

Design Considerations for Clean Water and Healthy Urban Trees

LOIS EBERHART

Water Resources Administrator, City of Minneapolis

KURT LEUTHOLD, P.E., LEED AP

Barr Engineering Company

ABSTRACT

Stormwater management and urban trees are a perfect combination. Trees have a multitude of benefits, one of which is reducing stormwater runoff. Yet urban trees often struggle to survive when planted in compacted soil and surrounded by pavement. A relatively new stormwater practice, often called tree trenches, can help improve both stormwater runoff and create an environment for healthy, thriving, urban trees.

Tree trenches can take many forms and a lot has been learned in recent years. The City of Minneapolis has incorporated several different tree trench designs into recent street projects. City staff will discuss the reasons why tree trenches play an increasingly important role in meeting their stormwater and streetscaping needs. Several case studies will be presented illustrating different design approaches and their effectiveness. Something new is learned with each project and designs have been improved. Lessons learned and key design criteria, including the latest ideas from Stockholm, Sweden, will be discussed.