basements as dry as possible (dehumidifiers) and provide as little in the way of food and places for moisture to lurk that you can. This means no carpet, wall furring, drywall, etc. in basements. Expose the brick. Expose the concrete or install ceramic tile.
3. Slope the exterior grade, walk, patio, or whatever away from the building.
4. NEVER build a new basement.

What's French About a French Drain?

Q. We're extending some of our basement windows downward for more light. The contractor said we didn't have to worry about water in the bottoms of the window wells because he's going to install a

"French drain." How does this work?

A. Because the drawings for your Capitol Hill row house show about eight inches of gravel in the bottoms of the semi-circular corrugated steel pre-fab window wells, the answer to "How does this work?" is simply: NOT AT ALL.



Those of you with good search engines or good memories know moisture in basements is one of my themes. I have said, early and often, that basements if not wet now, will be. Underground buildings of our clients provide our practice with job security, although we've been chasing water in some of them so long and diagnose leaks so quickly, that they don't provide much living.

To paraphrase Tolstoy, warm dry basements are all alike; every cold wet basement is miserable in its own way. Thus, I keep getting basement questions and keep answering them.

Although French drain is a term of art for something very specific, many people toss the term around as if it meant “some gravel.”

Actually, a French drain is a drainage system with three components: water transport system, slope, and destination for the water.

The water transport system can be as simple as a gravel-filled ditch. Putting a perforated pipe in the gravel-filled ditch and covering the ditch with topsoil and plants is an aesthetic insurance policy. The gravel, and maybe drainage cloth, keeps soil from clogging the pipe.

A slope directs the water somewhere.

The destination for the water can be a “dry well” (basically a gravel-filled pit) to hold the water long enough to let it percolate back into the ground, or a “bio-retention” area. A bio-retention area is a sort of purposeful wetland, aka “rain garden,” that uses wetland plants to absorb excess water and return it to the air through transpiration.

French drains are used to direct water away from building foundations or from behind retaining walls to prevent water pressure from building up, or, their original use, to drain areas of garden or farmland.

The French drain is named for Henry French, father of Daniel Chester French, sculptor of the seated Lincoln in the Lincoln memorial. Henry French, judge and farmer, wrote a book about farm drainage describing the drain that bears his name. You might think it curious that French, Harvard-educated, neighbor of Ralph Waldo Emerson, was so interested in the uber-practical subject of drainage that he wrote an entire book about it (“Farm Drainage: The Principles, Processes, and Effects of Draining Land with Stones, Wood, Plows, and



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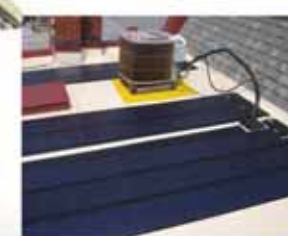
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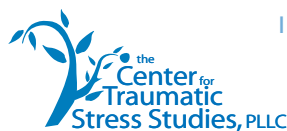
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Drainage is not just historic on Capitol Hill. Here are two examples from Siena, Italy.

Open Ditches and Especially with Tiles Including Tables of Rain-Fall, Evaporation, Filtration, Excavation, Capacity of Pipes; Cost and Number to the Acre, of Tiles, Etc, Etc.” New York: A.O. Moore & Co. 1859. Scanned by Google so you can read the entire thing if you wish.)

But drainage is a topic that figures prominently in Victorian-era farming, gardening, and landscape concerns, so while his prominent neighbors focused on vegetarianism, raising flax as an alternate to slave-grown cotton, women’s rights, and philosophy, French was thinking about making soggy fields productive. Maybe the 19th century was particularly wet.

Capitol Hill, product of the 19th century and the Victorian age, might seem to be a natural location for French drains, but actually is not. The problem with French drains on Capitol Hill is that we

rarely have the grade changes to allow water to drain away from where it is not wanted.

Back to your windows: standard practice is to put a drain, called a yard or area drain, in window wells and at basement doors. That drain is connected to the storm drain or sewer. That is just about our only choice of where to send the water we don't want flowing into our basements. Even in the 19th century when so many of our houses were built, area drains were installed at basement doors. This is what you need in each of your window wells with drain pipes connecting them to the sewer.

P.S. The grading on your drawing does not meet the slope-away-from-the-house test. Instead, your drawing shows a nice little wetland along the side of your house. After you do all this work you will have a basement you can't use for anything other than grow mushrooms.

On the Other Hand

Disclaimer: my partner feels like I need to be more nuanced about whether the 8" of gravel in the bottom of your window wells might work. He wants me to point out that it might work if your soil is unlike all the soil on Capitol Hill. You can test your soil's percolation by digging a hole, filling it with water, and seeing how fast it soaks in. If it's fast, maybe you'll be fine.

Stay tuned for MORE about basements next month if my editor doesn't give me the gong. Next month it's about thermal comfort in basements and the big question of to insulate or not to insulate.

Judith Capen is an architect and vocal supporter of the green urban life. She can be reached with questions at Judith.capen@architravepc.com. Beware the spam filter and make sure your subject line is good and if you don't hear from me keep trying! ★

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