

THE STUMP

INFORMATION BY THE BOARD FOOT

SEPTEMBER 2023

KNOT THE HOLE NEWS

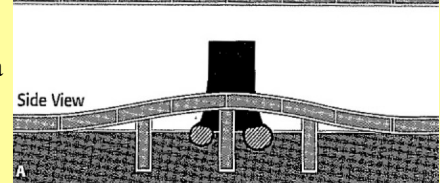
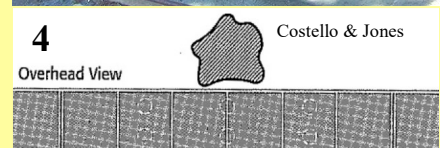
Tree - Sidewalk Conflict Solutions

Trees are often blamed for conflicts with sidewalks. It is people that are really to blame. The trees are either planted where they should not have been or seed in and allowed to grow. Once on a site, they do what is natural. They grow both above and below ground.

Since trees are not static like a pole, they will get larger and as they do they may encounter sidewalks. Depending on the sidewalks construction and soil compaction tree roots may establish directly under or slightly deeper. They will be at that depth until the root dies. Unfortunately, as the tree grows, the root will enlarge in diameter. This root enlargement may push up sidewalks. Again this is not the fault of the tree but us, people, for putting things too close to the tree.

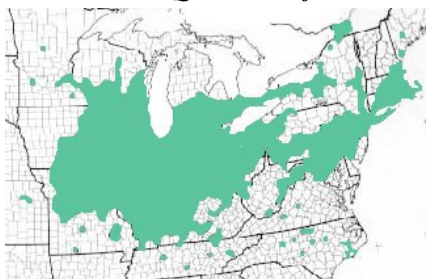
There are several methods to alleviate pushed up sidewalks and not damage the tree.

- 1) **Pavement Grinding:** The name clearly describes what occurs. Concrete can be carefully ground to slope the high portion of lifted sidewalk to match the lower portion and reduce trip risks. This saves the existing sidewalk and the tree.
- 2) **Ramping with Asphalt:** Creating a ramp between a lower and higher portion of sidewalk will reduce the trip risk. The asphalt is flexible and will move some as the root grows. This is a temporary solution, but allows a tree to be kept.
- 3) **Replace Sidewalk Portion With Stone Dust:** Removing the lifted portion of the sidewalk and replacing it with compacted stone dust will create a solid walking surface and reduce damage to tree roots. This is a fairly permanent solution and creates an acceptable walking surface.
- 4) **Bridging the Roots:** This is a good solution for larger roots. This can be done with multiple materials, the key is to raise the walking surface above the ground to allow the roots space to grow. This can be a permanent solution keeping the tree and adding a unique area to a sidewalk.
- 5) **Rerouting the Sidewalk Around the Tree:** This is the most permanent of the solutions. It may require acquisition of additional right-of-way or a long term agreement with adjacent landowner. If large roots are needed to be cut to install the new sidewalk sections, bridging is a better option.



Swamp white oak
Quercus bicolor

Swamp white oak is a large tree with a mature height of 50 to 80 feet and an equal or larger spread. Appropriate for a medium to large yard, park and street plantings this tree has a medium growth rate. It requires an acid soil and grows best in fertile, moist, well drained soils with full sun, but has tolerance for poor soil conditions. Once fully established in a landscape it is capable of withstanding drought. The alternate, simple leaves are lustrous dark green turning yellow to tan in the fall. A few hybrids with white oak have been created and are noted with the nomenclature *Quercus X jackiana*.



Plan For Trees During Development

James Urban in 1992 documented the average size of a tree to the amount of soil volume it had available. This is thirty year old research. Yet, I still see trees installed in planting pits (tree coffins) that are much smaller than really needed by the tree selected. Proper planning, design, and construction is needed for the trees to do well and provide the benefits originally imagined. There are three easily available technologies to increase or maintain usable soil volume and have hard surfaces for people and vehicles.

The technologies available are:

- 1) **Suspended Paving:** Sidewalks lifted off of the ground and supported by a structure of pilings leaving the soil below uncompacted and available for use by tree roots. An adequate opening in the surface for the tree stem is needed. The opening will need to be enlarged with time as the tree grows.
- 2) **Structural Soils:** A mixer of soil, stone, and hydro polymer as a binder and moisture source. This mix is placed under the pavement surface and compacted sufficiently to support the pavement loads of people and vehicles. The roots grow between the rock in the soil / hydro polymer mix. The roots conform to the shape of the rock as they extend and grow. The rock volume must be removed from the total volume of space to calculate the available soil volume the tree roots may use.
- 3) **Structural Cells:** Structural cells are actually another form of suspended paving but instead of air space below the paving, the structure supports the load of the pavement with useable soil intermingled among the pilings. Many of these are plastic, crate like structures. The cells are installed to the appropriate depth and area, soil is added inside the cell structure. A top is added to the crate, a geotextile is placed on top, then traditional road or sidewalk construction occurs on top leaving planting holes available.

Bugwood.org

Bugwood Images is a grant-funded project that began in 1994. The website, launched in 2001, has grown and received a great deal of recognition. Bugwood Images provides an easily accessible archive of high quality images for use in educational applications. It is made up of five major website interfaces: ForestryImages.org, IPMImages.org, InsectImages.org, WeedImages.org, and Invasive.org.

The focus of Bugwood Images is on species of economic concern. Images cover invasive species, forestry, agriculture, integrated pest management, plants, insects, diseases, fungi, wildlife, fire and other natural resource issues. Images are reviewed for content and quality. In most cases, the images found in this system were uploaded to our database by the actual photographers. Images are available freely for educational and non-commercial use, as long as they are cited. Commercial usage is dictated by individual photographers, who retain all rights to images. See it all at: <https://www.bugwood.org>.

Asian Longhorned Beetle (*Anoplophora glabripennis*)



Donald Duerr, USDA Forest Service, Bugwood.org

The Asian longhorned beetle - ALB (*Anoplophora glabripennis*) is native to China and brought to the United States through solid wood packing material. ALB has become a problematic invasive insect in both Europe and North America. The adult female lays eggs in a chewed niche into the bark of host trees which include

but not limited to maple (sugar, silver, and red), birch, horse chestnut, poplar, willow, elm, ash, and black locust. The larva tunnel under tree bark and bore into healthy hardwood trees. The beetle larvae feed on living tree tissue during the fall and winter and, after pupating, emerge through exit holes during the late spring through round holes slightly larger than a pencil. Since beetle larvae live deep inside trees the majority of the year, they can easily and unknowingly be moved in firewood, live trees, or fallen timber. Asian longhorned beetles more commonly spread by natural means; under their own power they can fly distances greater than 400 yards. Migration may also depend on the abundance of suitable hardwood trees. This invasive insect can be eradicated from the landscape, unfortunately it requires the removal of all infested and suspected infested trees.



Dennis Haugen, USDA Forest Service, Bugwood.org



Joe Boggs, Ohio State University, Bugwood.org

September 12 - 14

Trees & Utilities, Pittsburgh, PA. For details visit www.treesandutilities.org/.

September 20

Saluting Branches, National Cemetery, Springfield, MO. To sign up and details visit www.salutingbranches.org.

September 20-22

MCFC Annual Conference, St. Joesph, MO Watch for details at: www.mocommunitytrees.org.

September 25

Tree Risk Assessment Qualification Renewal Course, Marion, IA. For details: <https://iowaarboristassociation.org/events/>.

September 26 - 28

Tree Risk Assessment Qualification Course, Marion, IA. For details: <https://iowaarboristassociation.org/events/>.

October 3

ISA Certification Exam, Catoosa, OK. Registration Deadline: September 15. Information at: www.isa-arbor.com/Credentials/Exam-Information.

October 9

KAA Arborist Training Course, Manhattan, KS. For details visit www.kansasarborist.com/arborist-training-program.html.

October 11

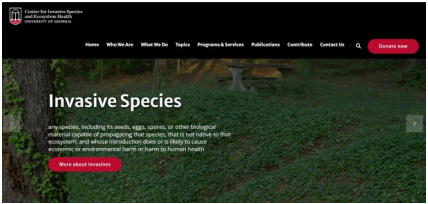
ISA Certification Exam, Jefferson City, MO. Registration Deadline: September 22. Information at: www.isa-arbor.com/Credentials/Exam-Information.

October 16 - 20

2023 SMA Conference and Tradeshow, Washington, DC. For details visit www.urban-forestry.com/annual-conference.

October 17

ISA Certification Exam, Springfield, MO. Registration Deadline: September 28. Information at: www.isa-arbor.com/Credentials/Exam-Information.



Trees are poems that earth writes
upon the sky,
We fell them down and turn them
into paper,
That we may record our
emptiness.

~Kahlil Gibran

WHAT'S HAPPENING

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