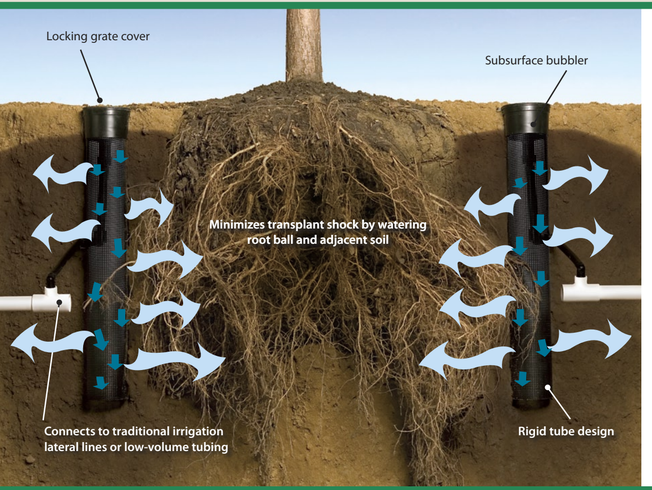

RWS Key Benefits

Investment Protection
- Deep and broad roots yield transplantation survivability, stability in high winds, fast and healthy growth

Watering Efficiency
- Subsurface irrigation minimizes run-off and evaporation

Landscape Aesthetics
- Installs at grade and helps minimize damage to hardscapes

Patented design saves time, money and enhances installation flexibility.

All Rain Bird® Root Watering Series products are pre-assembled and ready to install. You'll save time and money, your trees are more likely to develop deep and robust root growth, and your customers will be satisfied with the results.

Minimizes transplant shock
- Directs water to root ball and adjacent soil
- Supplements top-down soaking

Deeper and broader roots
- Quicker tree and shrub growth
- Provide a stable foundation against high winds

Subsurface bubbler
- Reduces waste due to run-off
- Minimizes evaporation

Supports low-volume tubing
- Orderable without a swing assembly or fittings to support direct connection to a drip system
- Grate collar has an integrated clip for 1/4" tubing

Aesthetically pleasing appearance
- Installs at grade level
- Minimizes root damage to hardscapes

Rigid tube design
- Mesh material allows for horizontal movement of water and oxygen into root zone and surrounding areas
- Supports pea gravel fill to provide better top-to-bottom water dispersion and firmness against root compression

Connects to traditional irrigation lateral lines
- Integrated polyethylene swing assembly and spiral barb fittings connect to PVC and PE pipes
- Simplifies attachment to watering pipes

Self-contained and factory-assembled
- Comes in (3) pre-assembled sizes for design flexibility
- Saves time and money by being ready-to-install out of the box

Minimizes personal injury
- Reduces above ground risers and surface-level roots people can trip over

Options for RWS and RWS-M Models
- Non-potable water grate cover identification
- Locking grate cover deters vandalism
- Sand sock prevents fine particles from penetrating tube

Rain Bird® Root Watering Series

MODEL	DESCRIPTION
RWS: 4" diameter x 36" long (10 cm x 91 cm)	
RWS-B-C-1401	Root Watering with 0.25 GPM (0,95 l/m) bubbler & check valve on riser, 4" (10 cm) grate, versatile swing assembly with ½" (15/21) M NPT inlet
RWS-B-1401	Root Watering with 0.25 GPM (0,95 l/m) bubbler on riser, 4" (10 cm) grate, versatile swing assembly with ½" (15/21) M NPT inlet
RWS-B-X-1401	Root Watering with 0.25 GPM (,095 l/m) bubbler on riser, 4" (10 cm) grate, 18" (46 cm) open swing assembly with ½" (15/21) M NPT inlet
RWS	Root Watering Basic, 4" (10 cm) grate, ready for customer provided irrigation hardware
RWS-B-C-1402	Root Watering with 0.50 GPM (1,9 l/m) bubbler & check valve on riser, 4" (10 cm) grate, versatile swing assembly with ½" (15/21) M NPT inlet
RWS-B-1402	Root Watering with 0.50 GPM (1,9 l/m) bubbler on riser, 4" (10 cm) grate, 12" (31 cm) versatile swing assembly with ½" (15/21) M NPT inlet
RWS-B-C-1404	Root Watering with 1.00 GPM (3,8 l/m) bubbler & check valve on riser, 4" (10 cm) grate, versatile swing assembly with ½" (15/21) M NPT inlet
RWS-B-C-1408	Root Watering with 2.00 GPM (7,6 l/m) bubbler & check valve on riser, 4" (10 cm) grate, versatile swing assembly with ½" (15/21) M NPT inlet
RWS-Mini: 4" diameter x 18" long (10 cm x 46 cm)	
RWS-M-B-C-1401	Mini Root Watering with 0.25 GPM (0,95 l/m) bubbler & check valve on riser, 4" (10 cm) grate, ½" (15/21) M NPT inlet spiral barb elbow
RWS-M-B-1401	Mini Root Watering with 0.25 GPM (0,95 l/m) bubbler on riser, 4" (10 cm) grate, ½" (15/21) M NPT inlet spiral barb elbow
RWS-M-B-C-1402	Mini Root Watering with 0.50 GPM (1,9 l/m) bubbler & check valve on riser, 4" (10 cm) grate, ½" (15/21) M NPT inlet spiral barb elbow
RWS-M-B-1402	Mini Root Watering with 0.50 GPM (1,9 l/m) bubbler & check valve on riser, 4" (10 cm) grate, ½" (15/21) M NPT inlet spiral barb elbow
RWS-M	Mini Root Watering Basic with 4" (10 cm) grate, ready for customer provided irrigation hardware
RWS/RWS-Mini Accessories	
RWS-SOCK	Root Watering Sand Sock (6 per bag)
RWS-GRATE-P	Root Watering 4" (10 cm) Purple Grate
RWS-Supplemental: 2" diameter x 10" long (5 cm x 25 cm)	
RWS-S-B-C-1401	Supplemental Root Watering with 0.25 GPM (0,95 l/m) bubbler & check valve on riser, 2" (5 cm) snap-on cap and base, ½" (15/21) M NPT inlet spiral barb elbow
RWS-S-B-1401	Supplemental Root Watering with 0.25 GPM (0,95 l/m) bubbler on riser, 2" (5 cm) snap-on cap and base, ½" (15/21) M NPT inlet spiral barb elbow

Reclaimed Water Models

Visit **www.rainbird.com/rws** for additional details about the Rain Bird Root Watering Series that promotes healthy tree growth in one complete, factory-assembled package.

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Root Watering Series

Healthy tree growth right out of the box.

Contractors prefer the Root Watering Series' fast, easy installation.

Case Study: Downtown Detroit, MI, urban landscaping for the Greek Town Casino.

Contractor: Ron Bywalec, D & B Landscaping, Inc., Detroit.

Challenge: *Quickly installing an irrigation system for approximately 40 newly planted trees on a short timetable without interfering with the other construction projects in process.*

Project:

Time was of the essence when contractor Ron Bywalec was asked to run irrigation to a series of newly planted trees in downtown Detroit. There was already an army of people working to open the Greek Town Casino on schedule, plus a fleet of heavy equipment on site. Ron's team had to get in, install a tree irrigation system as quickly as possible, then get out of the way.

In the past, Ron would have assembled a homemade irrigation product to suit the needs of the project, even though standing in the shop drilling holes in PVC pipe and inserting a bubbler wasn't a particularly good use of his time. For this project, Ron needed an off-the-shelf solution.

He decided to try Rain Bird's new Root Watering Series product. The units are all factory-assembled and self-contained, which was a big time saver. And the built-in swing assembly is flexible for fast, easy coupling with lateral lines — there is no need to have everything perfectly measured and exactly aligned in order to make the connection.

Armed with 80 RWS-B-1401 units (two per tree) and a gas-powered post hole digger, Ron and his team got to work. The project progressed quickly. They dug holes, installed the RWS units, surrounded them with gravel, then back-filled without a hitch. According to Ron, "It was definitely the best choice for this job."

Result:

Ron met his tight deadline with the help of the Rain Bird RWS, and now he'll never go back to making his own versions. "The time I save in the shop is better spent on other things," he said.

Rain Bird® RWS improves tree health and survival rate.

Case Study: Folsom, CA, housing and commercial development project.

Contractor: Greg Houck, Ad Land Venture, Rancho Cordova, CA

Challenge: *Planting oak seedlings on 20 acres of coarse, rocky soil that prevents uniform distribution of water.*

Project:

As this housing and commercial development was completed, tree planting became a major undertaking because California state law requires developers to replace all trees removed during construction. The task fell to contractor Greg Houck. With 200 valley oak seedlings to plant on a 20-acre site, he needed an efficient irrigation method that would help the oaks survive in fairly unfriendly terrain and soil conditions.

Conventional irrigation systems were not an option, due to high levels of water evaporation and inadequate moisture distribution to the roots of the transplanted trees. Drip irrigation was also ruled out because it could not provide enough moisture to establish deep tree roots in this particular application.

On previous projects, Greg had installed a plastic tube with about a dozen hand-drilled holes and a retrofitted bubbler, but he was never completely satisfied with this do-it-yourself method. Then Rain Bird introduced the Root Watering Series (RWS), specifically designed to bring water, air and nutrients to tree roots. Greg selected the RWS with a 1401 bubbler, check valve and grate (RWS-B-C-1401) for his project.

Each RWS unit is made of a 36-inch long perforated mesh tube, which can be cut to length. The tube is perforated with more than 14,000 holes, allowing water to permeate the ground at the root bulb while providing excellent aeration. The design encourages trees to develop long, deep roots, which helps them become established, even in soil that is less than ideal for tree transplants.

Result:

One year after planting, the trees show "extremely good vitality," according to Greg. In a typical transplant project like this, as many as 20% of the trees do not survive, but Greg only lost one tree out of the 200 planted, thanks to the Rain Bird RWS. "If you're looking for long-term vitality and healthy trees," Greg concluded, "this is an excellent tool."

Specifying tree irrigation is easy with Rain Bird RWS.

Case Study: Boise, ID, State Veterans Cemetery.

Specifier: Ross Rooper, Beck & Baird Landscape Architecture, Boise.

Challenge: *Specifying an appropriate irrigation system for more than 600 young trees transplanted to roughly 12 acres of sandy soil that is not naturally conducive to tree growth.*

Project:

For decades, Idaho was the only state without a state-run veterans cemetery. Thanks to a generous land donation, however, Idaho was finally able to get federal grant money to make the cemetery a reality.

The donated land featured a slope with grades ranging from 15–60° and required significant reshaping and stabilization through the planting of trees, shrubs, grass and other groundcover. Not only that, it became apparent that irrigation would be a challenge because the soil was so sandy that not a single rock was found as construction and landscaping crews excavated more than 1,000 cubic yards of soil.

Landscape architect Ross Rooper knew his best bet was to focus on as much indigenous vegetation as possible, so most of the cemetery was replanted in naturally growing Idaho fescue and sagebrush. Although the soil in this particular location wasn't naturally compatible with trees, more than 600 young trees were designed into the plan as a tribute to the forests that shape Idaho's horizons. Irrigating the trees was an absolute necessity.

Ross was planning to design a custom tree irrigation system when Rain Bird supplier Chaz McCallister of Horizon Landscape & Irrigation Solutions showed him the new Rain Bird RWS. "My first impression of the RWS was that it was the perfect ready-made solution for the cemetery project," Ross recalled.

He immediately specified 1,250 Rain Bird RWS-B-C-1401 units with sand socks. Because of the sandy soil, he needed the units to encourage lateral root growth, so each RWS was cut to 24 inches. He also specified the sand socks to prevent the sand from infiltrating the RWS mesh tube.

Result:

Ross is pleased with the self-contained nature of the Rain Bird RWS because he didn't have to specify a host of small parts for each root watering unit. Also, "Rain Bird has a really good reputation," he said. "I knew I was specifying a good product."