

Designing and Building Landscapes Using Only Rainwater

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- Past President Texas Rain Catchment Association
- ARCOSA Member
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- Member of NAHB Sustainability Committee



**We have over 100 homes that run exclusively on
Harvested Rainwater**













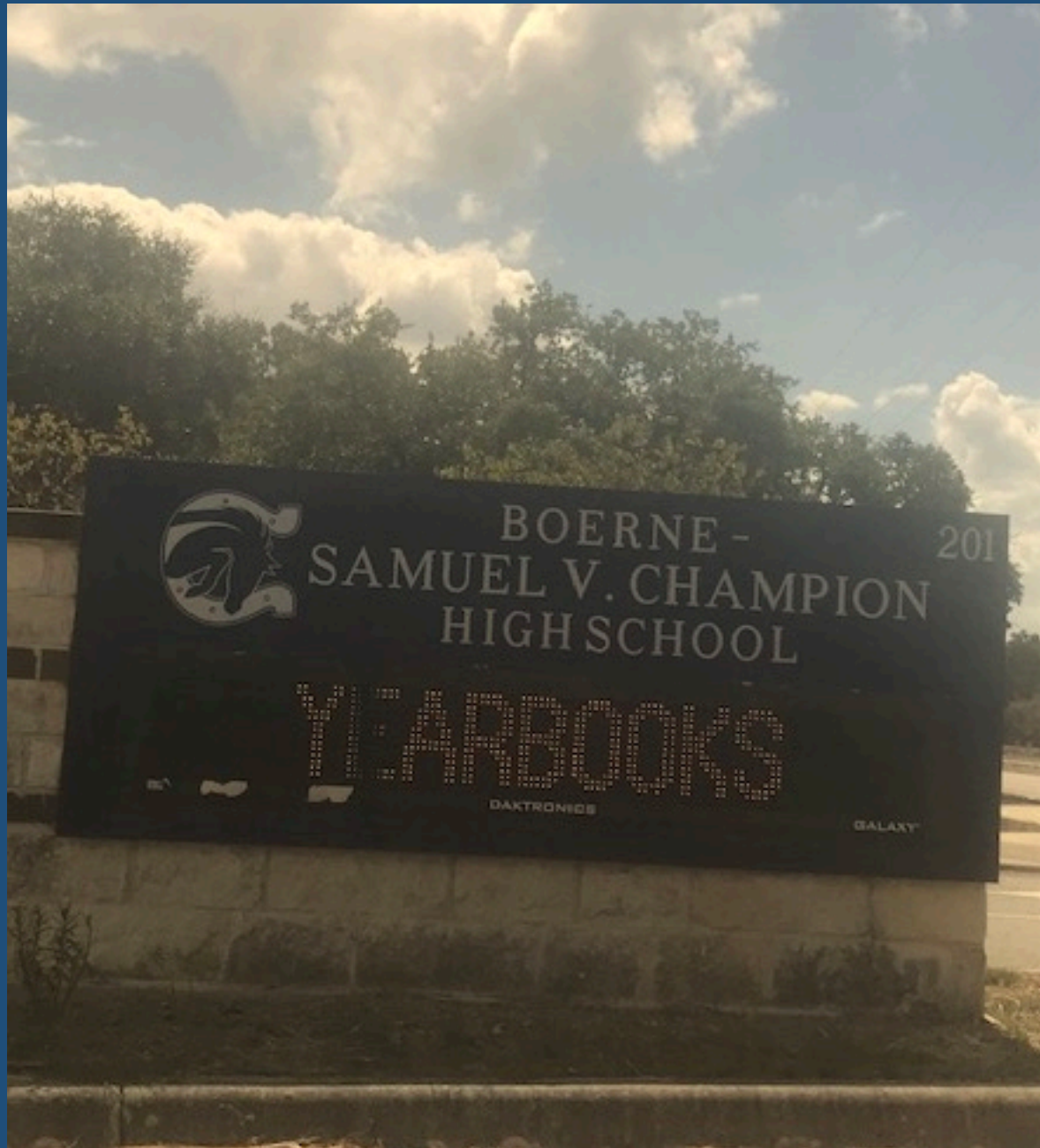




San Antonio Food Bank 2011
Storage 130,000 Gallons
Collection Area 100,000 Sq. Ft.



San Antonio Food Bank Today
460,000 Gallons
Collection Area 200,000 Sq. Ft





300,000 Sq. Ft Roof

5 Acres of Parking

**They collect from the roof, the HVAC condensate
and the parking lot.**

Storage is a concrete pipe 8' x 8' x $\frac{3}{4}$ of a mile long

1,800,000 gallons of Storage

Irrigation Industry



YOU DON'T
KNOW IT BUT
YOU HAVE A
TARET ON YOUR
BACK!

Cities

Counties - **Are Coming After You**

States

EPA

How to Make Rainwater work for you

- What are the codes in your area?
- What are your water requirements?
- What is the project collection capability?
- What filtration or sanitation system will work for your application?
- Tank Types.
- How to sell Rainwater.

What are the codes in your area?

1. Is it allowed in your State, County, City?
2. Are there restrictions for Rainwater use
3. What Purification systems do you need?
4. Can you mix Harvested Rainwater with Storm Water?

What are Your water requirement (Demands)?

1. Do you have an estimated annual water use (Plants, Turf...)
2. Type of Irrigation Used
3. Type of Plants Used (Native – Drought Tolerant)

What is your project collection capability

1. What is the annual rainfall in your area (100 yr. average)
2. What is the collection area of your project?

How to Calculate Water Capture

Example –

SA Food Bank – 100,000 Sq. FT divided by 1000 = 100

100 x 600 = 60,000 gallons of rain

In our area in Texas we get 30” annually = **1,800,000** gallons per year

What filtration or sanitation system will work for your application?

- Does Water have to made to Potable Water Standard?
- Can you use a Re-used or Reclaimed Water Standard?

Tank Types

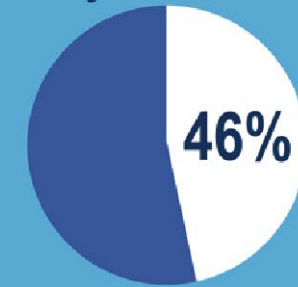
Above Ground Tanks

Underground Tanks

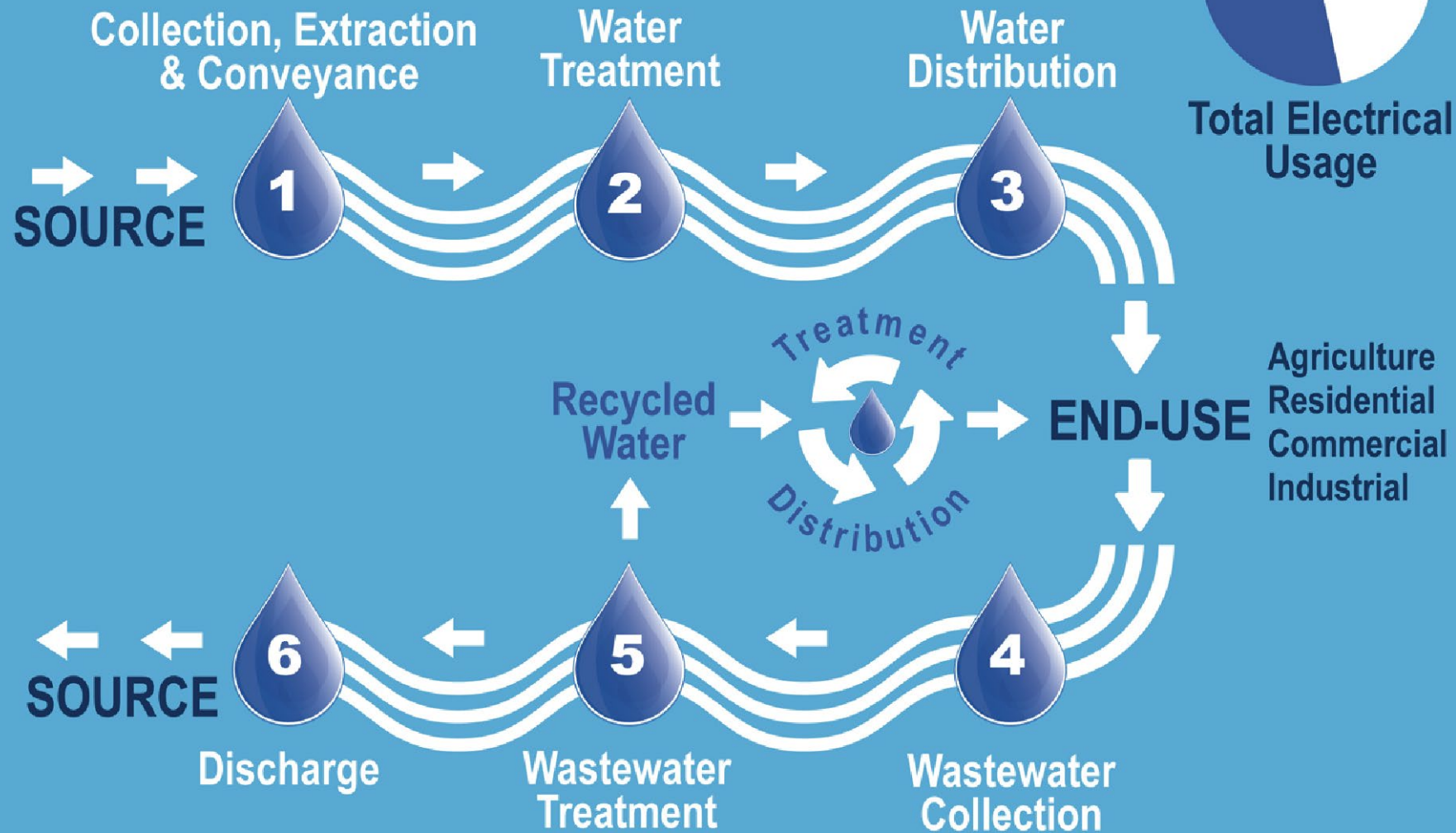
How to sell Rainwater.

Embedded Power in Water

City of Austin



Total Electrical Usage



Harvey and Harriet Homeowner



Harvey and Harriet Homeowner



* Distribution Loss From Plant 10% - 15%

Harvey and Harriet Homeowner



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*Efficiency of Power Plant Nuclear- Coal- Natural Gas 15%-35%

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Harvey and Harriet Homeowner



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*Virginia Water Research Center

says it takes 25 gallons of water to produce 1 kWh of power

*If we do the math we need to generate 2500 kWh of power for the homeowners but we need to use 62,500 gallons to do that

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