

The methods below are approved for sidewalk repair within the Township. It might be more cost effective for you to coordinate work to be done with neighbors who need to perform similar repairs. Often, contractors will offer bundle pricing to include multiple sections of the sidewalk.

## Evening the surface

Shaving the top of the concrete or installing a ramp to even the surface and reduce the tripping hazard (**Figure 1**). Shaving or grinding the concrete is done with a specialized cutting machine. The goal is to lower the raised concrete edge to the level of the



Figure 1. Concrete shaved/ground smooth.

lower slab. Concrete can be ground to about ½ of its original thickness.



Figure 2. Asphalt ramps/wedge installed to reduce tripping hazards.

The other commonly used alternative is to install a ramp or wedge of asphalt or concrete to smoothly bring the lower level up to the lifted edge (**Figure 2**).

## Increase the distance between the tree and the sidewalk

Increasing the distance from the tree to the edge of the sidewalk can be done by either narrowing the sidewalk or rerouting it around the tree. The Americans with Disabilities Act (ADA) limits sidewalk width to no less than 39 inches (1m). By increasing the distance from the sidewalk to the trunk, the roots that are most likely to cause damage will no longer be underneath the pavement. Sidewalks can often be curved around a tree with the permission of the property owner (**Figure 3**). These techniques can avoid damage to large roots that are primarily responsible for tree stability.



Figure 3. Sidewalk rerouted to increase the distance from the trunk and avoid root damage.

## Bridging the pavement over the roots.

Bridges are simply sidewalks that are raised near the tree to allow root growth beneath. They may be supported near the tree by concrete piers, or they may be supported by the base layer (**Figure 4**). The steps to install bridges are: remove the existing concrete, base and soil from above the existing roots; drill holes and install concrete form tubes (e.g. Sonotubes®, QuickTube®) if needed for additional support; level the base with the top of the roots using coarse sand or pea gravel; apply a layer of foam board with holes cut for piers (if installed); frame for concrete, pour reinforced concrete and finish. The maximum ADA allowed slope for this type of construction is 1:20.

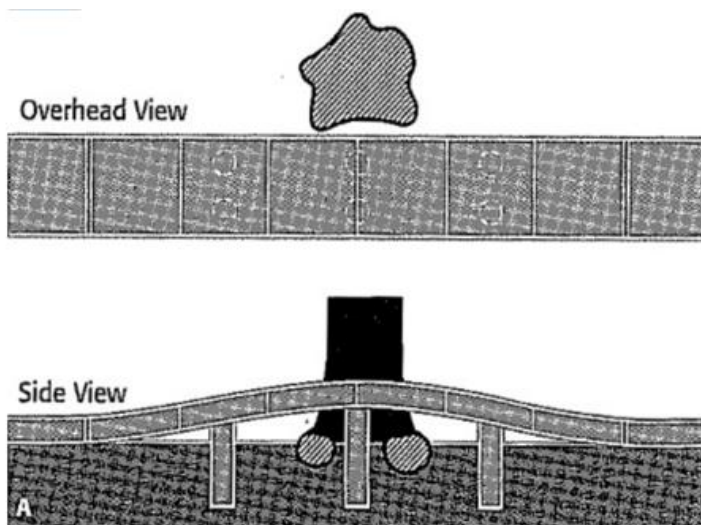


Figure 4. Sidewalk bridging plan from Costello and Jones.

## For more details refer to:

Larry Costello and Katherine Jones. 2003. *Reducing infrastructure damage by tree roots: a compendium of strategies*. ISA Press Champaign IL. 119pp.

James Urban. 2008. *Up by roots*. ISA Press Champaign IL. 479pp.

## Sources:

ADA: [ada.gov/pubs/ada.htm](http://ada.gov/pubs/ada.htm)

Bartlett Tree Experts: <https://www.bartlett.com/resources/sidewalk-repair-near-trees.pdf>



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