

City of Cottonwood Shores

ORDINANCE 1101

AN ORDINANCE OF THE CITY OF COTTONWOOD SHORES, TEXAS, FINDING AND DETERMINING THAT THE WATER CONSERVATION PLAN FOR THE CITY OF COTTONWOOD SHORES, TEXAS, A COPY OF WHICH IS ATTACHED HERETO AND MARKED EXHIBIT "A", HAS BEEN UPDATED AND PREPARED IN ACCORDANCE WITH ALL APPLICABLE LAWS, RULES, REGULATIONS, STANDARDS AND GUIDELINES PROMULGATED BY APPROPRIATE AUTHORITY, AND FURTHER, THAT SUCH PLAN IS ADEQUATE TO PROVIDE AN EFFECTIVE MEANS FOR WATER CONSERVATION WITHIN THE CITY LIMITS, ADOPTING THE SAME AS THE OFFICIAL WATER CONSERVATION PLAN FOR THE CITY OF COTTONWOOD SHORES, TEXAS, ESTABLISHING PENALTIES AND REQUIRING ADHERENCE TO ALL REQUIREMENTS, CONDITIONS AND PROCEDURES SPECIFIED THEREBY.

WHEREAS, heretofore previously, the City of Cottonwood Shores, Texas, has undertaken such studies and surveys as were necessary to determine appropriate facts upon which to base and develop a Water Conservation Plan for the City of Cottonwood Shores, Texas; and

WHEREAS, as a result of such preliminary work, a Water Conservation Plan has been prepared, which fairly represents a sound policy for the City and which should be adopted as the Water Conservation Plan of the City;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF COTTONWOOD SHORES, TEXAS THAT:

Section 1: The City Council of the City of Cottonwood Shores, Texas hereby finds and determines that the Water Conservation Plan, a copy of which is attached hereto and marked Exhibit "A", has been prepared in accordance with all applicable laws, rules, regulations, standards and guidelines promulgated by appropriate authority.

Section 2: The City Council of the City of Cottonwood Shores, Texas further finds and determines that the said Water Conservation Plan is adequate to provide an effective means for water conservation and drought management within the city limits.

Section 3: The Water Conservation Plan, a copy of which is attached hereto and marked Exhibit "A", is hereby adopted as the official Water Conservation Plan for the City of Cottonwood Shores, Texas.

Section 4: All of the requirements, conditions and procedures specified in the attached Water Conservation Plan shall be adhered to by all persons affected thereby, including but not limited to all residents, citizens and inhabitants of the City.

Section 5: Any person, firm, partnership, association, corporation, company, or organization of any kind who or which intentionally, knowingly, recklessly, or with criminal negligence violates any of the provisions of this Ordinance shall receive a citation filed with the Municipal Court of Cottonwood Shores issued by any Texas Police Officer and/or the Code Official and is punishable

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by the assessment of a fine not to exceed \$500 per day. Each day during which such violation shall exist or occur shall constitute a separate offense. The owner or owners of any property or premises and any agent, contractor, builder, architect, person, or corporation who shall assist in the commission of such offense shall be guilty of a separate offense, and upon conviction thereof, shall be punished as above provided.

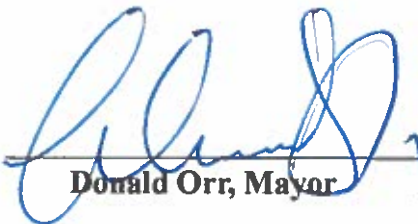
Section 6: In the event any section, paragraph, subdivision, clause, phrase, provision, sentence, or part of this Ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Cottonwood Shores, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, or whether there be one or more parts.

Section 7: Any previously adopted Water Conservation Plan and all Ordinances or parts of Ordinances inconsistent or in conflict herewith are to the extent of such inconsistency or conflict, hereby repealed.

Section 8: The City Council officially finds, determines and declares that a sufficient written notice of the date, hour, place and subject of each meeting at which this Ordinance was discussed, considered or acted upon was given in the manner required by the Texas Open Meetings Act, as amended, and that each such meeting has been open to the public as required by law at all times during such discussion, consideration and action. The City Council ratifies, approves and confirms such notices and the contents and posting thereof.

Section 9: This Ordinance takes effect immediately upon its passage and adoption on second reading and the City Secretary is hereby authorized and directed to give notice of same by publication as required by law.

PASSED AND APPROVED BY THE CITY COUNCIL OF COTTONWOOD SHORES, TEXAS, THERE BEING A QUORUM PRESENT AT A MEETING ON THE 7TH DAY OF JANUARY, 2016 WITH 4 VOTES IN FAVOR, 0 VOTES AGAINST AND 0 ABSTENTIONS.


Donald Orr, Mayor



Attest:

Sheila C. Moore
City Administrator/City Secretary

City of Cottonwood Shores Water Conservation Plan

Exhibit "A"

January 25, 2016

Name of Municipal Water Supplier: City of Cottonwood Shores
Address: 3808 Cottonwood Drive Cottonwood Shores, Texas 78657
Telephone number: 830-693-3830
Fax: 830-693-6436
Email: city.admin@cottonwoodshores.org
Form completed by: Donald Orr
Title: Mayor

Signature:  Date: 25 Jan 2016

Utility Profile

1. Please provide a description of the service area:
The service area is the City C.C.N. which is shown in Attachment 1
2. Service area size (square miles): 1.6 square miles
3. Water Use and Customer data. Table A is included as Attachment 2.
4. Customer estimates and projections:

Year 2000:	877
Year 2005:	1069
Year 2010:	1123
Year 2015:	1300
Year 2020:	1600

Source of population data: 2000, 2005, and 2010 from Census; 2015 from estimates using city-data.com

5. Water supply sources. List all current water supply sources and the amounts available with each.

<u>Source</u>	<u>Amount available</u>
Surface water:	Not used
Groundwater	Not used
Contracts:	495 Acre Feet contract.
Other	Not used

Treatment and Distribution System

6. Design daily capacity of system: 504,000 (gallons).

Please describe the water system. Include the number of treatment plants, wells, and storage tanks. The system consists of an inlet/pump system on Lake LBJ which pumps to a holding area (abandoned rock quarry). Water from the quarry is pumped as needed to a single treatment plant (filter, clarifier, chlorination) and into a clear well. From there the treated water is pumped to the Standpipe (water tower) for distribution to the system.

7. Percent of water service area on:

Centralized wastewater collection system	99.0 %
Septic systems	1.0 %

8. Current average monthly wastewater volume: 1,700,000 gallons.

9. Design capacity of wastewater system (if applicable): NA (connected to City of Horseshoe Bay system)

Water Conservation Goals

Specific, quantified five-year and ten-year targets for water savings must be developed. These include goals for water loss programs and goals for municipal use, in gallons per capita (per person) per day (g.p.c.d.). The goals established by the customer are not enforceable.

1. Utility System Water loss goals:

5-Year:	Reduce from current 17 % to 8 %
10-Year:	Further reduce to 6.0 %

2. Gallons per capita per day (g.p.c.d.) goals:

In 2015, Cottonwood Shores' average residential water use per month was 6675 gallons per month (finished water) making the residential g.p.c.d. 89. In 2015, the total g.p.c.d. of raw water (water diverted from the river) was 112. 2015 water losses were exceptionally high due to construction caused leaks during the FM 2147 road construction. Further reduction in the finished water g.p.c.d. from these levels will be difficult. However, we will still strive for a downward projection of this metric.

5-Year Reduction Goal:	87 g.p.c.d (a savings of 2.0 g.p.c.d. (based on current population)
10-Year Reduction Goal:	85 g.p.c.d (a savings of 4.0 g.p.c.d. (based on current population)

The raw water g.p.c.d. will be decreased as the water loss goals are met.

3. The residential g.p.c.d. goal is the same as the total g.p.c.d. goal since Cottonwood Shores' commercial customers are few and small.

Water Conservation Measures

1. Metering Devices. Devices must be within the accuracy of plus or minus 5%, in order to measure and account for the amount of water diverted from the source of supply. The plan must state that the customer will provide for testing and calibration of the meter by the customer at periods not greater than once a year. Please describe below:

Metering occurs as the water is processed. This represents the total amount of water used, including losses. The meters are propeller type meters with a reported accuracy of 1.2%.

Calibrations are performed each year. Daily monitoring is accomplished to determine if any malfunctions are occurring.

2. **Universal Metering.** The customer must state that they have a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement. Meter replacement should follow recommended meter manufacturer guidelines. Please describe below:

Each connection (residential, commercial, and/or public) has a meter. This provides the total amount of water delivered to the customers. The City uses electronic read meter with an accuracy of 99%. The City has an active repair and replacement program. Water meter accuracy is tested by capture and measure techniques. Meters are typically replaced after 1,000,000 gallons to make sure of the meter continued functionality.

3. **Unaccounted-for water loss.** The customer must implement measures to determine and control unaccounted-for uses of water. The customer shall conduct water loss audits in accordance with Texas Water Development Board rules (Texas Administrative Code, title 31, chapter 358). Please describe below:

In 2011 we were sustained a water loss of 27%. Since then measures have been implemented to determine unaccounted-for uses of water. These include careful monitoring, leak detection, water meter checks, and system maintenance. Unaccounted for losses currently stand at 17 %, averaged over the past several years. Our goal is to cut these losses in half in 5 years. The city also has drought contingency plans and the overall operation of the water system is in agreement with Texas Administrative Code, title 31, chapter 358.

4. **Education and Information Programs.** Customers are required to provide continuing public information and education on water conservation. Please describe below:

Public information is provided to the general public through formal meetings, signs, website, and newsletters. In the case of special considerations (e.g., mandatory rationing, special notices are sent to each customer.

5. **Water Rates.** Cottonwood Shores currently utilizes an increasing block rate structure to reflect the cost drivers for the water systems and send a conservation price signal to customers. Cottonwood Shores will periodically evaluate its rate structure to promote conservation to the maximum extent possible. Updated rates schedules for these systems shall be submitted to LCRA within 30 days of approval. The current rate structure will be submitted with this plan to the LCRA and will be located on the utility web site.

Water Service Rates

Base Rate:

Tier	Residential	Residential	Commercial	Commercial
Gallons	Inside City - \$	Outside City - \$	Inside City - \$	Outside City - \$
Up to 2,000	35.90	54.55	53.75	63.35

Usage Rates billed in addition to the Base Rate:

Tier	Residential	Residential	Commercial	Commercial
Gallons*	Inside City - \$	Outside City - \$	Inside City - \$	Outside City - \$

	(per 1000)	(per 1000)	(per 1000)	(per 1000)
2,001 - 5,000	6.20	8.00	6.75	8.00
5,001 - 8,000	7.10	8.85	7.40	8.95
8,001 +	7.55	9.70	7.90	9.70

6. **Implementation and Enforcement.** A means of implementation and enforcement must be included with the plan. This shall be evidenced by a copy of the ordinance, resolution, or tariff, indicating official adoption of the water conservation plan by the customer; or a description of the authority by which the customers will implement and enforce the water conservation plan.

See Attachment 3, Ordinance 237

7. **Regional planning group.** Customer must document that they are coordinating with the utility's regional water planning group in order to ensure consistency with the appropriate approved regional water plans.

Additional Mandatory Requirements

Water conservation plans must include the following additional elements if the customer serves, or plans to serve in the next 10 years, a population of 5,000 or greater:

1. A program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system in order to control unaccounted-for uses of water. Please describe below:

Although this is not required, because we will not have a population of 5,000 within the next 10 years, the City of Cottonwood Shores, Texas, has implemented a program for lead detection, repair and water loss (See Water Conservation Measures, 1 and 2 in this document.)

2. A record management system to record water pumped, water deliveries, water sales and water losses which allows for the desegregation of water sales and uses into the following user classes: residential, commercial, public and institutional and industrial. Please describe below:

While not required due to our population, The City of Cottonwood Shores, Texas, keeps detailed records on water pumped, water deliveries, water sales and water losses which differentiates water sales and uses into the following user classes: residential, commercial, and institutional. These records are on file at our City Hall.

3, **Wholesale Water Customer Requirement.** Customers shall include a requirement that every wholesale water supply contract entered into or renewed after official adoption of the customer's water conservation plan, and including any contract extension, that each successive wholesale customer develop and implement a water conservation and plan or water conservation measures using the applicable elements in these Rules.

The only such contract for the City is our purchase from LCRA which this conservation plan applies. The City does not supply wholesale water to any customers.

4. A method for monitoring the effectiveness and efficiency of the water conservation plan. Please describe below:

The water conservation plan will be continually evaluated for effectiveness and efficiency in two ways. 1) Metering of raw water before processing is measured. Next water to the distribution system is measured. Then meters at each connection are checked each month to determine the water supply to the customers. This system allows for the review of losses in a detailed way which permits an evaluation of the total system effectiveness and efficiency. 2) Water use is reviewed and unusual customer demand which could indicate leaks or atypical uses are noted. This helps to insure customers are taking conservation measures seriously.

Additional Conservation Strategies

Please describe any other conservation strategies or measures being implemented by the water supplier. Other measures that could be adopted include, but are not limited to:

1. The City of Cottonwood Shores, Texas, has adopted through ordinance, recommended landscape conservation measures as shown in the section entitled Recommended Landscape Conservation Measures.
2. The use of water-conserving technologies such as High Efficiency Toilets or WaterSense approved toilets and/or faucets will be encouraged of home owners. These water saving devices should bear the U.S. EPA WaterSense label. Additional information is provided for developers is included at <http://www.epa.gov/watersense/>.
3. Measurement and control of excessive pressure in the distribution system will be accomplished by the City in the distribution system.
4. Ordinances to promote efficiency and avoid waste will be reviewed and implemented as deemed desirable for the City.
5. A program and/or ordinances for landscape water management will be adopted (see next section entitled Recommended Landscape Conservation Measures).
6. Plumbing fixture replacement and retrofit programs of City owned properties will be reviewed and implemented when replacement is needed. This same program will be highly encouraged of residents.
7. The beneficial reuse of water such as gray water and rainwater harvesting systems will be explored and could be implemented if determined to be desirable by the City.
8. A method for monitoring the effectiveness and efficiency of the water conservation plan has been implemented (see Additional Mandatory Measures, 4.)
9. Other measures as may be applicable will be reviewed and implemented when determined to be desirable by the city.
10. Voluntary conservation measures will be posted, included in newsletters, and strongly encouraged by the City residents.

Recommended Landscape Conservation Measures

The City of Cottonwood Shores, Texas has adopted the following:

1. Landscape Irrigation

Definitions (Subchapter A), standards of conduct (Subchapter B), professional requirements (Subchapter C and D), backflow prevention/cross-connections (Subchapter E), performance standards (Subchapter F), as included in Texas Commission on Environmental Quality, Chapter 344. Landscape Irrigation, are included in this document by reference.'

Landscape irrigation systems, if installed, will be required to include the following water conservation features:

1. Minimization of overspray onto hardscapes by design, maintenance and scheduling practices. Due to overspray, subsurface drip irrigation is encouraged but not required.
2. Low volume irrigation is encouraged in areas less than 10 feet wide, such as median strips, and parking islands.
3. Contractors installing irrigation systems must provide system design plans to the homeowner. It is also highly recommended to our customers that scheduling recommendations be posted in or near the irrigation controller box.
4. It is encouraged that automatic spray irrigation for each home/business shall be limited to 2.5 times the foundation footprint. The footprint may include both the house and the garage, but not the driveway or patio.
5. Automatic spray irrigation for each home/business shall be limited to a 12,000 sq foot maximum.

2. Landscape Design

The following measures will be highly encouraged but not mandatory.

1. All irrigated and newly planted turf areas will have a minimum soil depth of 4 to 6 inches. Builders and owners will import soil if needed to achieve sufficient soil depth. Soil in these areas may be either native soil from the site or imported, improved soil. Improved soil will be a mix of no less than twenty percent compost blended with sand and loam. Caliche shall not be considered as soil.
2. Builders are encouraged to provide homeowners a conservation landscape option using only native or adapted trees, shrubs and flowers. The use of invasive plants will be avoided.
3. Maintain a minimum of two inches of mulch in all shrub and bed areas.
4. Use of: TCEQ, Chapter 344. Landscape Irrigation, Subchapter A. Definitions, 30 TAC, [http://www.tceq.state.tx.us/assets/public/compliance/compliance_support/regulatory/irrigation/forms li/rulesforregg.uid.063008.pdf](http://www.tceq.state.tx.us/assets/public/compliance/compliance_support/regulatory/irrigation/forms/li/rulesforregg.uid.063008.pdf), last accessed on April 15, 2010.

3. Other Landscape Specifications

- 1.. City ordinances shall not restrict the property owner from:
 1. implementing measures promoting solid-waste composting of vegetation, including grass clippings, leaves or brush, or leaving grass clippings uncollected on grass;
 2. installing rain barrels or a rainwater harvesting system; or

3. Implementing efficient irrigation systems, including underground drip or other drip systems.
2. City ordinances shall not require:
 1. A defined irrigation schedule except if that defined irrigation schedule is mandated by the City in order to curtail outdoor water use.
 2. Installation or maintenance any specific variety or limited choice of varieties of turf grass.
 3. Installation of a minimum percentage of turf in the landscape.
3. Future plans by the City could incorporate treated effluent/rain water/storm water systems to meet certain irrigation water needs, including common areas.

Coordination with Regional Water Planning Group

The service area of the City of Cottonwood Shores is located within the Lower Colorado River Water Planning Area (Region K) of the State of Texas and the District has provided or will provide a copy of this water conservation plan to the regional water planning group. The plan can be sent to the LCRA, c/o Water Contracts and Conservation, P.O. Box 220, Austin, Texas 78703.

Authorization and Implementation

The General Manager, or his/her designee, of the City of Cottonwood Shores is hereby authorized and directed to implement the applicable provisions of the Plan. The General Manager, or his/her designee, will act as Administrator of the Water Conservation Program. He/she will oversee the execution and implementation of the program and will be responsible for keeping adequate records for program verification. A signed and dated copy of this plan by the General Manager or his/her designee will be sufficient to meet this requirement.

Plan Implementation

The City of Cottonwood Shores has designated a water conservation coordinator, who will be responsible for the implementation of this water conservation plan. The current water conservation coordinator is Dr. Roger Wayson. The General Manager, or his/her designee may re-appoint this position. At that time, the City of Cottonwood Shores will inform LCRA about this personnel change.

Appendix A

CWS Water Usage by Year					
	2011	2012	2013	2014	2015
<u>Raw Water</u>					
Total MG	62.5	54.4	53.3	51.2	53.0
Ac. Ft.	191.8	167.0	163.7	157.1	162.6
<u>Treated Water</u>					
Total MG	45.9	46.1	44.5	42.9	42.0
Loss Gal MG	16.6	8.3	8.9	8.3	11.0
Loss %	27%	15%	17%	16%	21%
<u># Connections</u>					
	498	506	510	517	525
<u>Population</u>					
	1155	1175	1202	1275	1310
Gal/Per/Day (raw)	150	129	123	112	112
Gal/Per/Day (finished)	110	109	103	93	89