



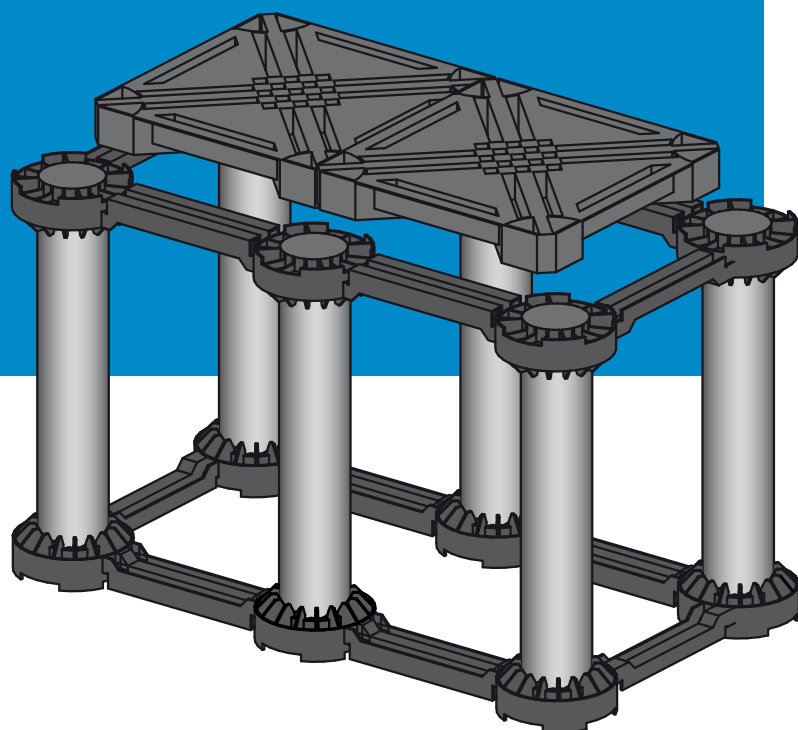
2023 R3



structural soil cell system

For climate adaptive cities we need big trees. Large trees have large roots. The RootBox offers enough unobstructed soil volume underneath roads, preventing roots to damage the pavement. The soil inside the RootBox is acting like a sponge but not only capturing and infiltrating water but also breaking down pollutions.

RootBox is the perfect way to grow big functional urban trees.



Growing functional mature trees incl. effective stormwater management

Strongest soil cell system worldwide

Up to 800 kN/m².

Only system withstanding high pointload resistance

Up to 700 kN/m².

Utility friendly

Variable height up to 150 cm.

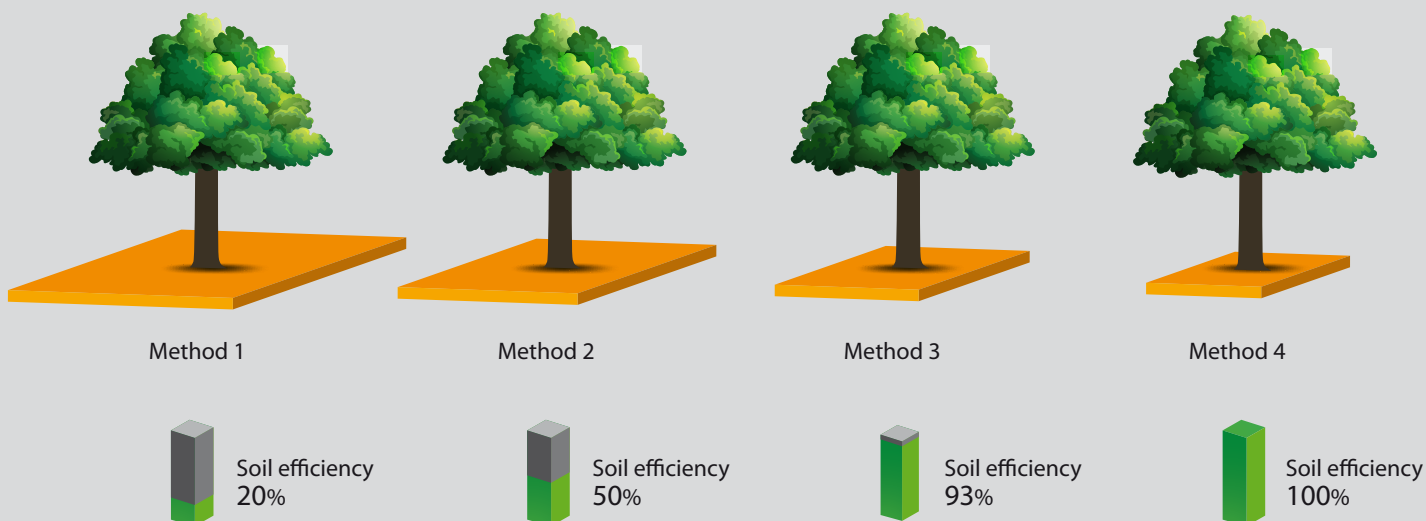
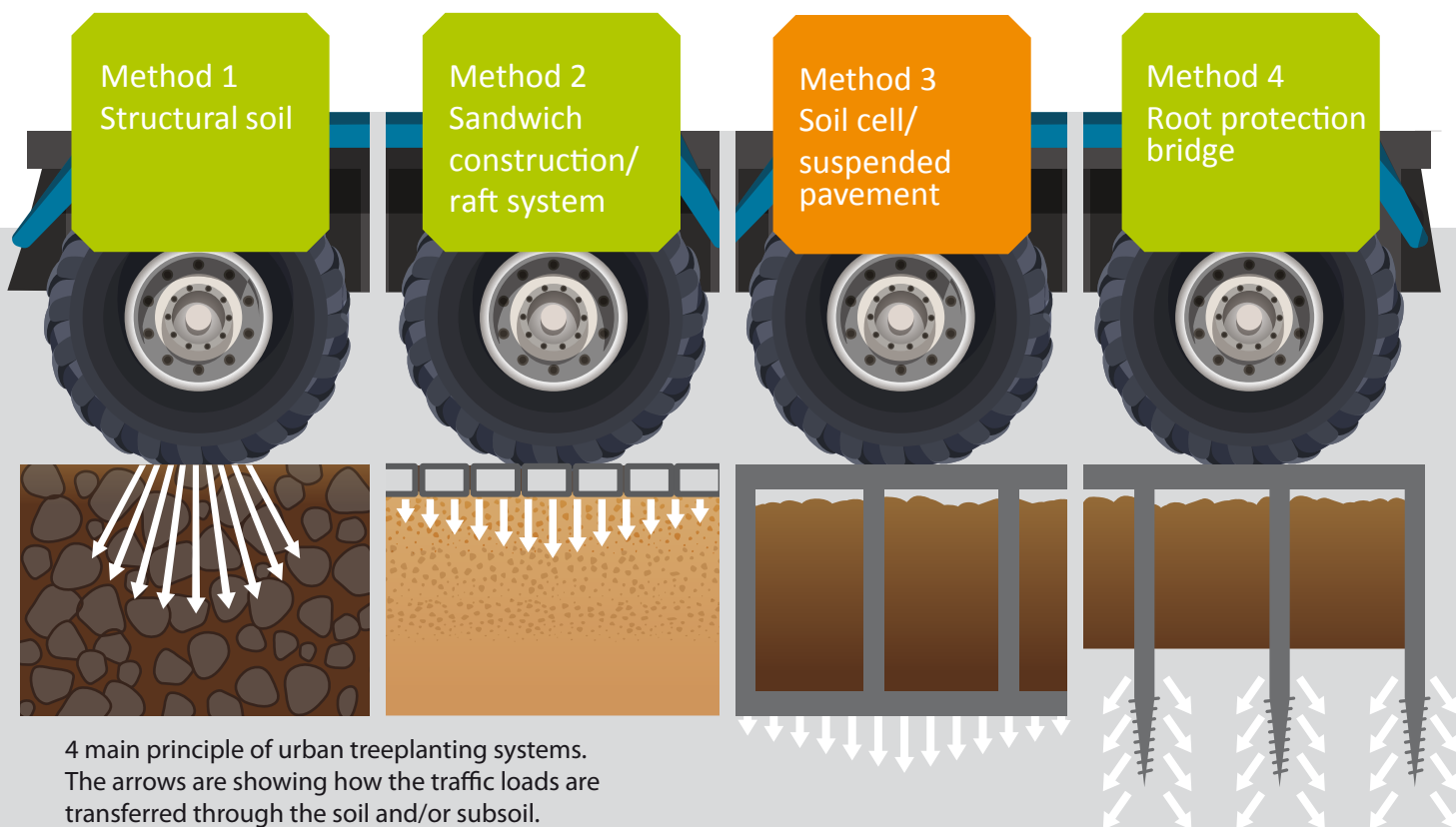
Variable layout.



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4 methods for root penetration underneath pavement



Representation of the conclusion of the Bartlett Tree Research programme 2017, now recognised and confirmed by other studies and scientists, is displaying the effectiveness of the soil volume per planting method.

Please check out our website for more information regarding the different Urban Tree Planting methods.
WWW.TREEROOTSYSTEMS.NL

Soil cells: Growing big trees in confined spaces



Comparison between different methods in practice. Besides the many scientific studies, various empirical research is showing similar results.

Platanus trees planted at the same time, same size. Conclusion: Soil cells provide the perfect conditions to grow healthy mature trees.

With soil cells no pavement lifting

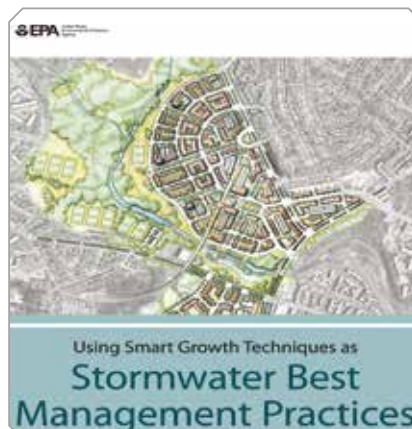


As trees grow, so does their volume of roots. As a result, the tree roots cause the soil to expand, which lifts the pavement. Even in structural soils, roots eventually push the stones apart too.

In soil cells, the tree roots cause the soil to expand too. But the soil can expand in the air layer underneath the decks, which prevents damage to the paving.

Soil cells are preventing pavement lifting.

Soil cells acknowledged as stormwater BMP *



The US Environmental Protection Agency EPA has issued several publications highlighting the added value of trees for stormwater management.

"Installing trees in locations that are engineered to retain stormwater is a great way to augment existing stormwater management systems." source EPA; stormwater to street trees 2013.

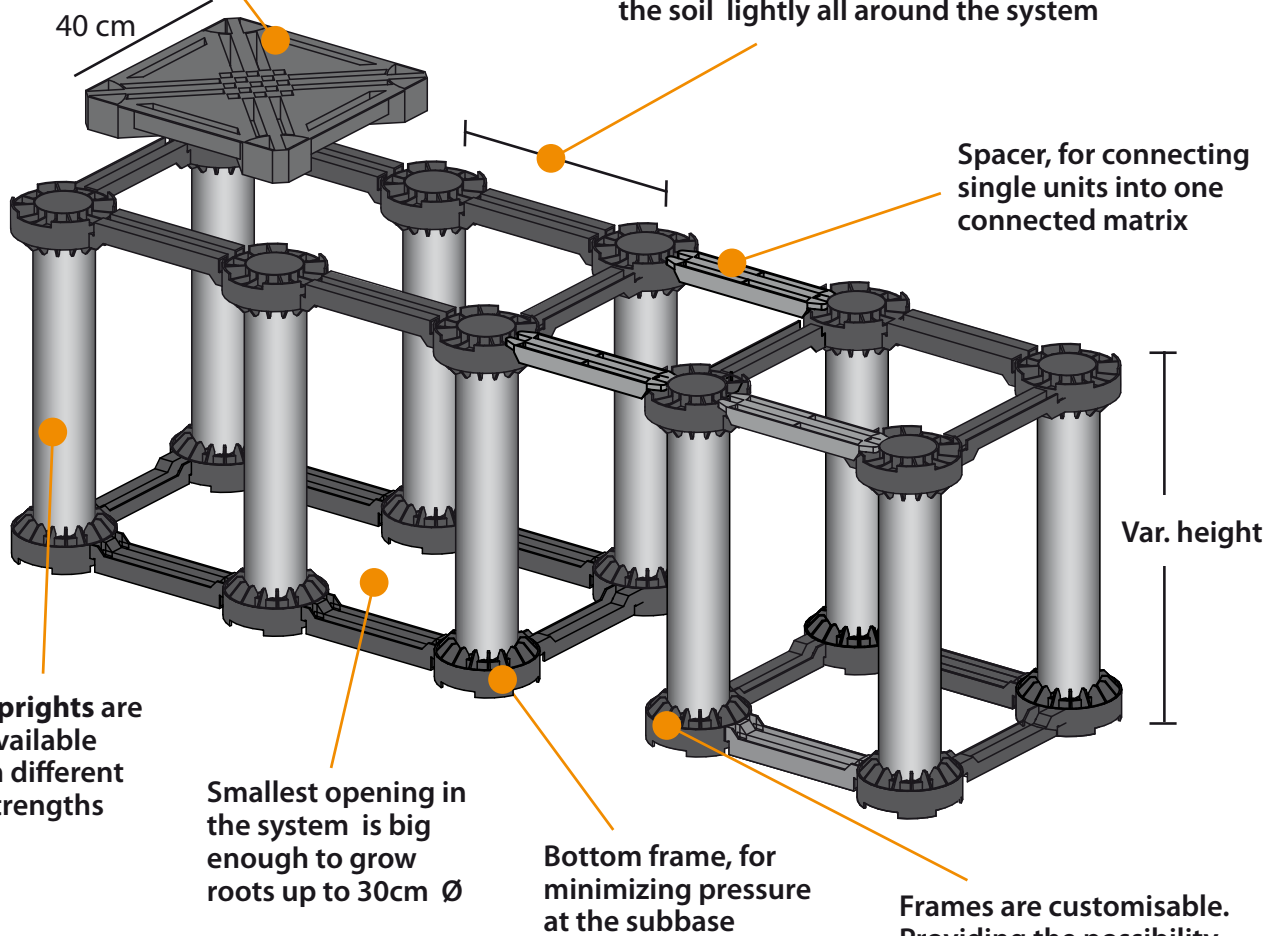
*Best Management Practices



Lime trees planted in soil cells, autumn 2017

Lid, providing flat surface with max. pointload capacity

Uprights are evenly placed at 40 cm distance. Making it possible to compact the soil lightly all around the system



ROOTBOX®
structural soil cell system

Rootbox benefits

Root growth:

- Root opening, minimum > 30cm diameter
- One soil volume of uniformly, lightly compacted soil
- Soil volume percentage > 90%

Design/engineering:

- Meeting all load capacity requirements. Uniformly distributed loads and dynamic point loads
- Applicable as modular connected system and as unconnected stand alone version
- Variable heights up to 150cm
- Minimum cover on top of the system

Utility friendly system:

- Integrating, tunnelling or bridging utilities
- Dismountable and remountable for maintenance

Installation:

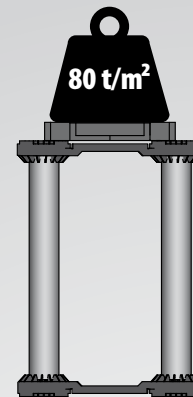
- Fast and easy installation. No extra tools or handling needed
- Big openings, easy to fill in with soil and easy to compact by walking over
- Decks can be placed after filling with soil. No cleaning of the frames needed

Unforeseen underground obstacles:

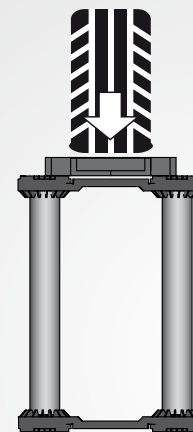
- On site adaptable in height
- Layout adaptable to available surface area

Sustainability:

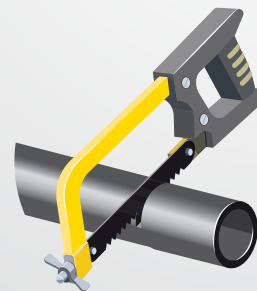
- Designed for reducing transport costs
- Use of recycled materials



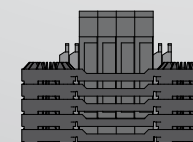
Strongest soil cell system in the world
loadcapacity:
Up to 80 tonnes/m²



Highest pointload capacity
The first system being tested and approved on point load resistance



Adaptable in 3 dimensions
Both frame and post are on-site adaptable



Minimalized shipping volume
Ca. 700 m³ per 40 ft HC



6 reasons why to integrate stormwater management in RootBox design

Trees are typically not considered part of either grey or green stormwater management systems; they are generally, and falsely, considered to be of landscaping value. Planting a tree just for landscaping is not taking advantage of the stormwater benefits and other environmental services the trees provides.

Installing trees in locations that are engineered to retain stormwater is a great way to complement existing stormwater management systems, increasing their capacity and improving water quality while greatly improving urban forest canopy.

Growing big healthy trees

preventing trees from summer stress caused by drought.

Trees are perfect as water storage

Every year the tree grows the water storage capacity is growing too.

Trees promote infiltration rates

Tree roots and soil biology are maintaining the stormwater system.

Water is stored for longer periods

The soil is acting like a sponge.

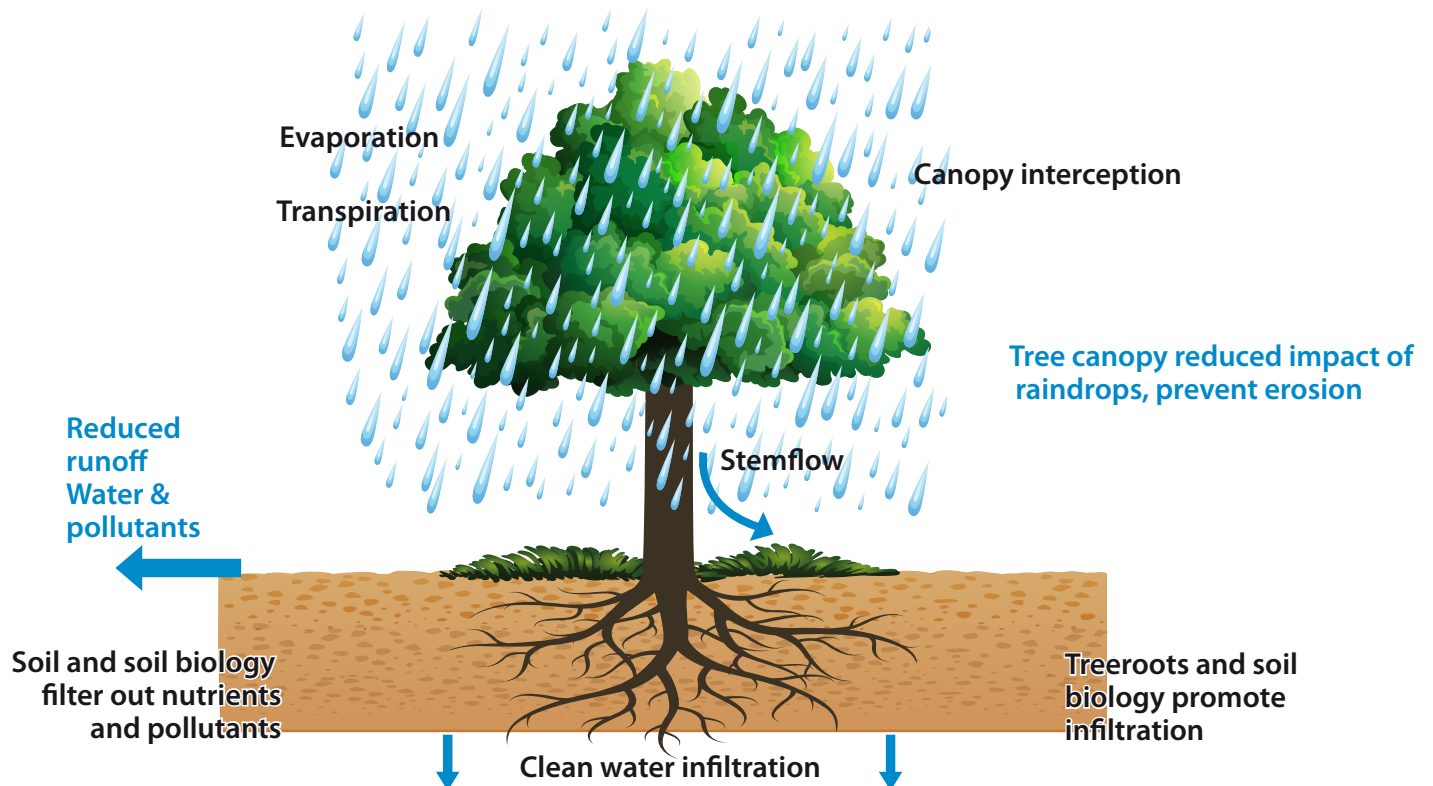
Filtering pollutants

Soil and soil biology filter out nutrients and pollutants, only clean water will infiltrate down.

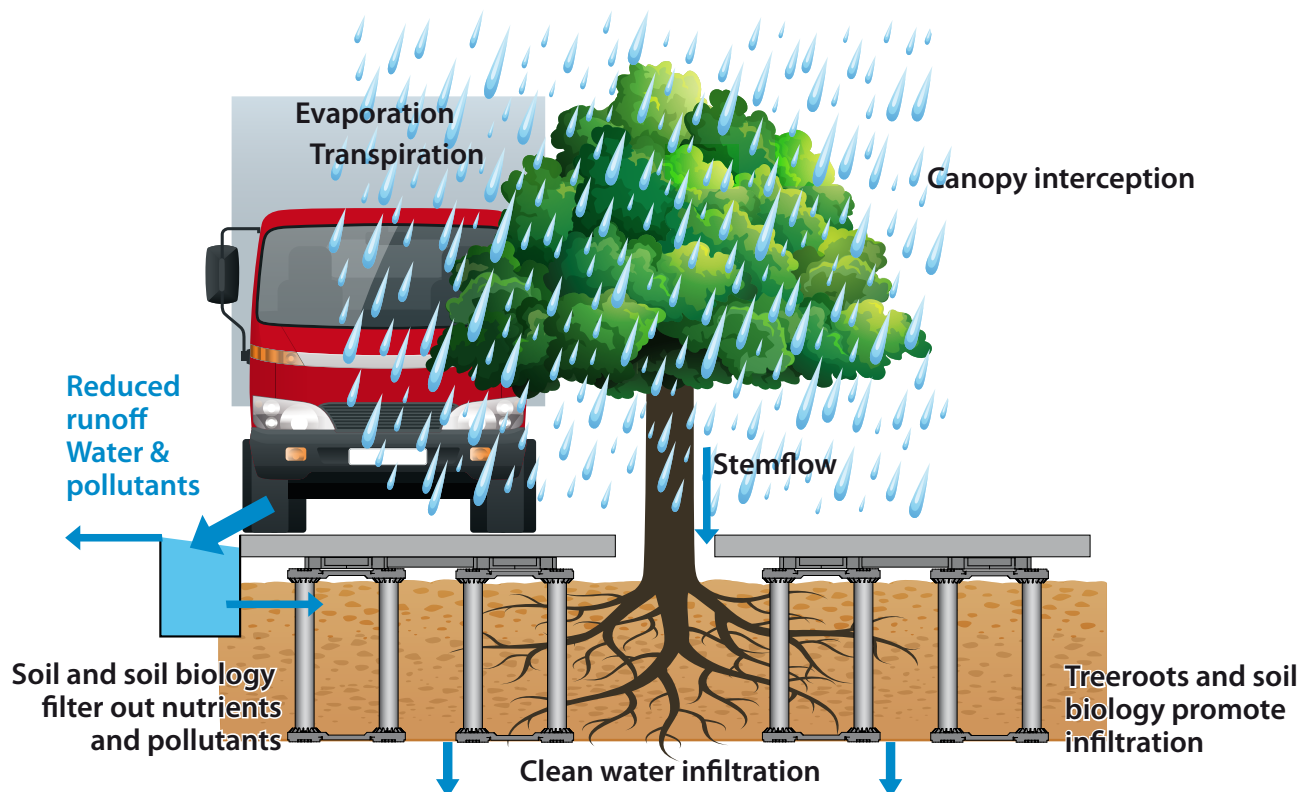
Economical interesting

No maintenance needed and the system performs better each year, as long as the tree is growing.

Trees as natural managers of natural water cycle



Natural water cycled in Rootbox



We offer you the most extensive range of quality products on urban tree planting solutions in the world. Products are produced in our own factory in Germany. Or at one of our exclusive partner manufacturers.

Besides products we also offer you our knowledge and experience about tree planting and storm water management. Ask our specialists for :

- Workshop and masterclasses
- Soil volume calculation services
- Design services
- Engineering services



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Urban trees are a simple solution, to some
of the world most complicated problems.

Let us help you grow healthy mature trees

Werner