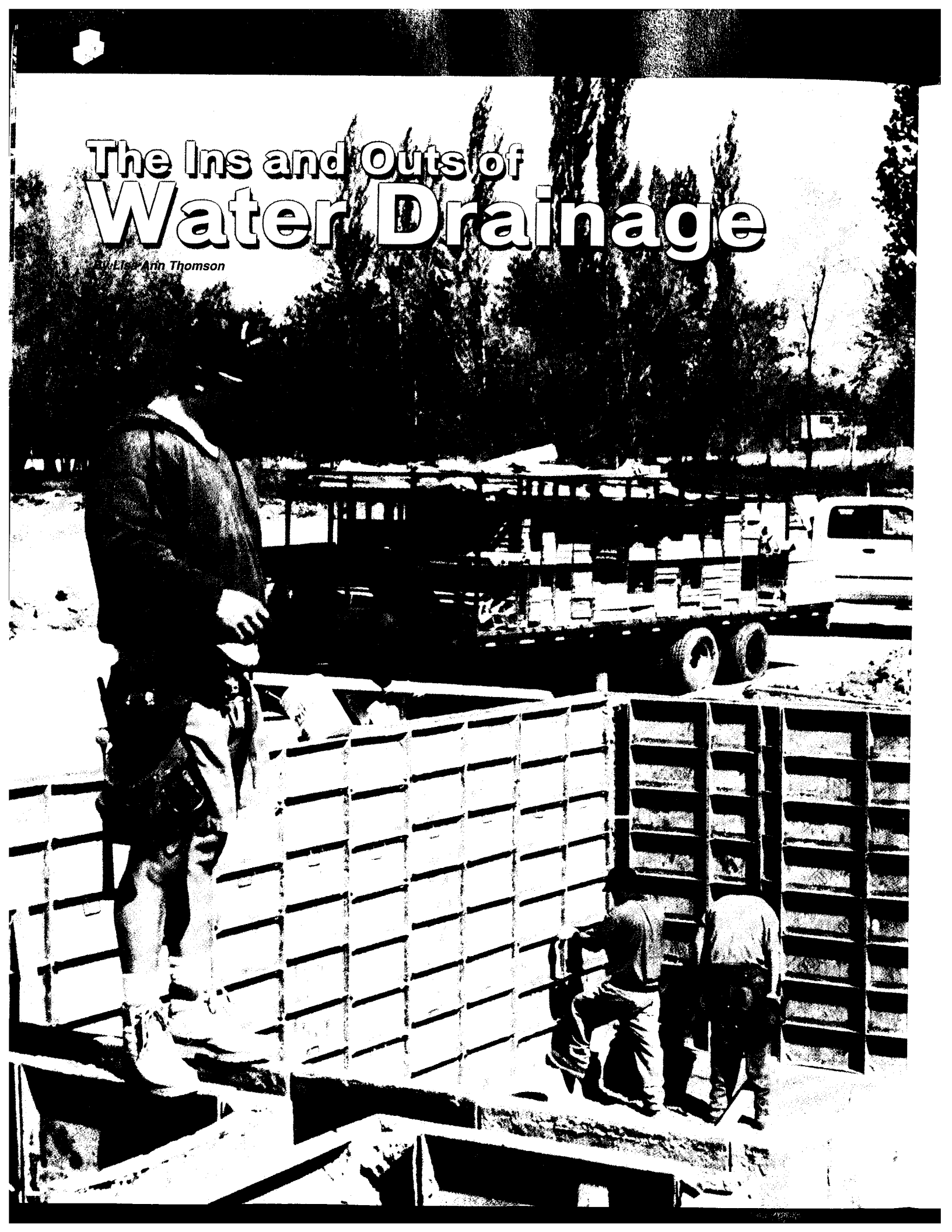
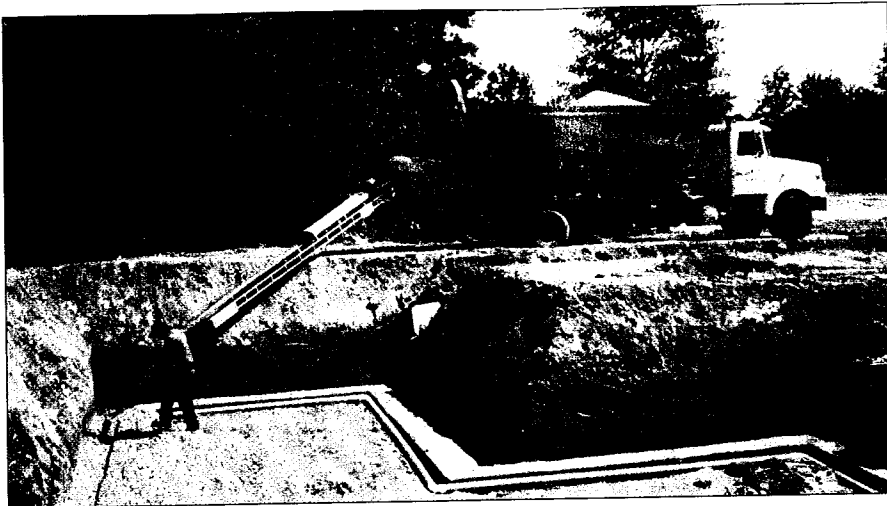


The Ins and Outs of Water Drainage

By Lisa Ann Thomson





INTERIOR OPTIMUM: The ideal solution for ground water management includes installing a drainage system on the interior of the footings.

Most structural problems begin in the basement, and water is a particularly wily troublemaker. Your goal as a contractor is to keep water as far away from the foundation as possible. You have both interior and exterior strategies to choose from, but choosing the best defense can be tricky.

The first step is pretty obvious. Drain surface water away from the foundation. "A great number of basement water problems can be solved by handling rainwater and surface drainage properly using gutters and downspouts with extenders or splashblocks to carry the water away from the foundation," reports a University of Minnesota Extension Service study on drainage systems.

The next step requires a little more thinking. Interior and exterior drainage systems each have certain advantages and disadvantages. But Steve Gross, director of marketing for CertainTeed, a manufacturer of drainage systems, says the question should be less about the advantages or disadvantages of interior or exterior drainage systems, and more about whether to drain on one side of the foundation or both.

His assessment: "Clearly, having drainage on both sides gives you the best protection."

The Ideal—

1. Deal with surface water through proper grading, downspouts, and gutters
2. Waterproof—not just damp-proof—the exterior foundation walls
3. Provide exterior perimeter drainage at the footings
4. Install an interior system as backup when water sneaks through

Second Best—

If you can't do the ideal, do at least steps one and three (with a damp-proofing material) at the time of construction. If you are working on a water problem in an existing structure, steps one and four together are an effective and affordable solution.

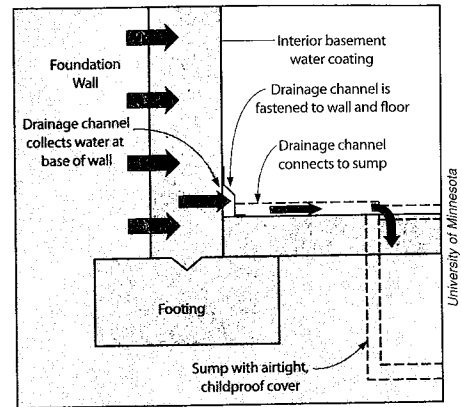
Robert Lanfrank agrees. General manager for Atlantis Waterproofing, Lanfrank says the ideal solution for ground water management would include three elements: waterproofing the foundation from the outside, properly draining around the perimeter of the footings, and installing a drainage system on the interior of the footings.

But if you can't do both, exterior seems to be the most common first defense. "If you just do the outside, the footing drains should be o.k.," says Lanfrank, whose company installs both exterior and interior systems.

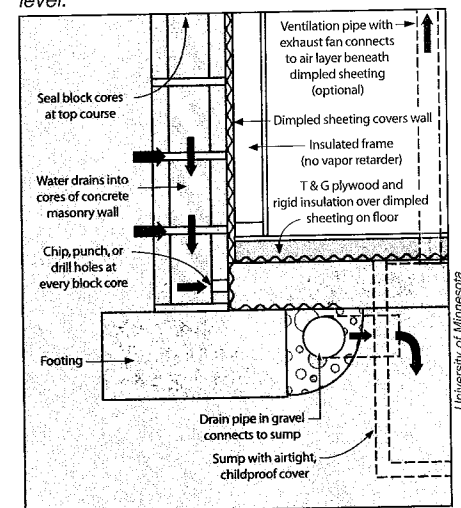
General contractor Newell Jackson, president of Goldenwest Builders, Ogden, UT, runs a French drain around the perimeter of his homes' foundations and channels water away from the foundation using gravity when the lot allows and a sump pump when it doesn't.

"Water can really be a distressing situation," says Jackson. "It's better to solve the problem before you have it." Perimeter drainage has proven successful for Jackson, and he seldom installs interior systems in his new homes.

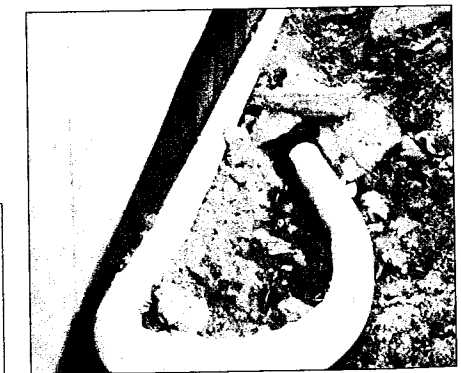
"But in time, when the pipes clog or fail, water can begin pushing up," Lanfrank notes. It's a problem Britt Liggett deals with often. The owner of Basement Technologies of



The most effective interior drain system is a perforated channel installed inside the perimeter of the building. By placing a drain pipe beneath the slab, the area drains to a lower level.



Control water leakage on interior walls of basements with severe problems with dimpled plastic sheeting. This sheeting serves as a vapor retarder plus drains water to drain pipe. You can also place sheeting over the floor and covered with rigid insulation and tongue and groove plywood subfloor.



FILTER DRAINS: Filter fabric retains soil or sand particles allowing filtered water to pass into the drainage core. This allows ground water to drain away from the foundation walls and provide hydrostatic relief.

