Alternative Sidewalk Slab Repairs

Missouri Municipal League
2017 Innovation Award
September 12, 2017
City of Brentwood, Missouri

- Founded in 1919
- Approximately 8,055 residents in 2-square-mile area
- More than 2,500 city-owned trees maintained through Parks Department
- Certified as Tree City USA for almost 30 years
City of Brentwood: Trees vs. Sidewalks

- Trees and sidewalks coexist in close proximity to each other on most residential streets
- Years of tree growth can lift adjacent sidewalk slabs, causing potential trip hazards
- For consideration: Can sidewalk repairs occur without harm to mature trees?
- Case Study: St. Clair Ave. at White Ave., candidate for PolyLevel polymer foam
St. Clair Ave. at White Ave.
How Does Your City Repair Sidewalks Raised Via Tree Roots?

Conventional Method, Simplified Steps

– Call in DIG RITE ticket to mark member utilities
– Remove uneven slabs
– Possibly trim tree roots
– Install concrete forms/base
– Pour and finish new concrete slabs
– Cure concrete; remove forms; restore site

– Depending on the project length, work duration varies from 2 to 4 days
How Does Your City Repair Sidewalks Raised Via Tree Roots?

Alternative Method, Simplified Steps

– Inspect existing slabs to ensure slabs are structurally sound (i.e., no major cracking or broken pieces)
– Contact local PolyLevel vendor
– Confirm with local vendor product application limits
– Request a cost estimate
– Approve estimate and schedule the work
– PolyLevel vendor provides materials/labor for work
– Slabs are leveled in place; no full replacement needed
– Restoration completed; includes grouting injection ports
– Depending on the project length, work duration varies from a few hours to possibly 1 or 2 days
PolyLevel Process

Injection Ports & Jacks Installed

Injection Gun; Check Levelness
PolyLevel Completion

Before Repairs

After Repairs
Repair Method Comparison

Conventional Method

• Estimated replacement costs of 150 L.F. sidewalk removal & replacement (mat’ls/labor/OH) = $3,175
• Estimated duration = 24 hours total:
  Day 1 - Removal
  Day 2 - Form/Prep
  Day 3 - Pour/Finish
  Day 4 - Restore

Alternate Method - PolyLevel

• Actual cost of 195 L.F. sidewalk raising using foam = $2,194.60
• Increased sidewalk length (150 L.F. vs. 195 L.F.) required for PolyLevel foam to create proper sidewalk profile elevation
• Actual duration from arrival to completion = 4 hours
Summary

- PolyLevel foam use saved about $1,000 vs. conventional removal & replacement.
- PolyLevel work was completed in 4 hours vs. 3-4 days of sidewalk closure. Foam cure time is around 15 minutes. Foam injection is a chemical reactive process, not a pressurized slurry mixture.
- PolyLevel foam is waterproof and does not react with soil/trees to release any chemicals.
- PolyLevel foam can be considered in lieu of mudjacking slabs or full replacement, since sidewalk downtime, site restoration and project costs are less than conventional methods.
PolyLevel Contact Information

www.polylevel.com

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Why Fix My Sinking Slab?
Slab settlement can affect new and old structures alike. Whether you are dealing with a sinking slab in your basement, garage, driveway or patio, a cracked sunken slab creates an uneven surface that can pose a safety hazard.

Concrete Leveling Applications
A common solution to repairing sunken concrete is to demolish and replace the entire slab or sections that have settled with new concrete. This method can be costly and time consuming. PolyLevel is a cost-effective, expedient and less disruptive alternative.

Concrete Leveling Products
There are several different products that can be used to level concrete, all with different costs, installation times, and each with their own benefits and disadvantages. Learn more about why more contractors choose PolyLevel over other slab leveling techniques.
Brentwood Contact Information

www.brentwoodmo.org