

Sierra Club Tree Team Planting Guide

Tools & Materials:

Digging Tools:

- 1 round-nosed shovel per person
- 1 square-nosed shovel per crew
- 1 pick axe per crew

Clean-up Tools:

- 1 tarp or sheet per crew
- 1 broom per crew
- Wire brush

Pruning Tools:

- 1 hand pruner
- 1 folding hand saw

Steel Staking System:

- 1 metal stake per tree
- 1 L-bar per tree
- 1 crossbar, rubber strap, & nut, bolt, and washer attachment system per tree

- 1 adjustable wrench per crew

Dressing the Tree:

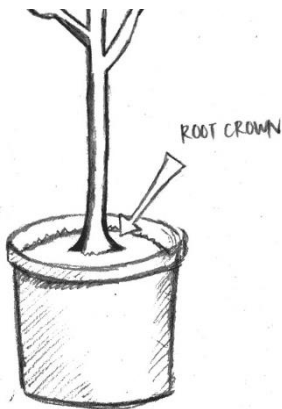
- (1) 15-gallon bucket mulch per 10 trees
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Safety:

- Orange safety cones

Step 1 - Prepare the hole:

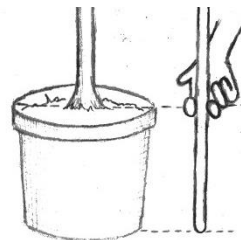
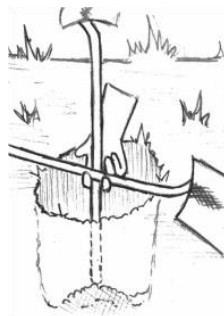
- The sidewalk will be marked with a white bull's eye - indicating where the center of the tree will go.
- Lay a tarp down beside the sidewalk to keep it clean.
- Using a round-nosed shovel, dig a 3' x 3' square hole.
 - Sometimes the soil will be too hard for a shovel. When that is the case, **use a pick axe to loosen**, then shovel the loose soil out, and repeat.
 - When digging, you may notice the soil changing as you go deeper (in color, in texture, etc.) - try to keep the different layers of soil separate (see step 3).



- Dig the hole as deep as the tree is in the nursery pot - up to its root crown.
 - The root crown = the base of the trunk, where it starts to flare out towards the roots.
 - Try not to dig any deeper because you want a stable foundation for the tree.
 - Form a little mound at the base of the hole:
 - You can do this by digging a deeper ring at the bottom OR by filling the middle back in with some soil and tamping it firm.
 - Make sure not to compact the side walls of the hole - keep them scored or loose to encourage the roots to grow out to the sides.



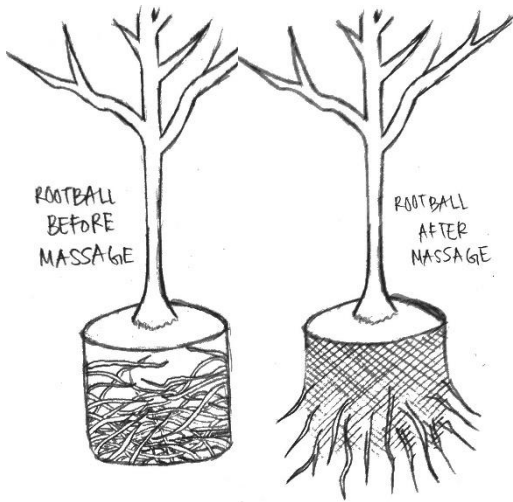
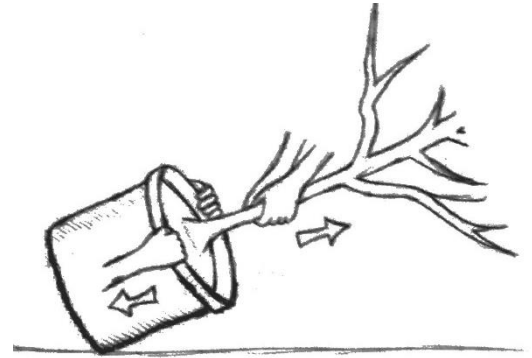
- To check the depth of the hole:



- Lay down a shovel (or stick) across the opening.
- Invert another shovel into the hole and use your hands to mark the depth.
- Compare the depth of the hole to depth of the nursery pot.

Step 2 - Prepare the tree for planting:

- Smack the sides of the nursery pot to dislodge the root-ball.
- Slide the tree out of the pot:
 - Tilt the tree to one side - almost completely on its side.
 - Have one person hold onto the pot.
 - Another person grabs hold of the **base** of the trunk and gently pulls the tree out.

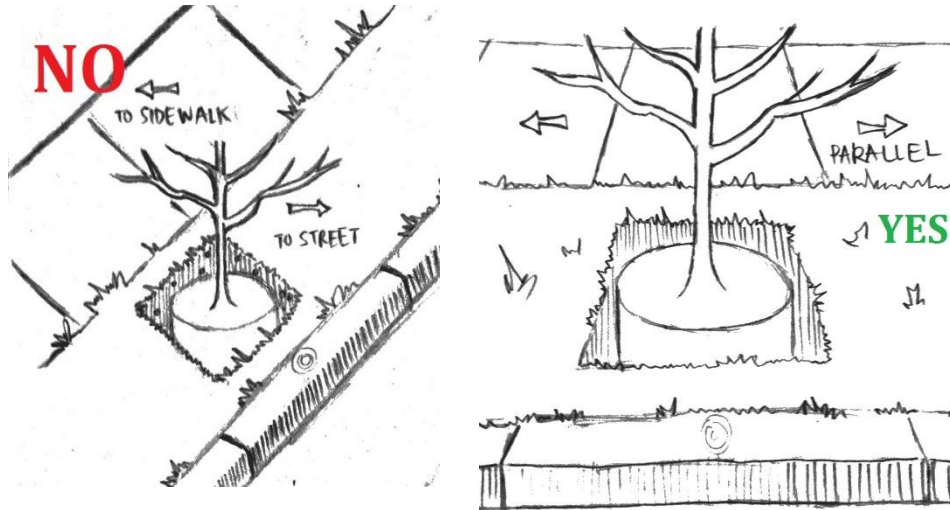


- After the tree is out, **massage the root-ball** to loosen up the roots.
 - If there are roots encircling the root-ball, cut them away with pruners or use the serrated edge of a saw to break the roots up.
 - This prevents the circling roots from choking out other roots as they grow bigger.
 - No need to hold back - as much 1/3 of the roots can be removed without causing too much harm.

Step 3 - Plant the tree:

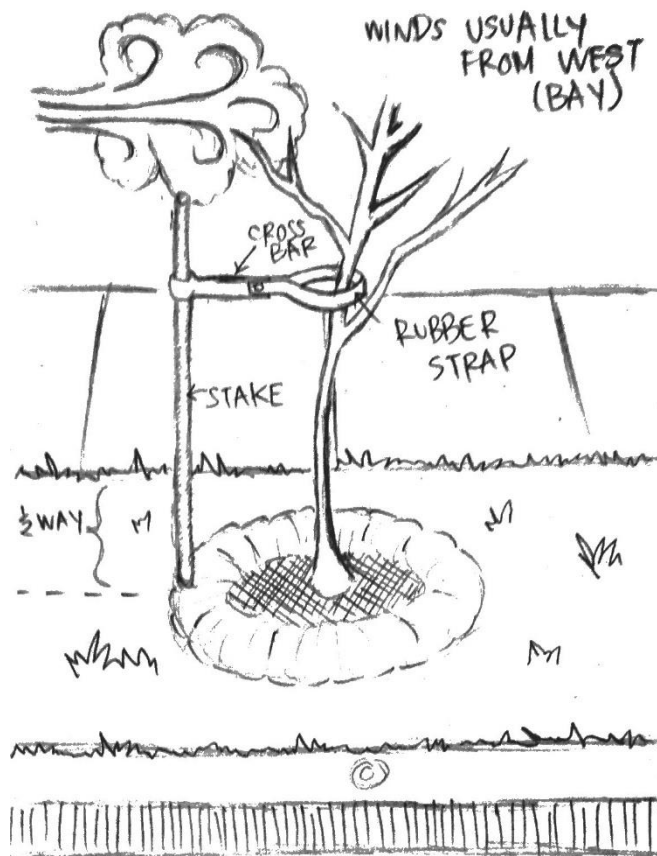
- Sometimes, the branches will be wrapped up with twine for easier transport. In these cases - remove the twine to free the branches.
- Put the tree into the hole on top of the mound.
 - When doing this, try to hold the **root ball** rather than the trunk to prevent damage.
- Make sure that the root crown is at/or **above** the soil line.
 - Above is OK - as the tree settles, it may sink further down.
- We don't want the root crown to be below the soil line, as the tree may rot if the root crown is covered with soil.

- Check the orientation of the tree:



- Branches should not reach out toward pedestrians or toward cars.
 - Orient the branches parallel to the sidewalk.
 - If there are predominant winds - angle the tree slightly against the winds. As the winds blow, it will push the tree into the right position.
 - Generally the winds will come from the bay - from the west, but pay attention to microclimates.
- Back-fill the hole half way:
 - Remember when you kept the different types of materials separate when digging? Fill the soil back in, in the same order in which it was dig up - keeping similar soil type with similar soil type.
 - It helps to have someone stabilizing the tree as it is filled, and double checking to make sure the tree hasn't moved during the filling process.
 - Water in the half-filled hole to allow the soil to settle and to eliminate air-pockets.
 - Double check orientation and make sure the tree is standing up right.
- Continue filling the hole until full.
- If there is extra soil, spread it around evenly - either around the planting strip or loosely in a circle 1'-1.5' from the trunk.

Step 4 - Add a stake:



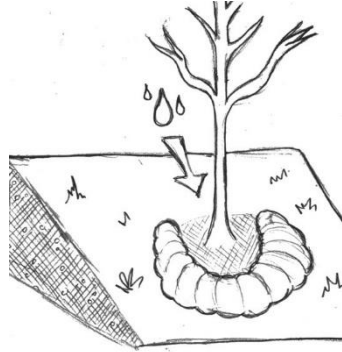
- If the trunk looks stable enough - remove the existing wooden/bamboo nursery stake and backfill the hole with more soil.
- Place the green metal stake on the side of the tree where the prevailing winds are coming from - usually this would be coming in from the bay on the west.
 - Position it halfway between the street and the sidewalk to keep it as far away from either as possible.
 - Measure where the stake should be using the green metal cross-bar.
 - Drive the stake into the ground.
 - First start it manually.
 - Then using the L-bar, turn the stake into the soil to the depth marked on the bottom of the stake.
 - Drive it low enough into the ground that you wouldn't be able to pull it out manually.
 - Attach the cross-bar to the stake:
 - Place the cross-bar over the stake.
 - The cross-bar would ideally sit below the lowest branch on the tree, but if the lowest branch is very low and the tree is top heavy, find a spot higher up the trunk between 2 branches.
 - Using a wrench screw the cross-bar to the stake.
 - Wrap the rubber strap around the tree and attach

to the cross-bar.

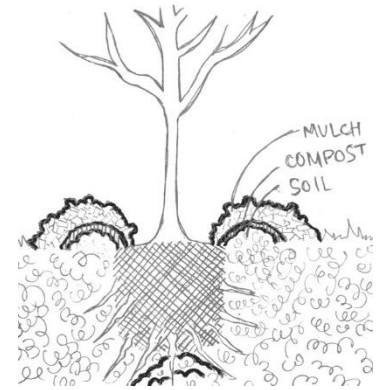
- The strap should go around the young tree to give it support, but it should be loose enough to still allow the tree to move slightly in the wind.
- As the tree sways in the wind, it will strengthen its fibers and its roots to anchor itself better.
- Make sure to have the washer between the strap and the nuts and bolts - this helps distribute the weight of the fasteners - if it is on the outside it doesn't do what it is supposed to.

Step 5 - Add top dressings:

- Sprinkle little to no compost around the tree 6"-12" from the trunk.
 - Again - there should be nothing covering the root crown.
 - We do not add compost to the backfill, as we do not want the roots to meet a differing medium that may cause the roots to turn in a different direction.
 - If you like, you can gently incorporate the compost into the soil.



- Form a berm:
 - Form a donut around the tree about 1'-1.5' away from the trunk. You started this with the soil and compost.
 - If the tree well is on hill, form the berm into a raised "C" on the lower side of the tree - to help retain water from running off.
 - Add one 15-gallon container of mulch along the berm.
 - This covers the compost and helps the soil above the roots retain moisture.

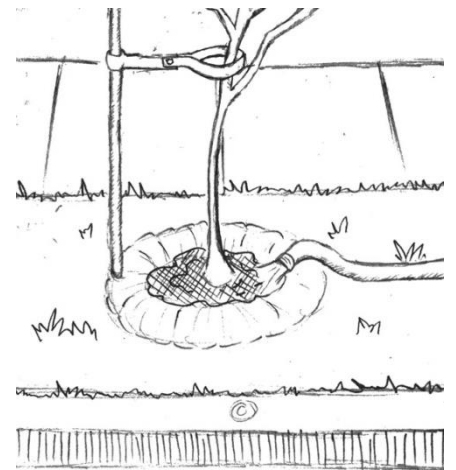


Step 6 - Water the tree:

- Completely saturate the root ball with 3 buckets of water (~15 gallons of water)
 - As water percolates down, fix any holes that may have formed in the soil.

Step 7 - Clean up!

- For pedestrian safety, the height of the planting strip should be level with the surrounding asphalt.
 - Back-fill the opened ground with soil or mulch until it is flush with the walkway.
- Return all nursery pots, any extra dirt, tarp, tools, picked up trash, etc. to the truck to return to headquarters.
 - Nothing should remain at the site except the newly planted tree - staked, composted, mulched, and watered.
- Sweep the sidewalk of any residual soil.
 - Sweep it onto the planting strip, **not** the gutter.
 - A square nose shovel is good for this.



Step 8 - Take a picture!

- Celebrate all of your hard work with a picture! Please send it to us so we can share it with the world that **you** just helped make Oakland a little greener, a little cleaner. ;)