

**WATER CONSERVATION  
AND  
DROUGHT CONTINGENCY PLANS**

**FOR THE COMMUNITY OF CONROE BAY  
WILLIS, TEXAS 77318**

**SUBMITTED TO THE  
TEXAS WATER DEVELOPMENT BOARD  
March 2, 2021**

## **INTRODUCTION**

The community of Conroe Bay is a very small community located on Lake Conroe in Montgomery County. The present number of households is 113 with an estimated population of 339 to 345 full time residents. The water distribution system, which is a privately owned and operated by the members of the Conroe Bay Water - Sewer Supply Corporation (CBWSSC) provides water to residents throughout the community. The water is obtained from ground water wells. The waste treatment collection system also privately owned by the members provides the sewer service.

The community, which began development in 1972, is now a completely built out residential only community with maximum households. Therefore we do not foresee an increase in water or waste treatment requirements. Therefore we do not consider the water demand to be critical.

### **GOALS**

It is the goal of the CBWSSC to implement a water conservation program that will insure an adequate supply of water to its residents during good times when there is abundant water as well as during times that the availability of water might become scarce. To this end it is the goal of the community to achieve and maintain the minimum per capita water usage on an ongoing basis. Maintaining a minimum overall per capita usage of water will help provide an adequate supply of water well into the future.

Additionally, members and system management will monitor and review reports of water pumped and used monthly. This will be accomplished by taking actual household meter readings and comparing them to well head master meter readings, which are also recorded monthly. Water usage will also be metered and recorded monthly at the waste treatment facility. Currently daily visual inspections of water lines are conducted to detect and eliminate unaccounted uses of water. These inspections as well as on going audits of the water system will continue to help in the control and prevention of unaccounted water usage.

Currently our 5 year Total Historical Average GPCD (Gallons Per Capita Daily) is 56 gallons with a 6 GPCD of Water Loss which is 11% of our total pumped. Our goal is to reduce our Total GPCD down to 52 by the year 2026. We also seek to reduce our Water Loss GPCD down to 6 or 12% in that same time period. Our goal for 2031 would be reassess our position and to revise our goals with a minimum of maintaining our 2026 Goals. These Goals are reflected on the attached (Schedule "1")

The program will be coordinated by the President of the Corporation subject to change. Currently Dan Lynam will be the coordinator.

## **WATER CONSERVATION PLAN**

The following water conservation plan outlines the actions the CBWSSC will take to implement a water conservation program to reach our goals. The principle water conservation methods considered in preparing this conservation plan are:

1. Public Education and Information Program
2. Water Conservation Plumbing - New Construction
3. Water Conservation Plumbing - Retrofits
4. Rate Structure
5. Metering and Meter Replacement Program
6. Water Audits and Leak Detection
7. Plan Implementation and Enforcement

### EDUCATION AND INFORMATION

CBWSSC will promote water conservation by informing its members / customers on how to conserve water. The members will employ persistent efforts to instill “water conservation” in the minds of its residents. This effort will be an ongoing public awareness education program. Printed materials and brochures published by the Texas Water Development Board and others will be the basis for this education.

The program will be a two segment program consisting of New Customer and Long Term Customer segments.

#### New Customer Program

New members / customers will receive a package of educational material in a welcome packet. This material will include a copy of our Conservation and Drought Plans urging their participation in our water conservation efforts. The Educational material will place emphasis on the following:

- \* Bathroom Water Saving Hints
- \* Kitchen Water Saving Hints
- \* Laundry Water Saving Hints
- \* Outdoor Water Conservation

## WATER CONSERVATION PLAN 5- AND 10-YR GOALS FOR WATER SAVINGS

Name: Conroe Bay WSSC

Water Conservation Plan Year: 2021

	Historic 5-yr Average	Baseline*	5-yr Goal for year <u>2026</u>	10-yr Goal for year <u>2031</u>
Total (GPCD) <sup>1</sup>	56		52	52
Residential (GPCD) <sup>2</sup>				
Water Loss (GPCD) <sup>3</sup>	6		6	6
Water Loss (Percentage) <sup>4</sup>	11 %	%	12 %	12 %

1. Total GPCD = (Total Gallons in System ÷ Permanent Population) ÷ 365

2. Residential GPCD = (Gallons Used for Residential Use ÷ Residential Population) ÷ 365

3. Water Loss GPCD = (Total Water Loss ÷ Permanent Population) ÷ 365

4. Water Loss Percentage = (Total Water Loss ÷ Total Gallons in System) x 100; or (Water Loss GPCD ÷ Total GPCD) x 100

*GPCD - Gallons Per Capita Per Day*

*\*A base use figure, or baseline, should be included to calculate your estimated savings. Consider state and regional targets and goals, local climate, and demographics (i.e. wet year versus dry year, high usage versus low usage)*

**CONROE BAY**  
**WATER - SEWER RATES**

(Supplement - A)

<u>Inc</u>	<u>Gallons</u>	<u>Water</u>	<u>Sewer</u>	<u>0.05% fee</u>	<u>Total</u>
	1000	42.5	42.5	0.43	85.43
+\$5	2000	45	45	0.45	90.45
+\$6	3000	48	48	0.48	96.48
+\$7	4000	51.5	51.5	0.52	103.52
+\$9	5000	56	56	0.56	112.56
+\$9	6000	60.5	60.5	0.61	121.61
+\$9	7000	65	65	0.65	130.65
+\$9	8000	69.5	69.5	0.7	139.7
+\$9	9000	74	74	0.74	148.74
+\$10	10000	79	79	0.79	158.79
+\$10	11000	84	84	0.84	168.84
+\$10	12000	89	89	0.89	178.89
+\$10	13000	94	94	0.94	188.94
+\$10	14000	99	99	0.99	198.99
+\$12	15000	105	105	1.05	211.05
+\$12	16000	111	111	1.11	223.11
+\$12	17000	117	117	1.17	235.17
+\$12	18000	123	123	1.23	247.23
+\$12	19000	129	129	1.29	259.29
+\$12	20000	135	135	1.35	271.35
+\$12	21000	141	141	1.41	283.41
+\$12	22000	147	147	1.47	295.47
+\$12	23000	153	153	1.53	307.53
+\$12	24000	159	159	1.59	319.59
+\$12	25000	165	165	1.65	331.65
+\$12	26000	171	171	1.71	343.71

+\$12 per 1000 for each additional 1000

### Long Term Program

The long term program will include the routine distribution of educational materials that will encourage water conservation by reminding users of the importance of water conservation. This program will also include frequent conservation messages included with the monthly billing.

### CONSERVATION PLUMBING - NEW CONSTRUCTION

The use of water conservation fixtures on all new construction will be required as part of the building plan approval process. The conservation recommendation will be included in the approval letter.

### CONSERVATION PLUMBING - RETROFIT

In conjunction with the Education and Information Program, we plan to make members / residents, plumbers and contractors aware of the requirement to use water conserving fixtures when repairing and / or replacing plumbing fixtures.

### RATE STRUCTURES

CBWSSC rate structures are based on non profit revenue basis. The rate requirements need only to run, operate and maintain the communities' utilities. The rates charged are those approved by the board of directors. The current rates are included. (Supplement "A")

### METERING AND METER REPLACEMENT PROGRAM

The system is 100 percent metered. There is very little usage that is unmetered. The exception is the flushing / testing of the fire hydrants for proper operation. This is done monthly and is typically timed so we have a close estimate of that loss. Line damage of course is not metered and affects our usage as water loss.

The overall water operating system is also metered. There are two meters at the pumping station, one on each of the two wellheads that provide daily data on water production. These meters are routinely tested for accuracy and repaired as needed.

The household meters are on a replacement program and are automatically changed out at 2 million gallons to ensure accuracy.

### WATER AUDITS AND LEAK DETECTION

The CBWSSC currently has a continuous leak detection and repair program that includes monthly meter checks and consumption rates. Corrective action is immediately taken when leaks are detected to prevent unaccounted for water losses. The monthly individual home site meter readings are compared to the pumping station master readings for unusual usage and /or unaccounted for water losses. The CBWSSC operator reviews individual resident meter readings

on a monthly basis to detect unusual water usage conditions. If apparent by the operator or the customer, follow up must be implemented to determine the cause. Meters will be checked for leakage and verified for accuracy. If the meter is found to be operating properly, the customer is notified to check for leaks and reminded of the conservation effort. Toilet tablets are offered to the customer to check for toilet leaks. If the customer is not at home a door hanger and toilet tablets with instructions are left to encourage the customer to search and test for leaks.  
(Supplements “B an “C”)

#### IMPLEMENTATION AND ENFORCEMENT

As a means to implement the Water Conservation Plan the Conroe Bay Water – Sewer Supply Corporation Board of Directors will adopt a resolution stating its water conservation program and goals. This program will be shared with the residents by means of public notification. The adoption and resolution will appear on the community WEB site and in addition a direct distribution of the plan, in its entirety, will be made to each individual household.

(SUPPLEMENT "B")



Date: \_\_\_\_\_

Dear Customer,

Our Service Technician:

**Has re-read the meter:**

Current reading: \_\_\_\_\_

**Has investigated the reported leak:**

- Houeline - Customer responsibility to repair
- District line - We will schedule to have the leak repaired
- District line - Repairs have been made

**Smart meter water usage alert.**

**Please Investigate:**

- Small leak detected
- Large leak detected

**Has investigated sewer issue:**

- Houeline - Customer responsibility to repair
- District line - We will schedule to have the issue repaired

**Please contact the office by:** \_\_\_\_\_

Additional Comments:  
\_\_\_\_\_  
\_\_\_\_\_

*Thank you,*

**Water District Management Co., Inc. (WDM)**

**281-651-0861**

# TOILET LEAK DETECTION

## HOME WATER-SAVING KIT

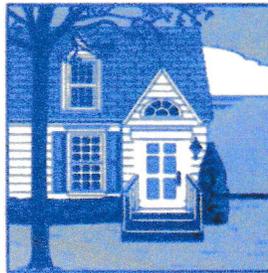
### LEAK DETECTIVE™ • DAILY •

HOME TOWN

SPECIAL EDITION

2005

## IS YOUR WATER BILL TOO HIGH?



You may think those little leaks in your bathroom don't amount to a drop-in-the bucket. Not so. The sneakiest drip can be found

in your bathroom toilet. Toilet tank leaks, almost undetectable to the naked eye, can add \$25.00 or more to your monthly bill.

**Take 15 Minutes to Save Gallons of Water Everyday!**



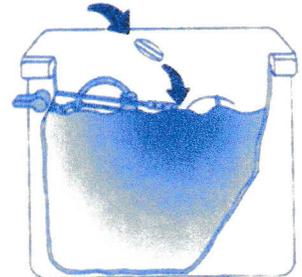
- Less Water Down the Drain
- Find Toilet Leaks
- Save With Each Flush

**STOP THE DRAIN ON YOUR DOLLARS!**



Leaks always get larger

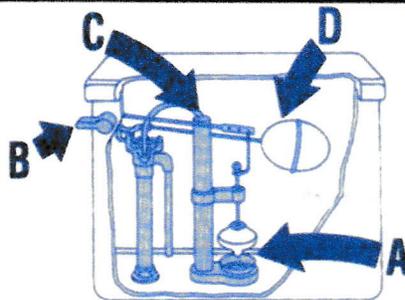
and cost you more the longer you wait.



### LEAK TEST

- 1 Wait 5-10 minutes after the last flush cycle to perform the leak test.
- 2 Remove the cover. Gently drop one Leak Detective tablet into tank. Do not flush. You can also use a few drops of food coloring if you do not have the tablets.
- 3 Wait 15-20 minutes.
- 4 If blue dye color appears in bowl, you have a leak. (Don't worry, it won't stain the bowl).

### SOURCES OF THE LEAK MAY BE:



- 1 The flapper valve and valve seat (A) have deteriorated or corroded.
- 2 The flushing arm and lift chain (B) are not working properly.
- 3 The water level in the tank is too high and spills into the overflow tube (C).
- 4 The float rod, ballcock and/or float ball (D) are corroded.

Replacement parts are available at hardware and plumbing supply stores or consult your local plumbing professional.

### OTHER LEAK TIPS

Take a few minutes today to save tomorrow!

- Check your toilet tank at least twice a year.
- Turn the water off. Don't let it run when you wash, brush your teeth, shave or wash your car.
- Water your lawn in early morning - one inch a week is good for your grass
- Take shorter showers or a bath
- Run full loads of dishes and clothes.
- Water plants, not the sidewalk.
- Be smart, fix leaks



## **DROUGHT CONTINGENCY PLAN**

The Board of Directors of the Conroe Bay Water - Sewer Supply Corporation, Willis Texas recognize that drought or other rapidly developing emergency conditions can disrupt the normal availability of the water supply and have moved to establish a drought contingency plan.

The following summarizes the drought contingency plan for the community of Conroe Bay. The plan establishes temporary methods or techniques designed to be used only as long as a water shortage emergency exists. The community's drought contingency plan will include the following elements:

1. Trigger Conditions Signaling the Start of an Emergency Period
2. Drought Contingency Measures
3. Education and Information
4. Initiation Procedures
5. Termination Notification Actions
6. Means of Implementation

### TRIGGER CONDITIONS

The community of Conroe Bay receives all of its water from two wells which are supplied by the Jasper Aquifer. Trigger conditions that will signal the need to start an emergency period will be based on:

- Low line pressure - below minimum requirement
- Difficulty in obtaining normal water level in the surface storage tank (pumping hours).

### DROUGHT CONTINGENCY MEASURES

The following actions will be implemented by the Board of Directors when trigger conditions are reached. The severity of each condition will be determined by the system operator.

#### A. Mild Condition Measures

1. Inform the community by email, website, and monthly water billing that a trigger condition has been reached and that residents should begin to look for ways to reduce water usage.
2. Publicize by email, website, for a voluntary lawn watering schedule, evenings - odd/ even etc.

B. Moderate Condition Measures

1. Continue to inform the community by email, website of a shortage in water availability and users should look for ways to reduce water usage.
2. Implement a mandatory lawn watering schedule evenings - odd/ even etc.
3. Prohibit car washing and other non-essential water uses.

C. Severe Condition Measures

1. Continue a community information program. Contact all residents by email, phone and website to solicit their help in conserving. This will be accomplished by a phone committee appointed by the board at the time it is needed.
2. PROHIBIT all outdoor water use.
3. Limit the amount of water each customer can use and institute fines for non-compliance.

D. Penalties for Violations

1. **First Violation** - The customer / member will be notified by a written notice of their specific violation.
2. **Second Violation** - The Corporation may install a flow restricting device in the customer's service line to limit the amount of water that will pass through the meter in a 24 hour period. The cost of this shall be the actual cost to do the work and shall be paid by the customer.
3. **Subsequent Violations** -The Corporation may terminate service for up to 7 days and charge for the service call to restore service.

**These provisions apply to all customers of the Corporation.**

E. Exemptions or Waivers

Conroe Bay Water - Sewer Supply Corporation Board may, in writing, grant temporary variance for existing water uses otherwise prohibited under this Plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the health or sanitation for the public or the person requesting such variance and if one or more of the following conditions are met:

1. Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.
2. Alternative methods can be implemented which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions shall file a petition for variance with the CBWSSC within five [5] days after the Plan or a particular drought response stage has been invoked or after a condition justifying the variance first occurs. All petitions for variances shall be reviewed by the CBWSSC Board and shall include the following:

1. Name and address of the petitioner [s].
2. Purpose of water use.
3. Specific provision [s] of the Plan from which the petitioner is requesting relief.
4. Detailed statement as to how the specific provision of the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or if petitioner complies with this Plan.
5. Description of the relief requested.
6. Period of time for which the variance is sought.
7. Alternative water use restrictions or other measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.
8. Other pertinent information, as requested by the CBWSSC Board.

#### INFORMATION AND EDUCATION

The residents of the community will be informed of the content and purpose of the Drought Contingency Plan at the earliest possible time after adoption of the plan and prior to the onset of any emergency conditions. The residents will be informed by email, website and billing inserts. They will also receive a complete copy of both the Conservation Plan as well as the Drought Contingency Plan once it has been adopted.

#### INITIATION PROCEDURE

When a trigger condition has been reached and it is determined that a drought contingency plan is necessary, the President of the CBWSSC or his duly appointed representative will order the initiation of a public information process. The public notification process will include the following:

1. Notify the residents of drought conditions by email, website, and monthly billing inserts.
2. Recruit the help of residents to inform the community.

## TERMINATION NOTIFICATION

Termination of the drought contingency measure will take place when it has been determined that the emergency condition no longer exists and things are back to normal. The residents will be informed of the termination in the same manner as the initiation procedure was implemented.

## IMPLEMENTATION

A resolution has been approved by the Board of Directors of the Water - Sewer Supply Corporation to adopt both the Water Conservation and Drought Contingency Plans and has authorized the President or his / her duly appointed representative to initiate any action necessary to these plans. This resolution is included in the documentation. [Appendix "A"]

**RESOLUTION**

A Resolution of the Conroe Bay Water - Sewer Supply Corporation of Willis, Texas, adopting the Conroe Bay Drought Contingency and Water Conservation Plans: and authorizing the President to act as the Corporations Executive Officer and authorized Representative in all matters pertaining to the implementation of the above mentioned plan.

WHEREAS, it is the desire of the Conroe Bay Water - Sewer Supply Corporation of the community of Conroe Bay to plan for and maintain an adequate water supply to meet water customer demands for the present and future; and

WHEREAS, The Conroe Bay Water - Sewer Supply Corporation believes it is in the best interest of the community to operate at maximum efficiency to reduce water usage and conserve potable water; and

WHEREAS, it is the object of the Conroe Bay Water Conservation Plan to reduce the quantity of water usage by implementing efficient water use practices; and

WHEREAS, it is the objective of the Conroe Bay Drought Contingency Plan to effectively reduce [temporarily] the demand placed on the community's available water supply during a water shortage emergency.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE CONROE BAY WATER- SEWER SUPPLY CORPORATION, WILLIS, TEXAS.

That the Conroe Bay Water Conservation Plan and Drought Contingency Plan be formally approved and adopted by our community.

APPROVED, PASSED, AND ADOPTED this 2<sup>ND</sup> day of March - 2021



Daniel A. Lynam – President



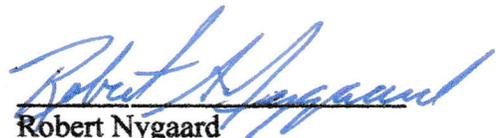
Jennifer Cox



James D. Bell



Mark Chamberlain – Vice President



Robert Nygaard



Rick Matlock