

*Blocked or clogged drain pipes?  
Water coming through the basement walls?  
Cracked or heaving walkway or driveway?*

# Let's get to the root of the problem!

## **Walkways, Driveways, Patios and Roots**

The roots of trees can cause cracking and heaving of concrete or asphalt when the driveway or walkway is too close to the trunk of the tree.

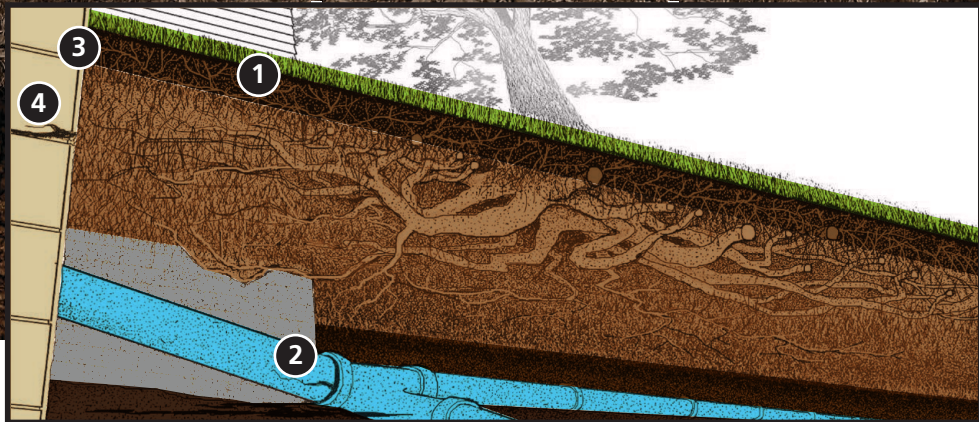
When planting a tree, make sure to leave enough room for the trunk to grow. To avoid damaging your walking, driveway or patio at least 1.5 m (5ft.) is recommended. Beyond this distance, tree roots are not the cause of any heaving or cracking.

Water expands when it freezes. The heaving and cracking of driveways or walkways is usually caused by the expansion of water in the soil below when it freezes.

After each freeze-thaw cycle, the cracks and the heaving get a little worse. This is all happening while the roots are quietly dormant until after the spring thaw. When they start to grow again they grow into the additional space created by the cracking and heaving.

Please do not blame trees and their roots for breaking and clogging water or drain pipes, damaging foundations or cracking and heaving walkways, driveways or patios. They didn't do it!





- 1 The three most important things that roots need and want are: soil, air and water.** The easiest and best place for them to find these three essentials is at the surface of the ground in your yard and your neighbour's yard.

That is why the roots of a tree, planted in good soil, will not grow deeper than 60cm to 90cm (2ft. to 3ft.) below the surface. The roots may extend out from the trunk as much as three times the length of the longest branch. Within this area you would find many tiny fibrous roots that are within the top 30 cm (12") of soil. It is these tiny, fibrous roots that take in the water, air and nutrients that nourish the tree.

- 2 If there is a broken drain or water pipe,** the roots will be attracted to the leak since it provides water and air. Without a break or leak, there would be no water or air to attract the roots. The roots do not cause the breaks. They are only taking advantage of the break or leak caused by something else such as aging pipes or faulty joints.

- 3 The area where soil meets the foundation** of a house can also provide a place where the roots can find soil with a bit of air and water.

- 4 If there are cracks in the foundation** then water will collect there and freeze in the winter. Water expands when it freezes. The ice, as it expands, has the force to cause small cracks to get bigger with each freeze-thaw cycle. This is why it is important to make sure basement walls are properly waterproofed.

## **Tree roots are only interested in water and air.**

Roots are not capable of causing the cracks or making existing cracks bigger. They are only taking advantage of the space, water and air that is left once the ice has melted.