



Deflecting Roots Near Sidewalks

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Abstract. Concrete sidewalks 10 cm (4 in.) thick measuring 1.2 m (4.5 ft) wide by 5m (16.5 ft) long were installed in spring 1996 with and without barriers designed to deflect roots. Forty-eight *Platanus occidentalis* from #15 containers were planted 0.75 m (30 in) from sidewalks and irrigated regularly to encourage rapid growth. Identical studies were installed on one well-drained and one poorly drained site located about 18 km (11.2 miles) apart. Barriers included 30 cm (12 in) deep DeepRoot Barrier®, polyethylene (6 mil), a clean gravel layer (2.5 cm [1 in] diameter without fines and soil) layer 15 cm (6 in) deep under the sidewalk, and a control without a barrier. Roots were excavated 8 years after planting. No roots grew in the gravel in the well-drained site, resulting in a significantly deeper root system (19 cm [7.6 in]) under the walks than all other treatments (11 cm [4.4 in]). Vertical root barriers did not increase root depth compared to the control on the well-drained soil. Gravel under the walk and Biobarrier were most effective on poorly drained soil. DeepRoot was the most effective. Treatments had no effect on diameter of roots growing under sidewalks. Roots deflected by the vertical barriers were forced deeper into the soil, but many returned to the surface by the time they reached the opposite side of the walk. Gravel under the sidewalk appears to hold promise for reducing sidewalk damage, especially on well-drained sites.

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