

# Why do I need roof Gutters on my Central New York Home

Compiled by Robert Cooper  
(not all my photos)

Most homes in Central New York would highly benefit from the installation of roof gutters. I won't bore you with a lot of details but a picture is worth a thousand words.

Roof water that drops off a roof accelerates creating energy. When this energized water slams and splashes onto components below it damages building and lawn components. Additionally, any water that lands off the roof near the foundation typically soaks in around the foundation. As the amount of water builds up it can cause pressure that either cracks the wall or pushes water into the basement; often both.



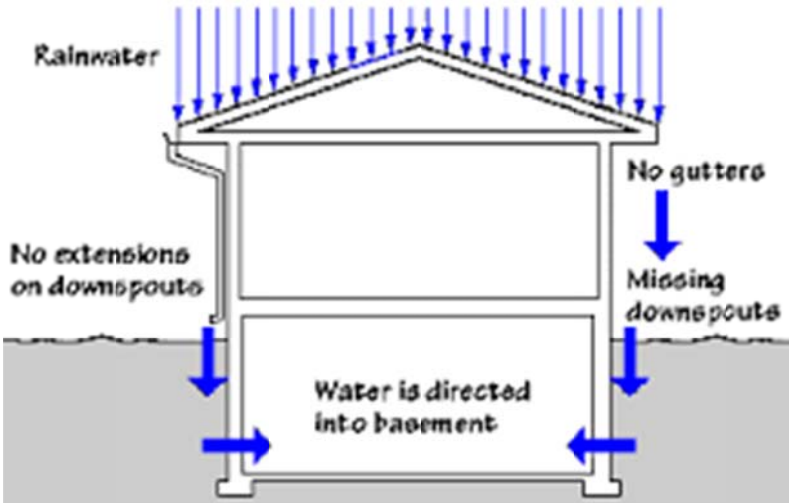
This is a picture of a wet basement floor where roof water has created a buildup of water pressure that is pushing it into the cellar. The holes are an attempt to relieve the water from within the blocks to avoid a buildup further up the wall that can then freeze and push the foundation.

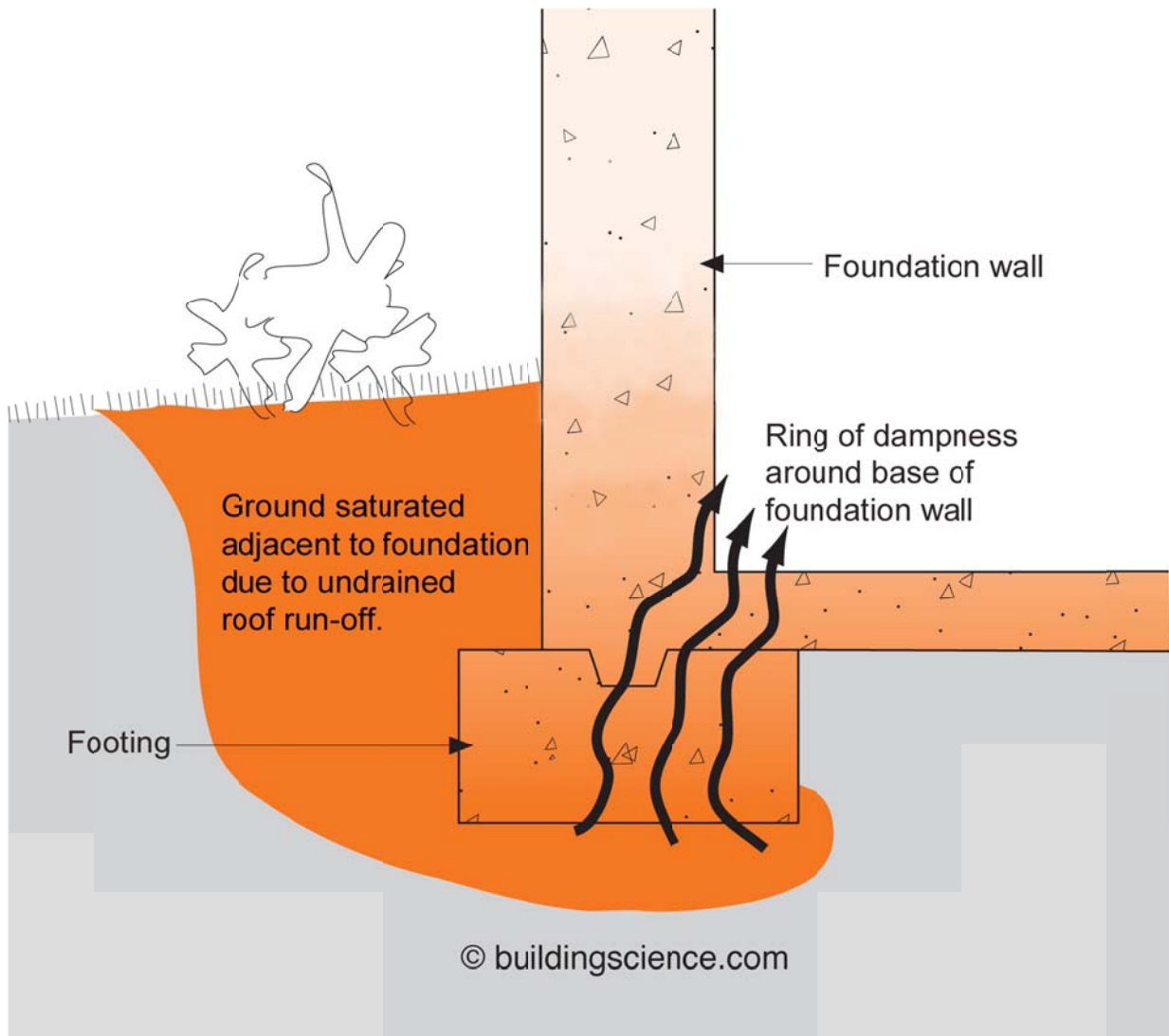


This is horizontal crack in a foundation caused by frost laden soils behind the wall. Roof water is most often the culprit of the water that builds up behind the wall and then freezes pushing the foundation wall.



Frost heaved foundation walls most typically happen to the weaker block walls when water behind the wall builds up- but it can occur to poured concrete walls as well- even though they are much stronger.





This photo explains the theory of water building up around the foundation and then pushing into the basement. Because the soils around the foundation have been disturbed it is less compacted than soil further away from the foundation and thus more permeable. The water naturally wants to flow around the foundation verse percolating outward because of less resistance..... just like humans. So, once you do install roof gutters you need to keep them clean and in good condition with downspout extensions that adequately direct the water out of the soil region located around the foundation.



Here is a photo of roof gutters with leaf guards. The guards are very expensive and as you can see don't always keep the gutters from plugging up. My opinion is they are not worth the costs. A better fix is to clean out the gutters two or three times in the fall after most of the leaves have fallen.

In the case of this house, there is little or no overhang, so when the gutters are not working properly, the water is drooling down the brick siding. This causes all kinds of damage: discoloration of the brick from mildew, window decay, and possible freeze deterioration if water gets in any cracks.



When water splashes off hard surfaces such as sidewalks, decks, or patios the splash causes all kinds of damage. Often the patio settles along the house from the compaction that the water creates, the siding mildews and begins to decay, and often the structural sill behind the siding decays causing structural damage.



Window sill and trim damage due to water running off a roof and then blowing back onto the house.



A classic is damage to and under the patio or sliding doors. The rotted area you see is the structural sill discussed above. The splash often rots the sill and the door, sometimes the flooring inside the door.



Water off the eaves of a roof splashes onto a masonry landing and then splashes back into the frame of the door causing decay.



Here roof water splashed off the roof hitting the hard deck surface and splashing up onto the siding. The structural sill behind the siding deteriorated so badly that it could no longer hold the deck.



This diverter should be a standard installation on most inside corners to keep higher volumes of valley roof water from over shooting the gutter.





A kick-out flashing that directs water away from the siding and into the end of the gutter can eliminate damage at the interface of the gutter and the siding.



No Kick-Out  
Flashing



After

Damage that can occur at an eaves/wall interface whether gutters exist or not.



These downspout extensions are not extended far enough away from the foundation. When a foundation is built, the soils are often excavated quite a ways away i.e. the cellar hole is much bigger than the foundation will end up. The soil that is pushed back around the foundation once built is loose and water flows more easily through it than through soils further out. Thus the water percolates into the soils and then runs around the foundation looking for a way to get in and building up.



This is a downspout that is likely far enough away from the foundation to keep water out of the disturbed soils.

**Damaged downspout extensions cause gutters overflowing and downspouts freezing / cracking**



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