

# **Section 8**

## **Best Practices**

## Suggested Best Practices to Help Ensure a Dry Basement

Please refer to the Building a Dry Basement Diagram

Engage the services of a knowledgeable excavator who has the experience and machinery to accomplish your requirements. He should know about soil types, aggregates, backfilling times and rates, water tables, etc. This person should be able to answer any question you may have regarding excavation services.

If there is ANY possibility of water intrusion through the walls of your basement a waterproofing membrane is required. This can be a sheet applied membrane, spray on coating (that is compatible with rigid foam insulation), or a dimple board product that directs water downward to a drainage system. Any of these systems can work well when combined with a well designed water management system.

A water management system should consist of drain tile, sump pit(s), sump pump(s), coarse aggregate, and a waterproofing product.

Drain tile should be installed on a level plane, next to the footers. There is also a product named Form-a-Drain™ that works very well as a combination of footer form boards and drain tile. Tile should be covered by clean crushed stone on both interior and exterior sides of the wall. On the exterior side, the tile should be covered by 24" of clean crushed stone, then covered with a filter fabric to keep sand and silt from clogging the drain tile and rendering it ineffective.

There should be a minimum of 4" of crushed stone under the basement slab (6"-8" is better) to create a drainage plane that directs water to the interior tile. On top of this layer of crushed stone should be a 6 mil plastic vapor barrier that has no holes in it and has the seams taped. There should be 2" rigid foam insulation (25 psi) on top of the vapor barrier and 4" of good quality concrete over the foam insulation.

In many areas Radon gas has proven to be present in unhealthy levels. You can design your drainage system to evacuate Radon gas by using sealed top sump pits and running PVC pipe to the exterior of your home. You may need to include a small fan in the system to pump the Radon gas out.

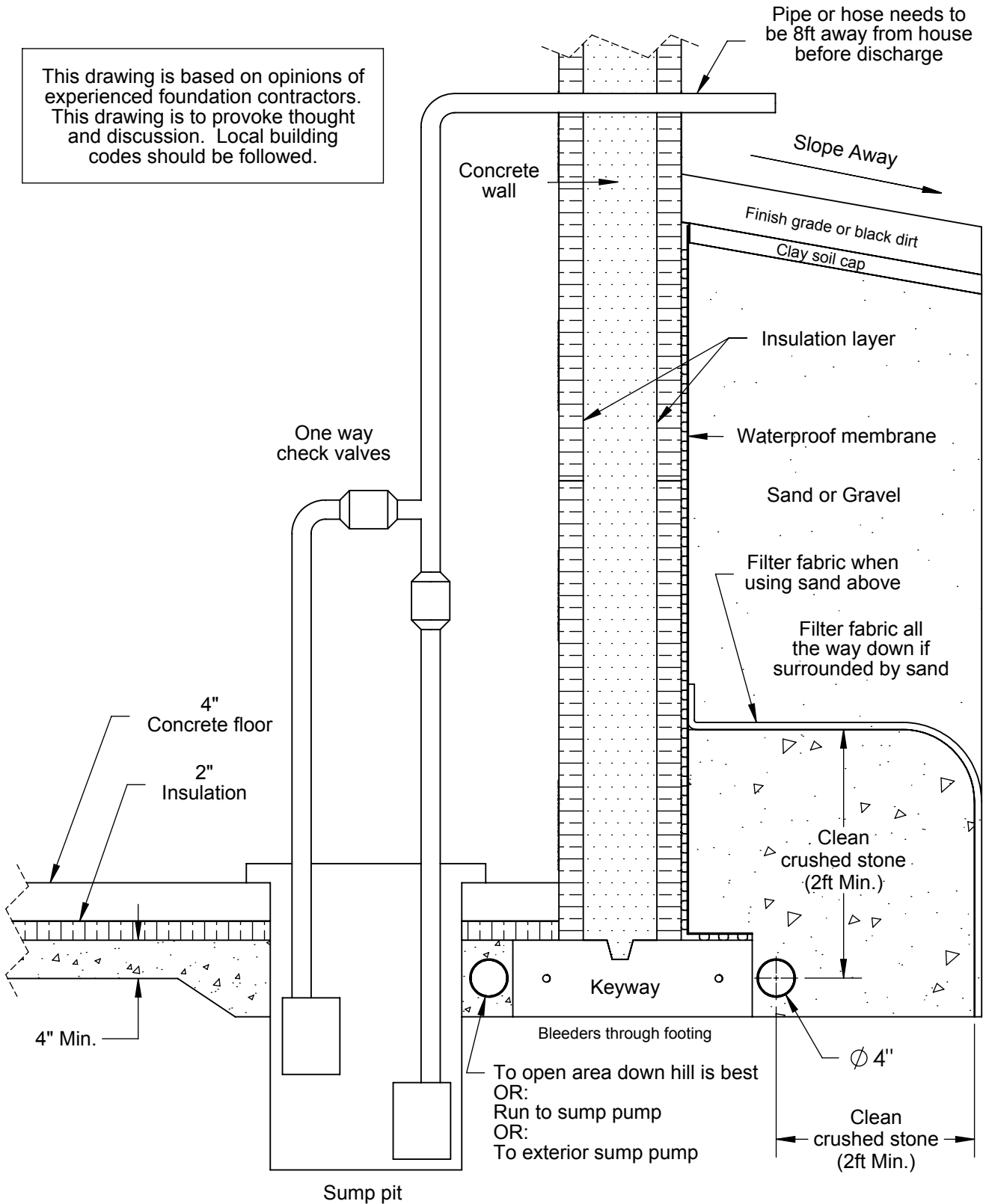
It is a good idea to have a secondary (backup) system in case your main sump pump fails.

When backfilling the exterior of the house, a competent excavator will use care to not damage the insulation or waterproofing membrane by using good quality material and not using boulders or blast rock with jagged edges near the walls. The finish grade MUST always slope away from the structure to direct runoff or roof water quickly away from the foundation.

A small investment in a quality drainage system will protect your basement living area for many years to come.

- \* These are only suggestions for ensuring a dry basement.
- \* Contractor assumes responsibility for design and implementation of drainage system.

This drawing is based on opinions of experienced foundation contractors. This drawing is to provoke thought and discussion. Local building codes should be followed.



## Building a Dry Basement

TF Forming Systems, Inc  
800-360-4634  
www.TFSystem.com



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