

## Why Install a Rainwater Harvesting System?

In most communities, about 35% of water use is applied to landscape irrigation. Using a rainwater harvesting system can help reduce demand on our water supply as well as reduce water bills.

Rainwater harvesting can also help prevent flooding and erosion, reduce contamination of run-off, and turn storm-water problems into a usable water supply.

Approximately 0.62 gallons per square foot of collection surface per inch of rainfall can be captured. This tends to vary because some water is lost in the first flush of the system, splash-out or overshoot in hard rains, or possible leaks. Some rainwater can be lost if the tank is full. Smooth run off surfaces provide a more efficient method for capturing rainwater during intense rainfalls.

## PGCD Rebate Program:

PGCD currently offers financial incentive to encourage rainwater harvesting for non-potable uses. Rebates of \$0.50 per gallon of storage capacity are available for all rainwater harvesting systems, not to exceed 50 percent of total system cost.

For Staff approval, the total maximum rebate amount is \$5,000.00 per site. If the rebate exceeds \$5,000.00, it will go before the PGCD Board of Directors for approval. Applicants who received an additional rebate from a different entity for the same project are required to provide the entity name and amount received. Rebates are available for new systems or existing systems wishing to expand storage capacity. Participation is limited to once every 12 months.

For more information and to find an application, visit [www.pgcd.us/programs/rainwater-harvesting-brochure-2/](http://www.pgcd.us/programs/rainwater-harvesting-brochure-2/)



## Conserving Water for Future Generations!

**For more information visit these Web Sites:**

[www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual\\_3rdedition.pdf](http://www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual_3rdedition.pdf)

[rainwaterharvesting.tamu.edu](http://rainwaterharvesting.tamu.edu)

[www.twdb.state.tx.us](http://www.twdb.state.tx.us)

## Panhandle Groundwater Conservation District

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# Rainwater Harvesting



PGCD's rainwater harvesting tank behind the office in White Deer. Approximate cost \$2,000 for pipe, tank and pump (when installed).

## What is Rainwater Harvesting?

Rainwater harvesting is the collection and storage of rain from roofs or from surface catchment for future use. The water is stored in tanks to be saved or directed into mechanisms used for groundwater recharge.

Rainwater harvesting is used in many countries such as western Britain, China, Brazil, Thailand, Sri Lanka, Germany, Australia, and India. The concept of rainwater harvesting dates back as far as 6,000 years ago in China.

## Basic Components Needed:

- Catchment surface - the collection surface where the rainfall runs off.
- Gutters and Downspouts - these channel the water from the catchment surface to the tank
- Leaf screens, first-flush diverters, and roof washers - these remove debris from the captured rainwater before it is stored in the tank
- Storage tanks - to hold the water until needed for use
- Delivery system - can be gravity fed, or pumped to the end use
- Treatment/Purification - needed to make systems potable, filters and other methods can be used to make the water safe to drink.

## Average Cost of Installation:

The cost of a rainwater harvesting system can be as small or large as you choose to make it. There are various types of materials that can be used in each stage of the system. You can choose these pieces according to your budget. The size of storage tank and choice of potable or non-potable water will be the main expenses in your system. The tables below show average costs of the different options for each component of the system.

### Gutters

	Cost
Vinyl	\$0.30/foot
Plastic	\$0.30/foot
Aluminum	\$3.50-6.25/foot
Galvalume	\$9-12/foot

### Storage Tank

	Cost	Size
Fiberglass	\$0.50-200/gallon	500-20,000 gallons
Concrete	\$0.30-1.25/gallon	10,000 gallons +
Metal	\$0.50-1.50/gallon	150-2,500 gallons
Polypropylene	\$0.35-1.00/gallon	300-10,000 gallons
Wood	\$2.00/gallon	700-50,000 gallons
Polyethylene	\$0.74-1.67/gallon	300-5,000 gallons
Welded Steel	\$0.80-4.00/gallon	30,000-1,000,000 gallons
Rain Barrel	\$100	55-100 gallons

### Roof Washers

	Cost
Box Washer	\$400-800
Post Filtering w Sand Filter	\$150-500
Smart-Valve Rainwater Diverter Kit	\$50/kit

### Pumps and Pressure Tanks

	Cost
Grundfos MQ Water Supply System	\$385-600
Shallow Well Jet Pump or Multi-Stage Centrifugal Pump	\$300-600
Pressure Tank	\$200-500

### Filtering/Disinfection

	Cost
Cartridge Filter	\$20-60
Reverse Osmosis Filter	\$400-1500
UV Light Disinfection	\$350-1000
Ozone Disinfection	\$700-2600
Chlorine Disinfection	\$1/month manual dose or \$600-3000 automatic dosing system

This information was provided by the Texas Water Development Board.



The roof of the main building at PGCD's office provides our catchment area.



The system comes together behind the office to flow into our storage tank to be used to water our lawn and xeriscape garden.

## Who to Contact for Supplies:

**Potter Co AgriLife Extension — 806.373.0713**

**Boyd's Equipment Inc — 806-356-9102**

**Home Depot — 806-468-9100/806-355-3895**

**Lowe's — 806-353-2003**

**Willborn Bros. Co — 806-359-1010**

**Wylie Spray Center – 806-355-9883**