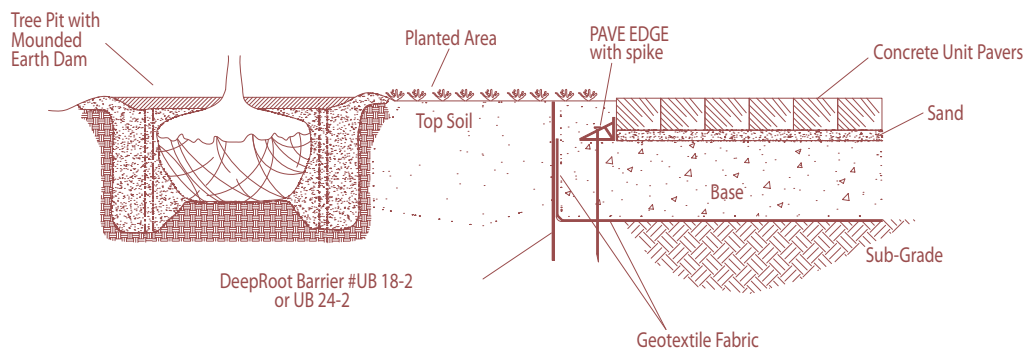
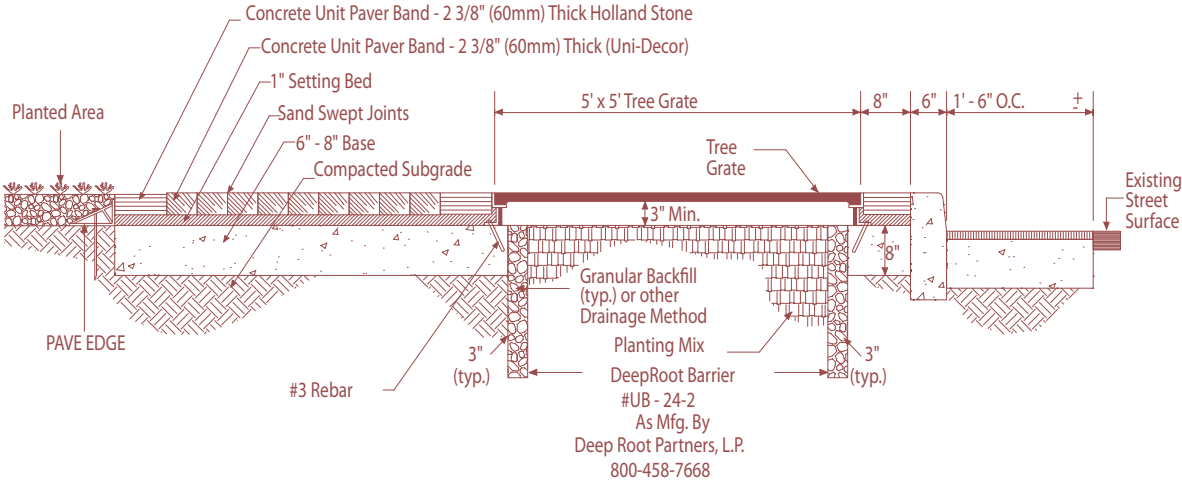


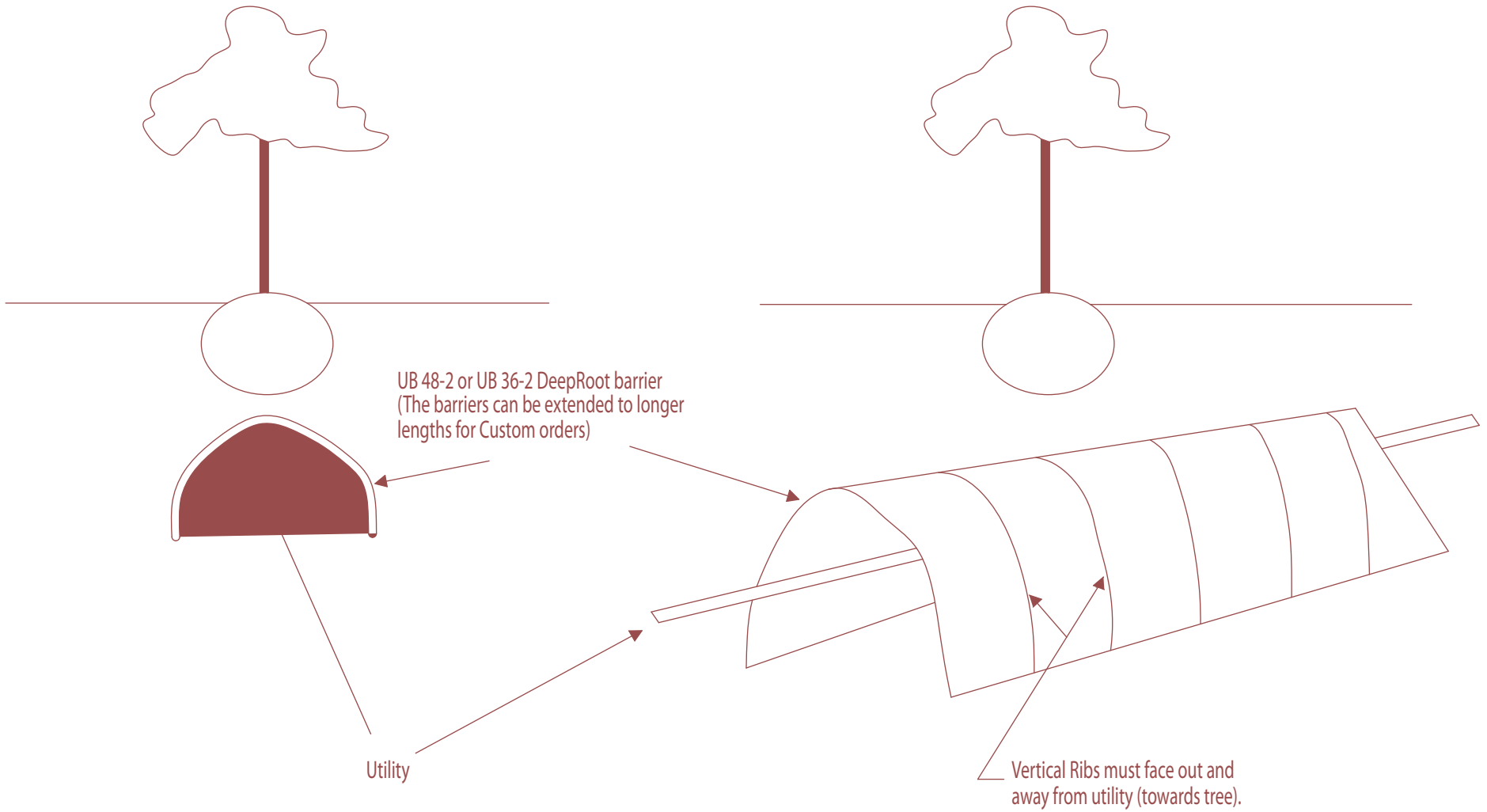
Linear Style Planting using DeepRoot and Geotextile Fabric with Concrete Pavers



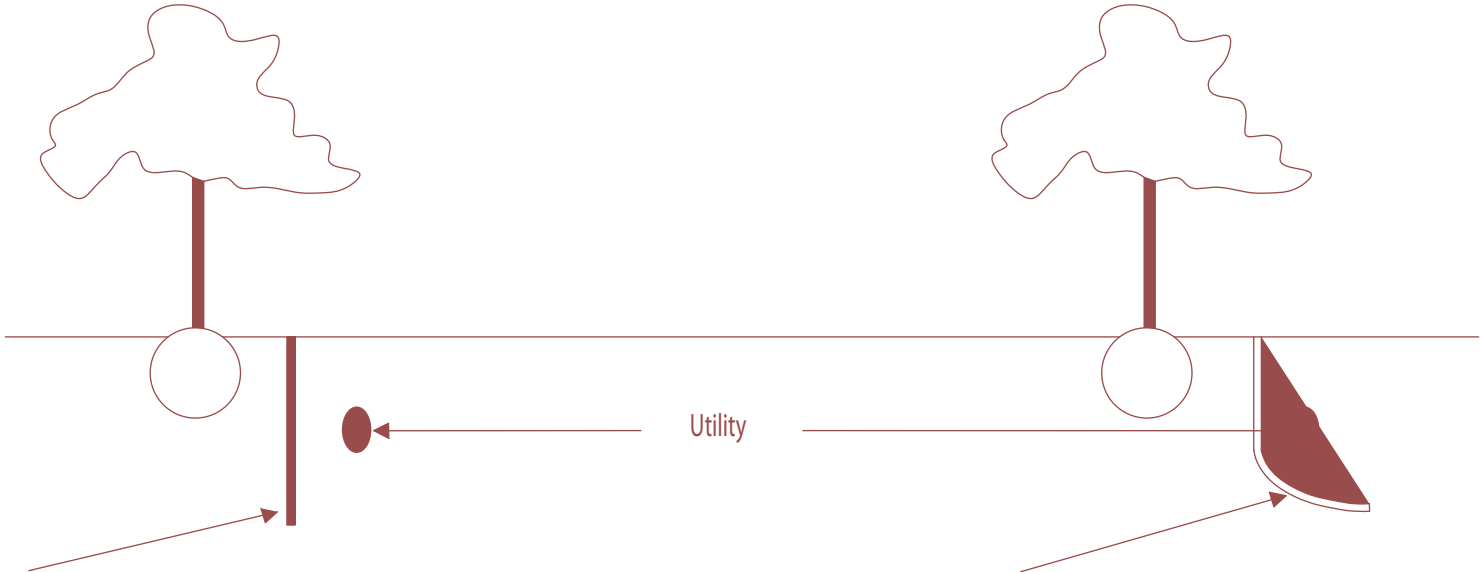
DeepRoot used with Concrete Pavers and a Tree Grate



Planting Trees on top of a Utility



Planting Trees Adjacent to a Utility



UB 48-2 or UB 36-2 DeepRoot barrier.
Vertical Ribs on barrier must face tree.

UB 48-2 (or longer) with curved
portion at lower right at bottom of
utility trench (The barriers can be
extended to longer lengths for
Custom Orders) Vertical Ribs on
barrier must face tree.

Linear Style Planting with DeepRoot Barriers

Determine the correct number of panels to be used. Depending upon the actual planting plan and the number of trees involved the length of linear barrier will vary, but as a general rule of thumb take the anticipated mature canopy diameter of the tree and add 2 feet (61cm). This will be the number of feet necessary for a Linear style planting application. (See chart below.)

A. Choose the barrier that best suits the application. Generally if a sidewalk, patio or driveway is to be protected, 18" (46cm) (UB 18-2) is sufficient depth with 12" (30cm) (LB 12-2) as an alternate choice for non-aggressive, deeper rooting trees. However for curb and gutter protection or more aggressive roots 24" (61cm) (UB 24-2) is generally the better choice.

B. Dig the trench to the depth based upon the particular barrier chosen.

C. Next place the barrier in the trench with the vertical ribs facing toward the tree and align in a straight fashion. It is helpful to place the barrier against the hardscape. Use the hardscape as a guide and backfill against the barriers to promote a clean smooth fit to the hardscape. Be sure to keep the barrier's double top edge at least 1/2" (13mm) above grade to ensure roots do not grow over the top.

D. Plant the tree(s). The Linear style offers a more expansive rooting growth area, however adverse soil and drainage conditions may exist in the actual planting area. Take steps to ensure healthy growth of the tree at planting. Consult with a local Arborist for planting tips and recommendations.

E. If staking or guying is required we recommend using the soft, safe and economical alternative to traditional wire and hose, ArborTie (see www.deeproot.com for details).

F. If the tree(s) will be subject to maintenance work such as lawn mowing or weed trimming we strongly recommend the installation of ArborGard+ Tree Trunk Protectors which are placed around the base of young trees to protect them from damage by weed trimmers, lawn mowers and small rodents. (See www.deeproot.com)

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For a simple formula to determine the quantity of panels required for a Linear application use:

Estimated Diameter of the Tree Canopy at Maturity + 2' (61cm) = Length of Barrier per Side.

For One Side of Tree

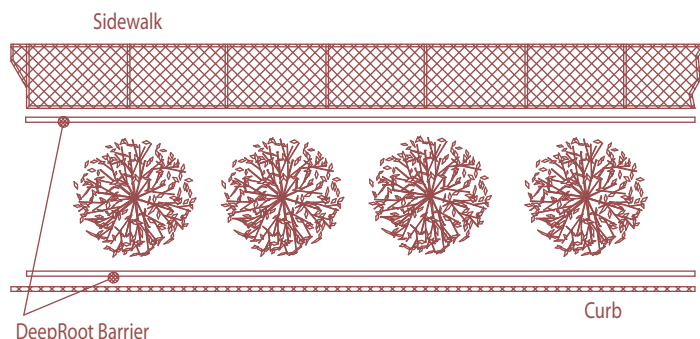
Expected Tree Canopy at Maturity	Feet of Barrier	Number of Panels
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12' (3.6m) Dia. +2' (61cm)	= 14' (4.2m)	7 Panels
18' (5.5m) Dia. +2' (61cm)	= 20' (6.1m)	10 Panels
24' (7.3m) Dia. +2' (61cm)	= 26' (7.9m)	13 Panels

Packaging:

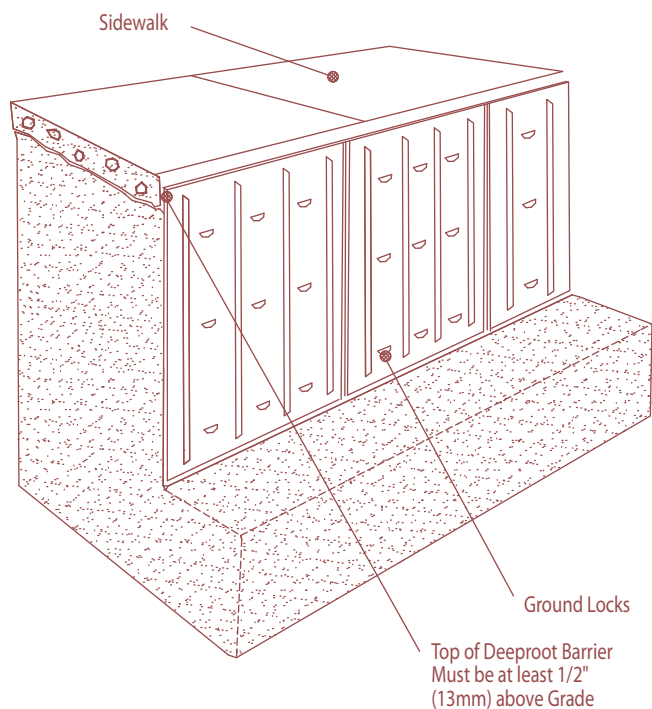
LB 12-2	40 panels (80' linear ft)/ Carton
UB 18-2	26 panels (52' linear ft)/ Carton
UB 24-2	20 panels (40' linear ft)/ Carton

Line can be separated at any two foot interval.



As little as one side of the tree may need barrier for root direction as there may be no hardscape elsewhere requiring protection.

DeepRoot LB 12-2, UB 18-2 or UB 24-2



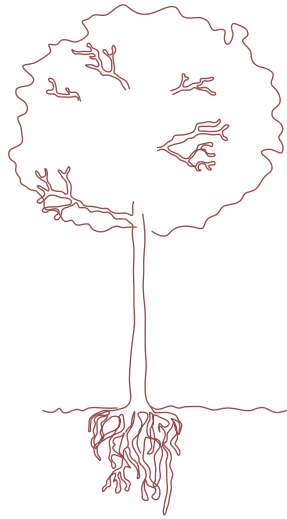
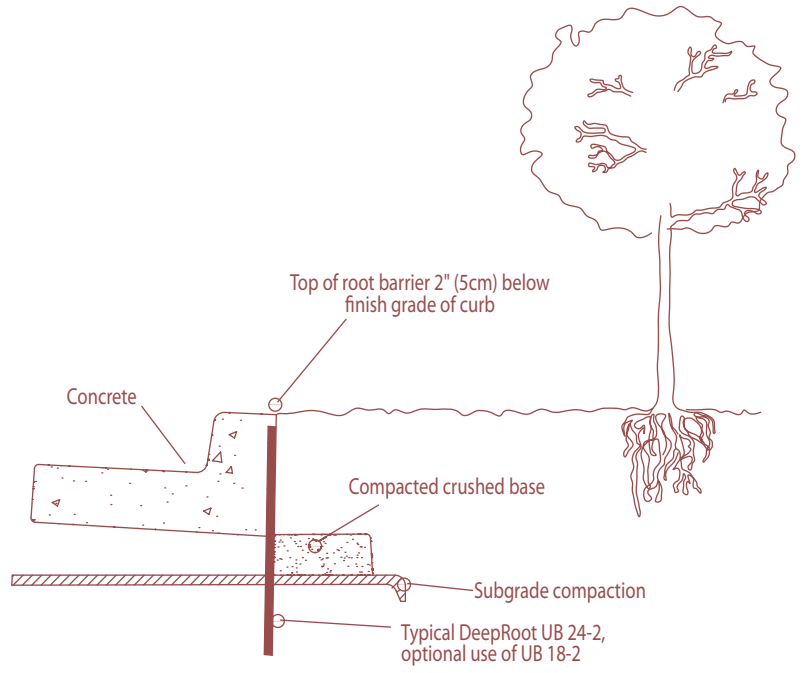
Linear Application of DeepRoot Tree Root Barriers at Time of Installing Concrete Sidewalks and Curbs

TYPICAL SECTION OF CURB AND GUTTER WITH DEEPROOT TREE ROOT BARRIER INSET INTO CONCRETE.

BARRIER INSTALLED IN A TRENCH IN SUBGRADE WHICH IS THEN COMPACTED. BARRIER IS SET SO THAT TOP EDGE WILL BE 2" (5CM) BELOW FINISH GRADE OF CURB, AND SET FLUSH WITH EDGE OF CURB. BARRIER RIBS FACE TOWARD TREE ROOTS.

INSTALLATION SEQUENCE:

1. Prepare base and subgrade
2. Trench to appropriate depth for installation of root barrier so that top of barrier is 2" (5cm) below finish grade of top of curb.
3. Place root barrier in trench, vertical ribs must face toward tree roots.
4. Backfill and compact to requirements.
5. Place form material against barrier (It may be nailed from the outside of the form)

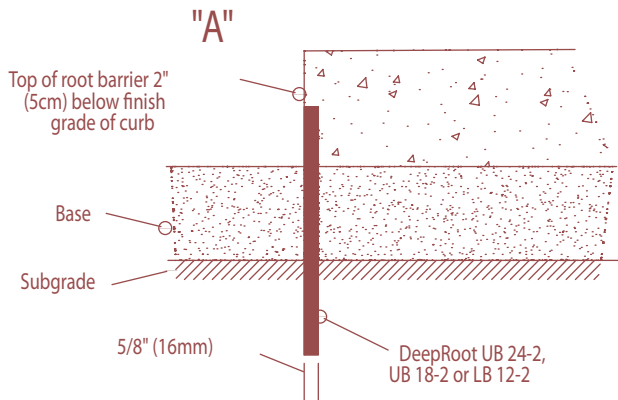
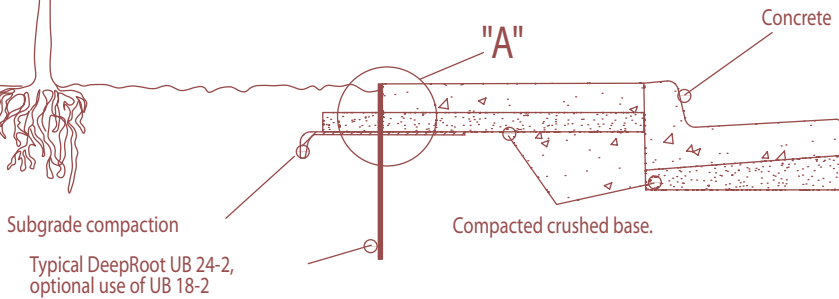


TYPICAL SECTION OF CURB, GUTTER AND SIDEWALK WITH DEEPROOT TREE ROOT BARRIER INSET INTO CONCRETE

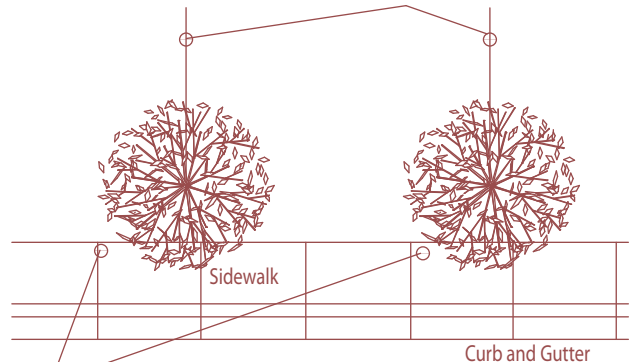
BARRIER INSTALLED IN A TRENCH IN SUBGRADE WHICH IS THEN COMPACTED. BARRIER IS SET SO THAT TOP EDGE WILL BE 2" (5CM) ABOVE COMPACTED BASE (or halfway between base and finish grade of SW). BARRIER RIBS FACE TOWARD TREE ROOTS.

INSTALLATION SEQUENCE:

1. Prepare base and subgrade
2. Trench to appropriate depth for installation of root barrier so that top of barrier is 2" (5cm) below finish grade of top of sidewalk (or halfway between top of compacted base and finish grade of SW)
3. Place root barrier in trench, vertical ribs must face toward tree roots.
4. Backfill and compact to requirements.
5. Place form material against barrier (It may be nailed from the outside of the form)



IMPORTANT NOTE: Tree location must align with "as-built" center of barrier.



Typical DeepRoot UB 24-2. Optional use of UB 18-2. Minimum 6 panels or 12 linear feet (3.66m).

Surround Style Planting with Deeproot Universal Barriers

When selecting the Surround style planting application you will have the greatest success by following these simple steps as illustrated below:

A. Prepare the initial planting hole as illustrated below. This is based upon the combination of desired barrier diameter and depth. Consider if drainage devices or amendments are needed to correct any adverse soil or planting conditions in the backfill area.

B. Assemble the appropriate number of DeepRoot Universal Barrier panels. The vertical root deflecting ribs on the panel must face inward, toward the root ball. (This is very important, otherwise the roots will become girdled by traveling around the smooth walled surface)

C. Next place the barrier in the center of the planting hole, keeping in mind that the double top edge of the barrier should be positioned approximately 1/2" (13mm) above grade. This helps retard potential root overgrowth. Failing to position the top edge above grade can allow root overgrowth which can lead to uprooted hardscapes.

D. Backfill and compact with soil inside the barrier to the level where the bottom of the root ball will be when positioned correctly with the crown of the root ball approximately 1" (26mm) above grade.

E. Remove the tree from its container, or cut away the top portion of burlap and position in the center of the barrier. Complete the backfill of the soil. Distribute evenly to maintain the shape of the barrier and compact the backfill every 4"-6" (10cm-15cm). Roots will die quickly if left exposed to the elements so keep exposure of the roots to a minimum.

F. If staking or guying is required we recommend using the soft, safe and economical alternative to traditional wire and hose, ArborTie (see www.deeproot.com for details)

G. If the tree(s) will be subject to maintenance work such as lawn mowing or weed trimming we strongly recommend the installation of ArborGard+ Tree Trunk Protectors which are placed around the base of young trees to protect them from damage by weed trimmers, lawn mowers and small rodents. (See www.deeproot.com)

H. Water and follow proper tree maintenance practices.

Trees do require care and nurturing after planting. Consult with your local supplier for proper care procedures for the species you are planting. The planting instructions given here are by no means a comprehensive guide. Rather they are general guidelines to planting with DeepRoot Barriers and a survey of current planting methods. Conditions will vary however and it is recommended that an Arborist be consulted before planting.

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A Typical Surround Planting Installation Using DeepRoot Universal Barrier

