

Holistic Water Management

New Technologies and Best Practices for Water Conservation



What is Holistic Water Management?

Holistic Water Management is a blend of Permaculture, EarthWorks, Alternative Water Sources and High Efficiency Irrigation.



Brenham, TX Project



Our first major system was a 30 acre food forest with a triple redundant water source and on site evapotranspiration control

Brenham, TX Project



Introduction to Standard Irrigation

Understanding and examining problems in the industry

Examining Standard Irrigation Practices

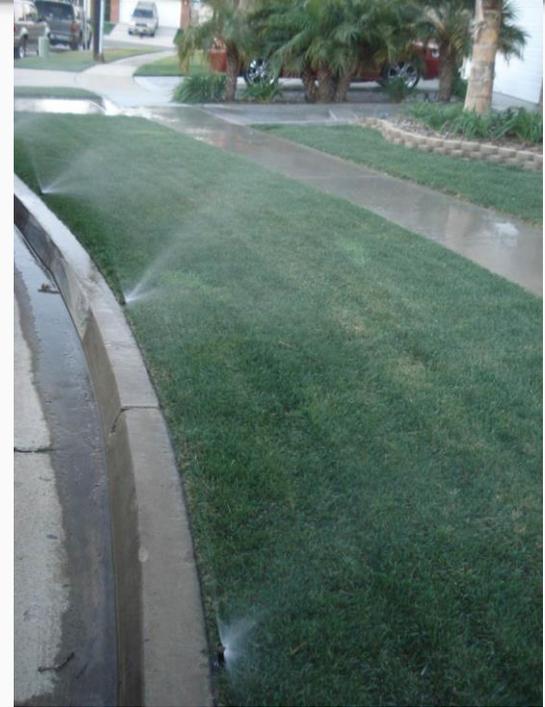
- 40% efficiency is considered excellent
- Landscape irrigation accounts $\frac{1}{3}$ of the water usage in the US
- 50 percent of commercial and residential irrigation water use goes to waste due to evaporation, runoff, or over-watering.
- Non native plants can increase water usage as much as 50 percent.

Fun Fact: Water withdrawals for irrigation and landscaping are highest in the drier regions of the West and Southwest.

What contributes to inefficient systems?



- Overspray
- Misting
- Evaporation
- Over Watering
- Non Native Plantings
- Wind





High Efficiency Irrigation

The first step to correcting the issues facing water consumption and irrigation is to admit there is a problem.

Water usage and sustainability go hand in hand, as water management experts we are uniquely poised to combat things like climate change.

Types of High Efficiency Irrigation

- Drip
- Pressure Regulated Heads
- Pressure Regulated Valves
- Self Flushing Valves
- Sub Surface Irrigation - Hydrospiral
- Multi Stream Rotors

- Evapotranspiration Smart Controllers

Drip Irrigation

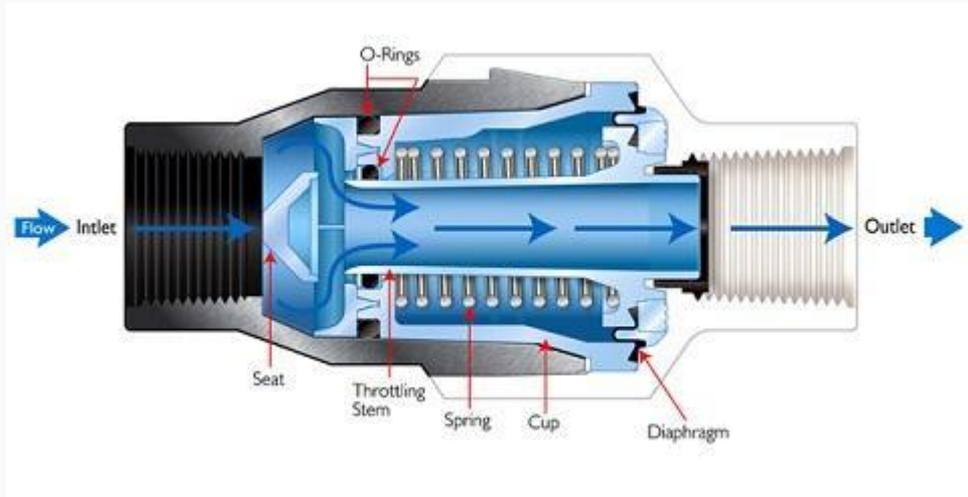


- Works in GPH not GPM.
- Little to no loss
- Can be installed below grade
- Up to 16 year warranties against root intrusion.



Pressure Regulated Heads

Pressure regulated heads help us to keep from constantly adjusting pressure. This can prevent overspray and misting, two major concerns when we look at water loss in irrigation systems.



Pressure Regulated Valves

Just like pressure regulated heads, pressure regulated valves can restrict the pressure before the zone. This allows us to get more uniform distribution when combined with pressure regulated heads.

These valves are also critical when it comes to drip irrigation.



Self Flushing Valves

Relatively new, self flushing valves have proven invaluable in systems that use alternative water sources. Many of the older model valves could not handle small bits of debris. By using self flushing valves we can eliminate the risk of debris damaging the valve and the system will last longer.



Hydrospiral

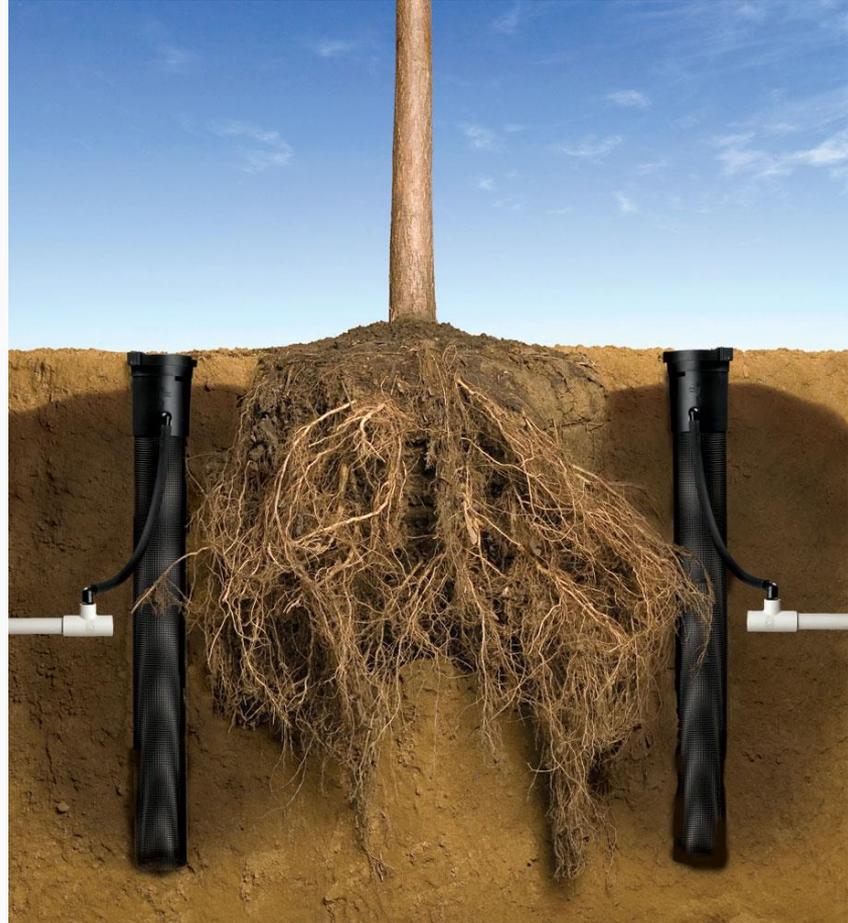
The most advanced and versatile root watering system on the market today.



Hydrospiral VS Competitors

Competitors require additional parts to
operate at peak efficiency.

Double the cost of Hydrospiral



Multi Stream Rotors

Slower application rate.

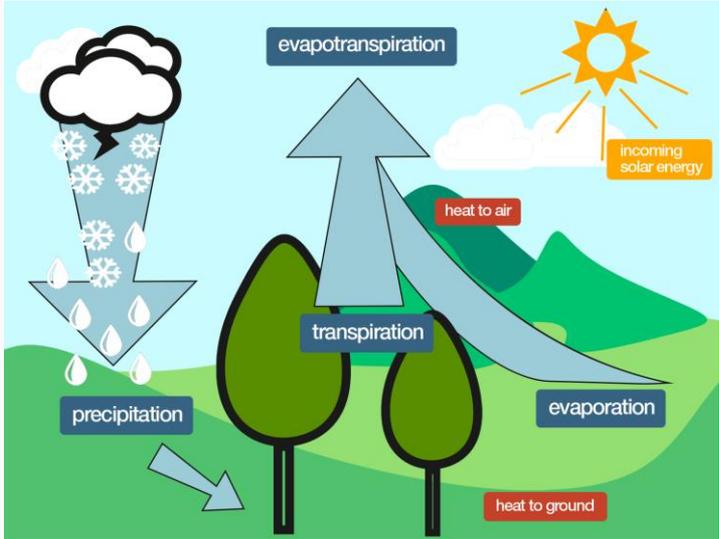
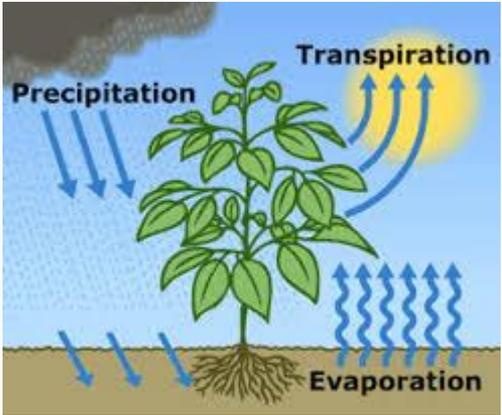
More resistant to wind.

Fine Tune adjustments.

Combined with Pressure regulated valves and heads you can have the same distribution uniformity even after pressure changes that occur overtime.



Evapotranspiration



Conventional Smart Controllers

Conventional system smart controllers can allow for an upgrade to any system to off site, evapotranspiration control.



Two Wire Smart Controllers

Rainbird IQ offers off site, evapotranspiration control based on real time weather data.

It uses Cat5/6 ethernet, wifi, or 3G.



Elgin, TX

Uses Rainbird IQ

Triple Redundant System

Pond Life scoped for maximum nutrients and algae control.

65000 gallon rain tank.



Fredricksburg, TX

Uses Hunter Hydrawise

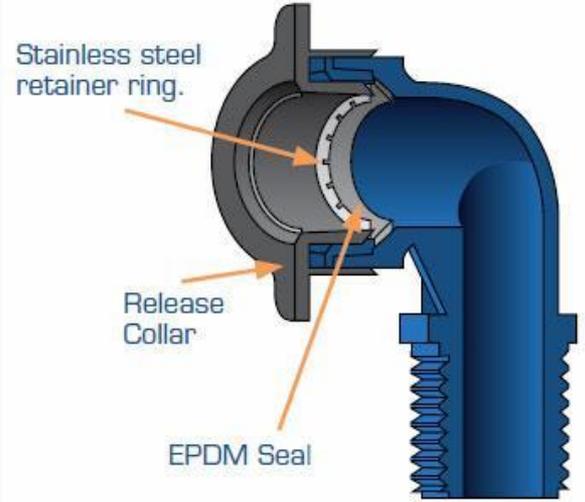
Well water with future expansion into triple redundant



Blu-Lock



BLU-LOCK® CUTAWAY



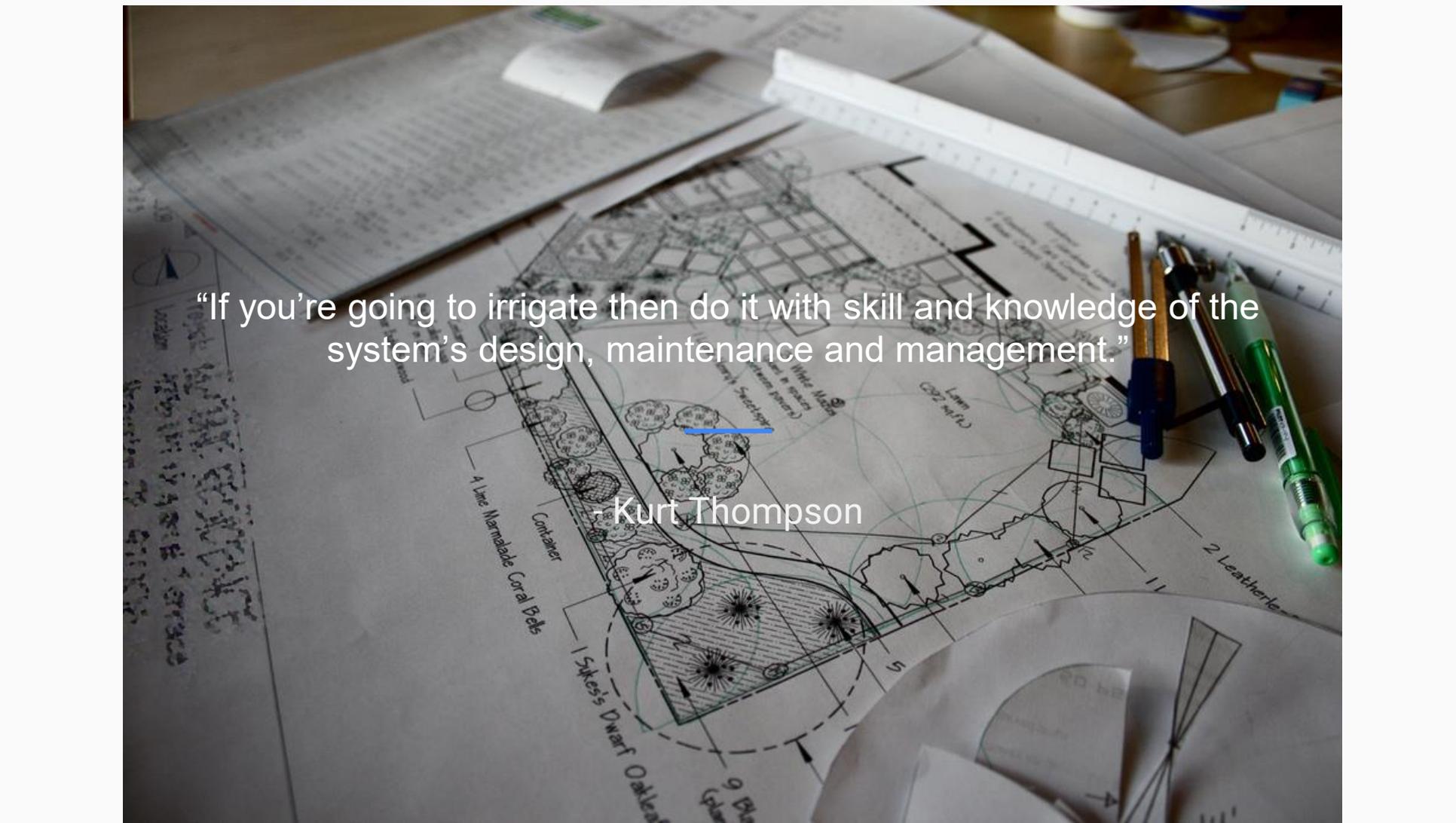
WHY BLU-LOCK TUBING?

- ▶ 50% FASTER INSTALLATION
- ▶ NO GLUE, NO TOOLS, NO PRIMER, NO CLAMPS
- ▶ PATENTED QUICK RELEASE MECHANISM
- ▶ ENVIRONMENTALLY FRIENDLY & CHEMICAL FREE
- ▶ HEAVY-DUTY CONSTRUCTION

HYDRO-RAIN
Duck for Speed

90%

This efficiency rating is achievable if you combine sub surface irrigation, alternative water sources, permaculture, and earthworks.



“If you’re going to irrigate then do it with skill and knowledge of the system’s design, maintenance and management.”

- Kurt Thompson

“We do not inherit the earth from our ancestors - we borrow it from our children.”

-Native American Proverb

Thanks!

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