HOW YOU MAY SAVE YOURSELF MONEY AND REDUCE WATER FOR
IRRIGATION - SOAKER HOSE IRRIGATION – PART 4

This section discusses conversion from spray head irrigation to soaker hose irrigation in various flower beds. Conversion required capping existing spray head risers and converting five risers to distribution manifolds for soaker hoses. This is a very simple change and modifications took five hours for 200 linear feet of flower beds. A typical installation is shown in the next picture.

An existing 3/4” riser for a pop up 1.5 GPM sprinkler head has been modified by adding a tee, 3/4” coupling with hose threads. A pressure reducer fitting is screwed on the ¾” hose thread side of coupling and soaker hose is connected to the pressure reducer. Teflon tape is used to seal threaded connections.

The soaker hose is distributed around azalea and other plant root systems and covered with three inches of mulch. This mulch covering prevents irrigation water from exposure to evaporation in an air space, directs water to plant root systems, limits weed growth and prevents Ultra Violet light spectrum from damaging the soaker hose. Five separate riser modifications and 600 linear feet of soaker hose placed on root systems of plants and covered with mulch completed the transformation from spray head to soaker hose irrigation. The existing spray head sprinkler controllers were used to automatically control irrigation. *TIP: Placing parallel soaker hose on each side of plant and providing some contour curve assures plant root system is uniformly watered.*

The following table summarizes savings using this soaker hose versus spray head irrigation.

TABLE 4

ESTIMATED SAVINGS FROM SOAKER HOSE VERSUS SPRAY HEAD IRRIGATION

YEAR	ANNUAL SPRAY HEAD VOLUME 1000 G	PROJECTED WATER COST $/1000 G	ANNUAL COST-$	ANNUAL SOAKER HOSE VOLUME 1000 G	PROJECTED WATER COST $/1000 G	ANNUAL COST-$	ANNUAL SOAKER VS SPRAY HEAD SAVINGS-$
2009	**19**	**2.68**	**51**	**5**	**2.68**	**14**	**37**
2015	**19**	**3.08**	**59**	**5**	**3.08**	**15**	**44**
2060	**19**	**9.58**	**182**	**5**	**9.58**	**48**	**134**

Estimated home owner do it yourself installation cost in **2008** dollars = approximately **$225** (600 linear feet**),** excluding existing distribution and control systems.

Annual estimated water savings = **14,000 gallons.**

The estimated water savings is the important savings as we are under a mandated 30 % reduction in ground water use by 2015.

Assuming 50 percent of meters in MUD 8 & MUD 9 could achieve this type of savings by modifying one or more irrigation systems at their residence, what percentage of water used for irrigation in 2006 would this be ?

2006 ground water pumped = 428,000,000 (Gallons metered)/0.94 = 455,000,000 gallons
Metered Water Reclamation facility discharge = 124,000000
Inferred irrigation water use 331,000,000 gallons

Meters projected at 85 % build out in 2015 = 4,500.

Projected groundwater use = 788,000,000 gallons.

If all meters converted to this type or similar irrigation saving method, potential savings could approach 63,000,000 gallons per year or about 8 % of ground water used without conservation steps and **about 27 % of the 30 % mandated LSGCD reduction of 236,000,000 gallons per year.**

This can be a significant step in conservation, easy to accomplish and not expensive.

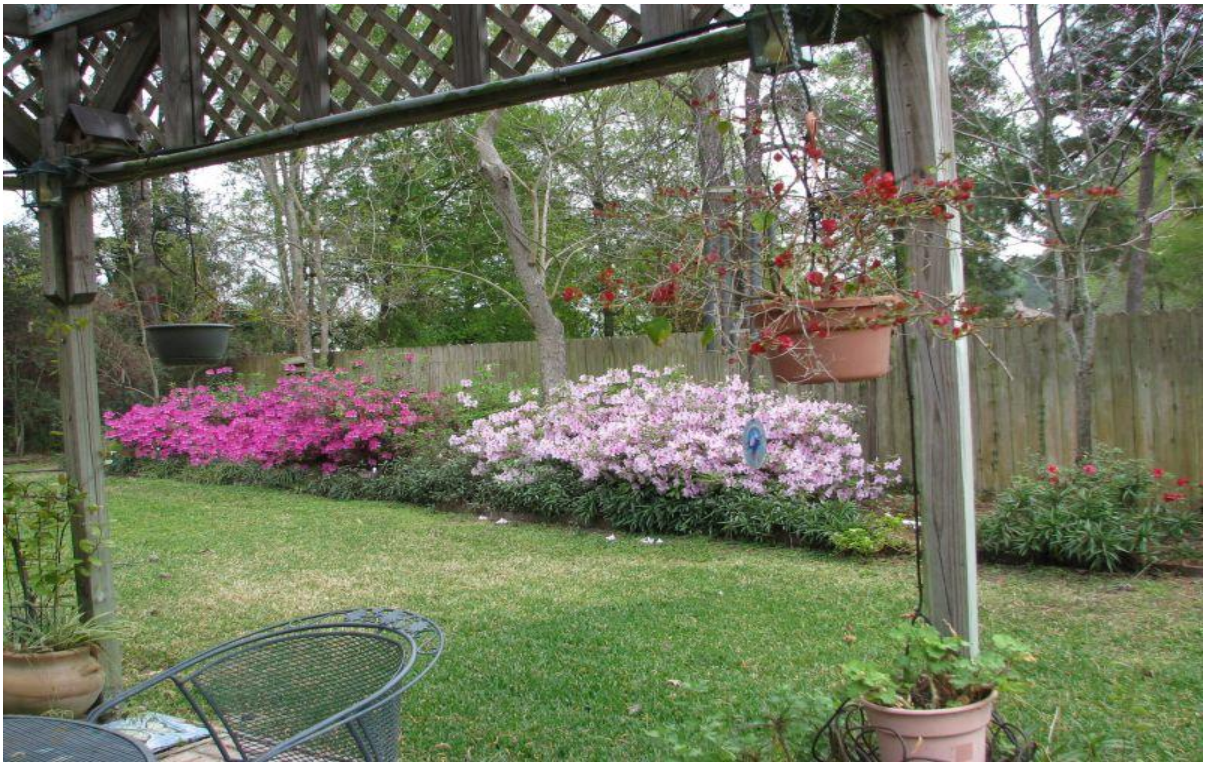
In looking for ways to reduce ground water irrigation, we are looking for **incremental** steps that accumulate into the total desired reduction. Please understand, we have no choice but to reduce

our ground water consumption or face large penalties and fines for failure to comply with the Lone Star Groundwater Conservation District mandate.

You may have justifiable concerns about this soaker system adequately watering your plants. This type of irrigation is easy to over water plants by watering too long. Remember, this is almost 100 % transfer of water to the plant root system versus losing 50 % or more to evaporation in previous watering methods.

We suggest you start your watering at an interval of 12 minutes per soaker hose circuit and monitor your plants for wilted leaves. You can either increase or decrease the amount of watering depending upon how your plants look. Two minute additional or reduction time increments are recommended until you determine the appropriate cycle time. Over the course of the irrigation season, you may need to adjust timing depending upon rainfall and frequency.

The following picture is one flower bed where a soaker hose system has replaced spray head irrigation since January, 2007.



Thanks for your interest and consideration.

MUD 8 Directors and Operating Staff.