

## **Grate Stake & Mega Grate Stake Systems (*Patent Pending*)**

### **Single Tree Staking System:**

***Fits most tree grates, recommend request of "hole alignment template" in advance.***

“**Grate Stake Systems**”, an attachable-type steel stake with adjustable height Strap-Bar”, UV-resistant adjustable vinyl strap with 2 bolts/washers/nuts, and powder-coated black.

#### **Sizes:**

**Grate Stake** - 6 foot length, 3/4" diameter, Schedule 40 for **15 gallon and 24 inch box trees.**

**Mega Grate Stake** - 8 foot length, 1 1/4" diameter, Schedule 40 for **36 inch box size trees.**

#### **Specifications:**

‘**Grate Stakes**’ utilized for staking tree sizes of up to 24” box trees shall be a minimum of 6 feet in length with an outside diameter of 1.05” and .113” wall thickness. ‘**Mega Grate Stakes**’ utilized for staking tree sizes of 36” box size trees shall be a minimum of 8 feet in length with and outside diameter of 1.66” and .14 wall thickness.

All ‘Grate Stakes’ shall have a powder coated baked on finish for rust inhibiting qualities.

Each ‘Grate Stake’ attached to a tree shall utilize a minimum of one ‘Strap-Bar’. The strap-bar shall be installed at the lowest position, which supports the tree in an upright position.

The Grate Stake ‘Strap-Bar’ shall consist of .1865” x 12” flat bar secured with two set bolts and utilizing a strap with a minimum 1/4” x 1” x 18” 90 Duro Flex PVC with UV inhibitors; secured in place with a minimum of (2) 1/4”x 1 1/4” bolts/washers/nuts.

The Mega Grate Stake ‘Strap-bar’ shall consist of an 3/8” x 14.5” flat bar secured with two set bolts and utilizing a strap with a minimum of 3/8” x 1 1/4” x 24” 90 Duro Flex PVC with UV inhibitors; secured in place with a minimum of (2) 1/4”x 1 3/4” bolts/washers/nuts.

Trees to be staked shall be staked at the time of planting as shown on the plans or specified in the special provisions. One ‘Grate Stake’ shall be installed a minimum of 12 inches away on the prevailing wind side of the tree. ‘Mega Grate Stake minimum of 14.5” away.

Manufactured and distributed

By

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## Grate Stake Installation:

1. Place the 'Grate Stake' **12 to 14 inches** away on the **prevailing wind side** of the tree and parallel with the street. Place the 'Mega Grate Stake' **14.5 to 16.5 inches** away. Turn the 'Grate Stake' Plate (base of stake) so all 4 holes match up with holes in the tree grate. The tree should be one to three inches away from the end of the 'Strap-bar'.
2. Place a 5/16" carriage bolt through each of the 4 holes (included).
3. Reach under the grate through the tree opening and place 1 washer and 1 nut on each of the 4 bolts. Secure tightly with a wrench.
4. Tree should be oriented with nursery stake on the same side as the 'Grate Stake'. Nursery stake must be **removed**. If trunk is too spindly to support itself, or has little or no taper; then a flexible auxiliary stake of either 1/4" spring steel or 1/2" bamboo should be used to provide needed support. Auxiliary stake should not extend past 2/3 of the tree. Wrap the ends of the auxiliary stake with tape to prevent rubbing and tie with nursery tape every 10 to 12 inches along the trunk.
5. Determine the correct height for the 'Strap-bar' keeping in mind it should be no higher than necessary but high enough to hold the tree upright. To locate the correct point to mount the 'Strap-bar', hold the trunk of the tree in one hand and gently bend the top with the other. Find the lowest height at which the top returns upright, and mark the 'Grate Stake' six to eight inches higher than that point. Slip the 'Strap-bar' over the top of the 'Grate Stake' to the marked height and tighten the set bolts.
6. Place the UV-resistant, PVC strap around the tree, and secure the ends of the strap to the 'Strap-bar' using the bolts/washers/nuts provided. Ensure a flat **washer is placed under each bolt head and nut**. Adjust strap to ensure a finger space evenly around the trunk.
7. **For Mega Grate Stake Only-Secure Grate Halves Together.** Reach through the center opening of the Steel Grate and center one of the steel straps provided (6" x 1.20" x .40") on the bottom side of the two grate halves (outside edges recommended). While holding in position, place two carriage bolts through holes on the top side of the Steel Grate and through each of the slotted holes (2" x .3185") of the steel strap. Use washer and nut to secure each bolt. **Repeat** previous step on other far side of the Steel Grate.
8. See drawings for further details.
9. J.R. Partners makes no claims of warranty due to improper installation, soil and/or weather conditions.

\*\*\* Some tree grates may require custom length strap-bar; advance notice required.

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