Rotary Stream Irrigation Contraption (RSIC):

*a simple tool for efficiently irrigating*

*a “single” landscape tree*
What’s the issue?

• Turf irrigation is turned off
• Trees in the turf compromised
• In-line drip is effective, but can be expensive
• Other solutions do not account for
  – water pressure
  – coverage
  – soil type
  – precipitation rate
Solution

• Use a multi-stream rotor nozzle
• Mount on an irrigation spike
• Use pressure regulated riser
• Low cost (~$15 - $20)
• Parts can be found locally or online
• Simple and easy to construct
  – Only 4 parts
Why does this work?

- Multi-stream rotors have:
  - Low precipitation rates
    - but there is still a runoff potential
  - Precipitation rate doesn’t change when the irrigation arc is adjusted
  - Precipitation rate doesn’t change
    - Pressure is regulated by the riser
    - Need to have > 30 psi water pressure
Parts List (Est. cost = $15 - $20)

- **Sprinkler spike** $4
  *Aqualine SS-50Z ½ in.*

- **Pressure regulated shrub riser** $4
  *Hunter PROS-00-PRS30
  *Rain Bird PA-8S-PRS
  *Toro 570S-PRX

- **Pipe nipple** $1
  ½ in. x 2 in. PVC

- **Multi-stream rotary sprinkler** $6
  *Hunter MP1000210-270
  *Rain Bird R-VAN1318
  *Toro PRN-A

*You need only one in each category
Run times depend on soil type

- To wet down to 18”
- Pressure regulated to 30 PSI

<table>
<thead>
<tr>
<th>Soil type</th>
<th>Hunter</th>
<th>Rain Bird</th>
<th>Toro</th>
</tr>
</thead>
<tbody>
<tr>
<td>sand / fine sand</td>
<td>2:15</td>
<td>1:30</td>
<td>1:30</td>
</tr>
<tr>
<td>loamy sand</td>
<td>3:00</td>
<td>2:00</td>
<td>2:00</td>
</tr>
<tr>
<td>sandy loam</td>
<td>4:45</td>
<td>3:00</td>
<td>3:15</td>
</tr>
<tr>
<td>loam</td>
<td>6:45</td>
<td>4:30</td>
<td>4:45</td>
</tr>
<tr>
<td>silt / silty loam</td>
<td>8:30</td>
<td>5:30</td>
<td>5:45</td>
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<tr>
<td>sandy clay loam</td>
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<td>4:15</td>
<td>4:15</td>
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<tr>
<td>clay loam</td>
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<td>clay</td>
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</tr>
</tbody>
</table>

* Rounded to 15 minutes

Times in red denote runoff may occur
Assembled Tree Sprinkler
Set up

- Obtain the required parts
  - Spike
  - Pressure regulated shrub riser
  - ½” x 2” PVC nipple
  - Multi-stream rotary sprinkler
- Assemble
- Connect to hose, turn on
- Adjust to 270° arc
- Set near tree so water doesn’t hit trunk
- Set timer/alarm