

**CITY OF FRESNO**

**WATER CONSERVATION ACT**



**October 29, 2014**

The following policies are enacted to develop policies and incentives to encourage water conservation in our City.

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## PREFACE

“By failing to prepare, you are preparing to fail” – Ben Franklin

The policies presented in this Act will be administered and enforced by the City through existing Fresno Municipal Code, Water Shortage Contingency Plan, Water Conservation Program, and Utility Billing and Collections. The intent of this Act is to better align these regulations, plans, programs, and services to promote and encourage water conservation in a manner that serves the best interest of all users of the City’s public water supply system. At all times, the City will ensure that water conservation policies, practices, goals, and objectives are consistent with federal, state, and local laws, regulations, and ordinances.

The City of Fresno has several pro-active programs to address the community’s water supply issues including a water conservation program that has been actively promoting activities that lower water demand since about 1981. Water conservation is the beneficial reduction in water use, waste, and loss. Conservation is the most economical and environmentally protective resource management tool available, helping Fresno meet the many challenges of water supply management.

Our community has responded to the challenge of the ongoing drought crisis and is once again showing why Fresno has been a leader in water conservation for over 20 years. Over the past five years, customer conservation efforts have resulted in a drop in average daily water usage from about 329 gallons per person per day down to less than 240 gallons per person per day. The City has officially reported water production totals showing a sharp drop in water usage from the same months in 2013 and a continued overall decline in water usage for the year. The reductions help meet Governor Brown’s call to cut water use statewide. The City continues to re-visit its plans to provide a safe, clean, reliable water supply so that Fresno can potentially become drought-resilient.

However, the continued drought and other negative forces can affect our City’s quality of life. The City of Fresno is currently in stage two of its Water Shortage Contingency Plan. Both privately owned properties and publicly owned properties are now feeling the stress of limited watering schedules as evidenced by browning of some lawns, shrubs and trees. Lawns can recover, shrubs are not expensive to replace but older, mature trees must be preserved.

No one is certain how long the drought in California will continue but we do know there is historical precedence of long-term drought conditions in our state and we must

prepare for the worst to preserve our way of life. For the past 80 years, our water table has dropped about a foot per year. The substantial reduction of surface water allocations in recent years from Friant and the Kings River and the lack of capacity for water treatment plants have resulted in over drafting of our aquifer to perilous levels.

Both City residents and businesses are being asked to sacrifice by reducing water consumption. While the City currently has water conservation programs that offer a number of beneficial services that help customers to conserve water, the overriding goal of this Act is to increase and incentivize water conservation measures for residents by offering additional services and cash rebates. A related financial incentive to water conservation will be the introduction of tiered water rates that will offer discounts for residents who conserve water.

Corollary to the rebate program is the utilization of new irrigation technologies that will enable both residential and commercial properties to better irrigate their landscapes using less water and energy and saving money. Furthermore, the City needs to incorporate new construction landscape standards for future residential and commercial properties to address the potential of long-term drought condition in how it plans for future growth.

Finally, this Act will develop policies and practices to prioritize City water resources and better manage water usage on its properties. It will also provide a needed update to its Water Shortage Contingency Plan. There is a crisis looming in the potential loss of 25 year old plus mature trees unless the City addresses this issue through improved and more efficient irrigation and maintenance practices.

## **ARTICLE I DEFINITIONS**

### **Artificial Turf**

Artificial turf is a surface of synthetic fibers made to look like natural grass. It is also referred to as synthetic lawn. It was originally used in sports stadiums but its use has now spread to residential and commercial properties to reduce maintenance costs and water costs

### **Black Water**

Black Water is used to describe wastewater containing fecal matter and urine. It is also known as foul water or sewage water.

### **Cistern**

A Cistern is a waterproof receptacle (a tank or container) for holding rainwater. They are built to catch and store rainwater.

### **City**

“City” means the City of Fresno, a municipal corporation.

### **Conservation Orientated Rate Structure**

A Conservation Orientated Rate Structure is a rate structure adopted by a city or governing board to reflect the cost of providing water, sends a price signal about the marginal cost of additional water, and encourages efficient use of water by customers.

### **Enterprise Funds**

A fund established to account for operations that are financed and operated in a manner similar to private business enterprises, where the intent of the government body is that the cost of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

### **Fresno Municipal Code Section 6-520**

The City Code Section contains wastage of water and water conservation measures and outlines mandatory prohibitions and restrictions that are in place under normal water supply conditions in the City and provides language to implement additional conservation measures based on certain conditions.

### **General Fund**

Revenues of the City that are not otherwise restricted as to their use, including monies from local property and sales tax, and other revenue sources. The General Fund pays for core City services including police, fire, public works and parks.

### **Grey Water**

Grey water is household water that does not contain contaminants that can be recycled onsite for uses such as landscape irrigation.

**HCF**

HCF is one hundred cubic feet. This unit of measure is used to meter water consumption in the City of Fresno. One hundred cubic feet is equivalent to 748 gallons.

**Micro Irrigation**

Micro Irrigation is also known as trickle irrigation or drip irrigation. It is defined as the application of water at low volume and frequent interval under low pressure applied directly above and below the soil surface as continuous drops or tiny streams through emitters placed along a water delivery line.

**Rain Sensor**

A Rain Sensor is a switching device activated by rainfall. In a household application, the switching device is connected to an automatic irrigation system controller that causes the system to shut down in the event of rainfall.

**Rainwater Harvesting**

Rainwater Harvesting is the practice of capturing, infiltrating or utilizing rainfall from roofs, construction catchment surfaces and other sources for reuse before it reaches the aquifer. Its uses include water for gardens and water for irrigation.

**Rate Stabilization Reserve Funds**

The Rate Stabilization Reserves are designed as a source of funds to mitigate future rate increases in Enterprise Funds such as water and wastewater funds. The "Rate Stabilization Funds" help smooth out annual fee increases on water and sewer bills. These reserve funds are to be used exclusively for the operation and maintenance of the water and wastewater systems.

**High-Efficiency Rotating Sprinkler Nozzles**

Rotating sprinkler nozzles use up to 20% less water than a standard sprinkler head by distributing water more slowly and uniformly to the landscape, while preserving plant health.

**Smart Controller**

Smart Controllers estimate or measure depletion of available plant soil moisture in order to operate an irrigation system, replenishing water as needed while minimizing excess water use. Controller must be able to run the City of Fresno outdoor watering schedule.

**Soil Moisture Sensor**

A Soil Moisture Sensor is connected to an irrigation system controller that measures soil moisture content in an active root zone before each scheduled irrigation event and bypasses the cycle of soil moisture is above a user defined set point.

**Water Conservation**

The beneficial reduction in water use, water waste and water loss.

### **Water Shortage Contingency Plan**

This is a City policy is included in Chapter 9 of the 2010 Urban Water Management Plan for the City that provides a combination of strategies for temporary supply and demand responses to temporary and potentially recurring water supply shortages and other water supply emergencies with four escalating stages of implementation.

### **Xeriscaping**

A landscape method or design developed especially for arid and semiarid climates that utilize water-conserving techniques for use in residential, commercial or public land. Other current common terms in use are: water-wise, drought tolerant, drought resistant.

## **ARTICLE II PURPOSE OF ACT**

The purpose of this Act is to describe the water conservation policies, practices, goals, and objectives that apply to the residents, businesses, industries, and institutions that rely on the City of Fresno's public water supply system for water service. This Act will develop policies and practices that will conserve water usage by all City water customers and provide better overall management of City water resources.

Objectives of Act:

1. To reduce water consumption citywide for City water customers;
2. To establish a water conservation rebate fund for City water customers;
3. To develop more efficient irrigation systems for all City owned properties;
4. To prioritize water usage for City properties that will ensure that large mature trees will be preserved;
5. To establish residential and commercial landscape development standards as set out in Assembly Bill 1881 Model Water Efficient Landscape Ordinance.
6. To evaluate the using of alternative water service pricing strategies to encourage and promote water conservation; and
7. To update the City's Water Shortage Contingency Plan.

Accomplishment of the above stated objectives would better prepare the City for drought conditions to ensure the long-term sustainability for the City and less reliance on ground water.

### **ARTICLE III ENTERPRISE WATER CONSERVATION REBATE FUND**

The City's Water Division shall establish a Water Conservation Rebate Fund. The fund shall be established at \$250,000 per year for two consecutive fiscal years for a total appropriation of \$500,000. This will be a restricted fund for use only as water conservation rebates as promulgated in this Act. Eligible customers will receive a cash rebate for approved rebate applications.

#### **Fund Replenishment**

When the initial fund is depleted it shall require a majority vote of Council to replenish the fund. A majority of the Council will also determine the amount to be replenished. The decision to replenish the fund shall be based upon demand and availability of funds.

#### **Eligibility for Property Owners**

All City Water Utility customers including County Island residents using City water services are eligible for the water conservation rebate program. Water Utility customers must provide a copy of their City utility bill and be current and good standing on their accounts. Only water efficient devices listed and approved by the City may be removed or retrofitted.

#### **Eligibility for Rentals and Leased Properties**

Tenants of residential properties and lessees of commercial properties can be eligible for water conservation rebates if approved by the owner of record. Landlords of residential or commercial properties must sign an application that confirms the legal owner of record is aware of and consents to the tenant/lessee to carry out plumbing or outdoor retrofits at the subject property.

#### **Procedures**

All applicants must complete a water conservation rebate application form and include legible copies of supporting documents including proof of purchase of approved water conservation devices and/or installation. Proof will include receipts, contract agreements, and, if necessary, a plumbing permit.

#### **Site Inspections**

The City has the right to audit any approved water conservation rebate items to verify qualifying conditions, including installation of any water saving product. Site visits may occur and applicants shall be randomly selected. Any audit that determines that the applicant does not qualify or that the water saving item was not installed or not properly installed may be subject to repayment of any rebate.

#### **Fund Priority**

All rebates shall be paid on a first come first serve basis based upon receipt of a completed application form. Funding is limited to available resources; rebate amounts



are subject to change without notification. Rebates shall at all times be subject to change or termination with notification.

#### **ACTICLE IV RESIDENTIAL WATER CONSERVATION INCENTIVES**

City of Fresno currently offers many water saving evaluations and services to assist customers save water at no charge. There are also several water conserving devices available and rebates available. Current City of Fresno Water Conservation Evaluations and Services Assisting Customers include:

- Free Water-Wise landscape consultation and design
- Free Irrigation efficiency audit
- Free help setting irrigation timers
- Free Interior and Exterior water leak surveys
- Free Water Meter use graphs and reports
- Free Water conserving hardware
- Public outreach and education
- Rebates
- Enforcement of Fresno Municipal Code watering regulations
- Water Conservation Hotlines

This Act would increase water conserving incentives for customers by increasing the rebates and budget. The number of rebates and amount of rebates for qualifying appliances shall be determined based on available budget funds and through a study of similar rebates provided by other water conservation programs. The application will detail terms and how a customer can qualify. The following rebates are either currently being offered or are under review:

<b>Item Description</b>	<b>Proposed Rebate</b>
Recirculating Hot water pump	Range \$50 to \$100 subject to evaluation
Smart Irrigation Controller	Range \$50 to \$100 subject to evaluation
Micro Irrigation System Retrofit	Range \$50 to \$100 subject to evaluation
Soil Moisture Sensor System	Range \$50 to \$100 subject to evaluation
Rain Sensor	Range \$50 to \$100 subject to evaluation
Rainwater Harvesting system	Range \$50 to \$100 subject to evaluation
High Efficiency Toilets	\$50 per toilet
High Efficiency Toilets CII	\$50 per toilet
High Efficiency Urinals CII	\$100 per urinal
High Efficiency Clothes Washers	\$50 per washer
Ultra High Efficiency Shower Head	No charge with water audit or upon request
High Efficiency faucet aerators	No charge with water audit or upon request
Hose nozzle	No charge with water audit or upon request

High-efficiency Rotating Sprinkler Nozzles	Up to \$4 per nozzle
Window Evaporative cooler	\$100 per unit
Lawn to Garden Conversion Pilot	\$.50 per square foot
Car Wash coupons	\$2 each

Users of the City’s public water supply system can use any combination of the above credits. The combined maximum credit per account cannot exceed \$1,000.

**ARTICLE V  
COMMERCIAL WATER CONSERVATION INCENTIVES**

This Act includes water incentive rebates for all City customers. Some conditions apply to multifamily complexes, commercial or industrial properties. Depending on the results of the residential water rebate program, this Act may be amended to include multi family, commercial and industrial properties in a rebate program

**ARTICLE VI  
NEW CONSTRUCTION LANDSCAPE STANDARDS**

This Act will recommend landscape standards for future residential and commercial properties consistent with the adopted 2035 General Plan. The City will need to address the potential of long-term drought conditions in how it plans for future growth to better manage its water resources. This should include requirements for all new public parks to have separate irrigation for trees. Future developments must have an identified long-term water source.

**ARTICLE VII  
IRRIGATION EVALUATION AND CONSULTATION**

City staff will continue to offer free water saving evaluations for City residents upon request. The City will also explore purchasing large quantities of water conserving devices (e.g. smart controller) and offer discounted prices to City residents and businesses.

The City shall establish water conversation demonstration sites at convenient locations in the City to allow residents to meet with City staff and better understand the application and benefits of water savings devices.

## **ARTICLE VIII PRIORITIZING CITY WATER RESOURCES**

A combination of inadequate funding and a prolonged drought have taken a serious toll on the trees, shrubs, and grass areas of City owned properties. This is especially true in most City parks. Bermuda grass is very resilient and shrubs can be replaced. Older, mature trees across the City are a valuable community treasure and must be preserved. This Act shall require the City to prioritize its water resources and develop more efficient irrigation systems to preserve our older mature trees on all City properties. City residents shall also be encouraged to adopt some of the water saving, more efficient irrigation systems to protect their trees and landscape.

### Dedicated staff for tree maintenance and irrigation

The City should explore deployment of a special tree maintenance and irrigation team that will be dedicated to creating and maintaining a tree inventory to identify and evaluate current tree conditions and focus on restoring mature trees on City properties in danger of dying from lack of water or disease. Areas of community benefit such as City Parks, sports areas and botanical gardens should also receive special consideration.

## **ARTICLE IX MANAGING CITY WATER USAGE ON CITY PROPERTIES**

There are four stages of City water use policies based upon the several conditions including water usage and water availability. The City owns hundreds of acres of parks and other properties where the City has responsibility to manage the irrigation systems and maintenance. It is essential that the City lead by example and develop policies and practices to implement the various drought stages and be in full compliance with its own water preservation standards and recognize priorities within City properties.

City staff should review best practices in other cities and consult and collaborate with the private sector or other public entities in developing 'Smart Water' practices on a citywide basis including evaluating irrigation systems. As part of these practices the City shall implement an action plan including the following:

1. Start the process of converting all tree irrigation to bubblers or drip irrigation;
2. Establish water irrigation lines in water isolated areas for trees to have a permanent ground water source instead of relying on water trucks that are used on an inconsistent basis;
3. Re-design City properties irrigation systems to be focused on sports areas (i.e. golf courses, baseball fields, etc.) and not on passive green space;

4. Develop a citywide plan to convert non public green spaces to native plant or wild flower plantings and educate the public on the visual impact;
5. Install smart controllers that communicate in park clusters and weather station data systems that determine irrigation by micro climate information;
6. Begin aerating and fertilizing park turf areas on a yearly basis to force roots to go deeper into the soil establishing a healthier and more resilient turf for hot summer periods;
7. Adopt new water technologies for irrigation systems and water management that will minimize water waste and dry areas in City parks; and
8. Train all City employees to be more knowledgeable of water conservation so that they are able to identify irrigation related issues and report them for corrective action.
9. Develop a budget for implementation of the above items that will be presented to Council for approval.

The City shall also explore state and federal funding sources for adoption of 'smart water' practices and policies to fund necessary citywide irrigation system costs and ongoing maintenance costs.

## **ARTICLE X TIERED WATER RATE STRUCTURE**

This Act will direct City staff to review and evaluate the legal, financial, and institutional requirements associated with implementing a water conservation pricing structure for water service. A water conservation pricing structure is more commonly referred to as a tiered water rate structure or inclining block rate structure.

There are several cities in California and other states that use a tiered rate structure to promote and encourage water conservation. A tiered rate structure establishes different unit cost rates based on different levels of consumption or blocks of consumption. The number of tiers can vary from two to five. In a typical tiered rate structure, the first tier of water consumption is set based on average annual consumption, winter consumption, or some other basis. The objective is to establish the first tier of water consumption at a level that at a minimum accommodates the basic public health and sanitation needs of the customer class. Individuals are allowed to use more water than available in the first tier, but the unit cost of water increases as consumption increases.

The degree of change in unit costs between water use tiers or blocks is based on many factors; but the two most important factors are 1) the water use patterns of the

community, and 2) the costs required to produce, treat, and deliver water under different conditions (winter, summer, maximum day, maximum hour, etc.). Ultimately, water rates must be set to generate sufficient revenues to fund the current and future costs for the management, administration, operations and maintenance, upgrade, improvement, and expansion of the public water supply system.

## **ARTICLE XI ASSISTING LOW INCOME CUSTOMERS**

This Act will direct City staff to review and evaluate the legal, financial, and institutional requirements associated offering water users the option to average out a one-year water utility bill using equal payment installments similar to what PG&E offers its customers. This program would be offered to those customers that request the option. Winter months are typically low water usage and summer months are higher due to more water usage on landscape irrigation. The equal payment option would allow residents to make it easier for City residents to budget the costs and adjusted semi-annually or as needed.

Some tiered structures offer ‘Lifeline Rates’ that provide relief to low-income customers. Low-income households are charged lower rates on that portion of water consumption that provides basic needs and higher rates are assessed on water consumption beyond that amount. Equitable pricing is essential to the success of a water conservation program and the basic operation of the water utility. Per Proposition 218, funds for a lifeline rate would require alternative funding sources such as the General Fund.

## **ARTICLE XII WATER SHORTAGE CONTINGENCY PLAN**

This Act will direct City staff to review, evaluate, and prepare recommendations as necessary to update the City’s Water Shortage Contingency Plan and Section 6-520 of the Fresno Municipal Code.

The City currently uses a four-stage Water Shortage Contingency Plan that escalates water conservation policies based on supply, demand and emergency conditions. The original Drought Contingency Plan was adopted in 1989; the Water Shortage Contingency Plan was adopted in 1994; and the 2010 Urban Water Management Plan updated the 1994 Water Shortage Contingency Plan.

An examination of water emergency plans by other cities suggests that the City’s current policies can be updated to foster, promote, and encourage more efficient outdoor irrigation practices so that users of the public water system can conserve water without severely degrading landscaped areas in the community.

The current policy should be updated to better assess the level of water conservation measures utilizing new technologies and innovations in water conservation for residential, commercial and industrial properties. Providing a more detailed policy will allow for exceptions on the watering schedule or other measures.

During the review and evaluation of the current Water Shortage Contingency Plan and the Fresno Municipal Code, City staff shall consider developing recommendations for the following:

1. A review process for residential, commercial and industrial property owners that desire to apply for an exemption from certain Water Shortage Contingency Plan conditions (i.e. outdoor watering limited to 2 days per week). The review process should consider if the applicant can conclusively demonstrate that their irrigation system is water tight (i.e. no leaks) and the applicant has implemented water efficient irrigation technology and systems (i.e. drip irrigation system).
2. The review process shall authorize the City Manager, or designee of the City Manager, to approve exemptions to the Water Shortage Contingency Plan to address (1) adverse public health, safety, welfare and sanitation conditions; (2) degradation of the environment; (3) economic hardship; (4) conflict with other federal, state, or local laws, regulations, and ordinances; (5) degradation of other public assets and investments; and (6) other factors deemed important to the character and quality of life in the City.
3. Exemptions from outdoor water restrictions should be considered for the following:
  - A) Supervised testing, adjusting, or repairing of irrigation systems;
  - B) Watering or irrigating shrubs and trees, or vegetation intended for human consumption.
  - C) Watering or irrigating to establish new permanent landscapes. Such watering or irrigating could be authorize by permit only, and no more than one permit would be issued for an address per year;
  - D) Public or private active recreation areas that provide a public benefit, and are open and available to all residents of the community.
  - E) Public or private landscaped areas over three acres in size that provide a public benefit, and are open and available to all residents of the community.
4. The Stage 2 Water Restrictions should be amended to allow the following:
  - A) One-day per week water from December 1st through March 31<sup>st</sup>

B) The hours for outdoor water should be changed 9am to 9pm.

5. The water conservation stage triggers shall be based on available water supply rather than a percentage reduction of its water supply. See Exhibit 'A' for revised stage trigger guide.

**ARTICLE XIII  
EFFECTIVE DATE**

This resolution shall take effect XXXXXXXXXXXX