



## Proper Watering in the Phoenix Metro Area

### Water Wisdom

In Arizona's heat, deep and infrequent watering builds stronger roots and healthier plants. Always water to the **root zone depth**—not the surface. Trees, shrubs, and turf each have different water needs; place them on **separate irrigation valves**. Newly planted trees may need water every 2–3 days for the first month, while mature trees often thrive with a deep soak every 10–14 days.

### 1. Determine Water Needs by Trunk Diameter (DBH)

**Table A:** Suggested Drip Emitter Quantities

| Plant Type                | Canopy Diameter (ft) | Number of Emitters | Emitter Flow (GPH) |
|---------------------------|----------------------|--------------------|--------------------|
| Trees                     | 7–10                 | 2–4                | 2–4                |
|                           | 11–14                | 4–6                | 2–4                |
|                           | 15–20                | 6–8                | 2–4                |
|                           | 21+                  | 8–12               | 2–4                |
| Large Shrubs              | 4–6                  | 2–3                | 2                  |
| Small Shrubs/Groundcovers | 1–3                  | 1                  | 1                  |

If measuring the canopy is difficult, you can calculate water volume based on the tree's trunk diameter (Diameter Breast Height, DBH).

- Rule of Thumb: Apply 10 gallons of water for every 1 inch of trunk diameter.
- *Note: For desert-adapted trees (like Palo Verdes or Mesquites), you may stay on the lower end of this range. For*



*high-water-use trees (like Citrus or Ash), ensure you meet or slightly exceed this volume.*

**Table B:** Gallons Required by DBH

| Trunk Diameter (DBH) | Gallons Required per Watering |
|----------------------|-------------------------------|
| 2"                   | 20 gallons                    |
| 4"                   | 40 gallons                    |
| 6"                   | 60 gallons                    |
| 10"                  | 100 gallons                   |
| 12"                  | 120 gallons                   |
| 18"+                 | 180+ gallons                  |

## 2. Watering Depth & Schedule

**Table C:** Gallons of Water Required to Wet Root Zone (canopy, depth method)

| Plant Type | 1'  | 2' | 3' | 4' | 5' | 6' | 8' | 10' | 12' | 14' | 16' | 18' | 20' |
|------------|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
| Trees      | 1.5 | 5  | 11 | 16 | 22 | 28 | 38 | 59  | 85  | 115 | 150 | 190 | 235 |



|                            |            |          |            |           |           |           |           |           |           |           |           |           |           |
|----------------------------|------------|----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Shrubs</b>              | <b>1</b>   | <b>4</b> | <b>8</b>   | <b>12</b> | <b>17</b> | <b>20</b> | <b>25</b> | <b>30</b> | <b>40</b> | <b>50</b> | <b>65</b> | <b>75</b> | <b>85</b> |
| <b>Groundcover / Cacti</b> | <b>0.5</b> | <b>2</b> | <b>3.5</b> | <b>5</b>  | <b>7</b>  | <b>9</b>  | <b>11</b> | <b>13</b> | <b>16</b> | <b>18</b> | <b>20</b> | <b>22</b> | <b>24</b> |

### Adaptive Tips for Arizona Irrigation:

- Depth: Run emitters long enough to moisten 24–36 inches deep for trees, 12–18 inches for shrubs, and 6–12 inches for turf.
- Timing: Early morning watering reduces evaporation and fungal risk.
- Frequency: Adjust frequency seasonally—less in winter, more during sustained 100°F+ heat (Bell Curve)
- Cycle & Soak: If water pools or runs off before the soak depth is reached, use a "cycle soak" method (run two shorter sessions separated by an hour).
- Amendments: Consider adding humic acid, seaweed extract, or soil surfactants to improve penetration and reduce water waste.
- **Organic Surface Mulch:** Apply a 2-inch layer of organic wood chip mulch (not gravel) around the base of the tree. This physically blocks the sun from baking the soil surface, prevents the "hard crust" from forming, and reduces evaporation by up to 50%
- **Vertical Mulching (The "Drill" Method):** If the ground is rock-hard, use a masonry drill bit or auger to drill 2-inch wide holes about 12–18 inches deep around the tree's drip line. Fill these holes with loose gravel or organic mulch. This creates permanent "chimneys" that allow water and oxygen to bypass the hard surface crust and get straight to the roots.