

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF FRISCO, TEXAS, REPEALING ORDINANCE NO. 15-04-22; ADOPTING A NEW WATER MANAGEMENT PLAN TO PROMOTE THE EFFICIENT USE OF WATER AND IMPLEMENTING A DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN; PROVIDING FOR ENFORCEMENT, PENALTIES AND DISCONNECTION OF IRRIGATION AND/OR OTHER WATER SERVICE FOR NONCOMPLIANCE; ESTABLISHING PROCEDURES FOR GRANTING VARIANCES; REQUIRING THE FILING OF THIS ORDINANCE AND PLAN WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY; PROVIDING A SAVINGS/REPEALING CLAUSE, SEVERABILITY CLAUSE, PENALTY CLAUSE AND AN EFFECTIVE DATE; AND PROVIDING FOR THE PUBLICATION OF THE CAPTION HEREOF.

WHEREAS, the City Council of the City of Frisco, Texas ("City Council") recognizes that the amount of water available to the water customers of the City of Frisco, Texas ("Frisco" or "City") is limited; and

WHEREAS, the City Council recognizes the importance of a viable, long-term water supply for all City water customers; and

WHEREAS, the City Council recognizes that it cannot guarantee an uninterrupted water supply for all purposes at all times because of natural limitations, drought conditions, system failures and other acts of God which may occur; and

WHEREAS, the Texas Water Code and the regulations of the Texas Commission on Environmental Quality ("TCEQ") require that the City Council adopt a Water Management Plan for the City that includes a drought contingency and water emergency response plan; and

WHEREAS, the City Council is authorized to adopt ordinances as necessary to preserve and conserve the City's water resources pursuant to Chapter 54 of the Texas Local Government Code; and

WHEREAS, the City Council previously adopted Ordinance No. 15-04-22, which implemented and amended a Water Management Plan for the City in accordance with the Texas Water Code, TCEQ regulations and Chapter 54 of the Texas Local Government Code; and

WHEREAS, the City Council has investigated and determined that it would be advantageous and beneficial to the citizens of Frisco to repeal Ordinance No. 15-04-22, in its entirety, and replace it with this Ordinance; and

WHEREAS, the City Council has determined that it is an urgent need and in the best interest of the public to adopt a new Water Management Plan; and

WHEREAS, the City Council desires to support the North Texas Municipal Water District (“NTMWD”) by adopting the new Water Management Plan as official City policy for water management; and

WHEREAS, the City Council has investigated and determined that it would be advantageous and beneficial to the citizens of the City to adopt the Water Management Plan as set forth below.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FRISCO, TEXAS:

SECTION 1. Findings Incorporated. The findings set forth above are incorporated into the body of this Ordinance as if fully set forth herein.

SECTION 2. Repeal of Ordinance No. 15-04-22. Ordinance No. 15-04-22 is hereby repealed, in its entirety, and replaced by this Ordinance. The effective date of the repeal of Ordinance No. 15-04-22 shall not occur until the effective date of this Ordinance, at which time Ordinance No. 15-04-22 shall be repealed. Such repeal shall not abate any pending prosecution and/or lawsuit or prevent any prosecution and/or lawsuit from being commenced for any violation of Ordinance No. 15-04-22 occurring before the effective date of this Ordinance.

SECTION 3. Water Management Plan Adopted. The City Council hereby approves and adopts the Water Management Plan attached hereto as Exhibit A and incorporated herein by reference for all purposes. The City commits to implementing the requirements and procedures set forth in the adopted Water Management Plan.

SECTION 4. Filing of Ordinance and Plan with the TCEQ. The City Manager or his designee is hereby directed to file copies of the Water Management Plan and this Ordinance with the TCEQ in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

SECTION 5. Savings/Repealing. All provisions of any ordinance in conflict with this Ordinance are hereby repealed to the extent they are in conflict, but such repeal shall not abate any pending prosecution for violation of the repealed ordinances, nor shall the repeal prevent a prosecution from being commenced for any violation if occurring prior to the repeal of the ordinances. Any remaining portions of said ordinances shall remain in full force and effect.

SECTION 6. Severability. Should any section, subsection, sentence, clause or phrase of this Ordinance be declared unconstitutional and/or invalid by a court of competent jurisdiction, it is expressly provided that any and all remaining portions of this Ordinance shall remain in full force and effect. Frisco hereby declares that it would have passed this Ordinance, and each section, subsection, clause and phrase thereof regardless of whether any one or more sections, subsections, sentences, clauses or phrases may be declared unconstitutional and/or invalid.

SECTION 7. Penalty. Any customer, defined under 30 Texas Administrative Code Chapter 291, failing to comply with the provisions of the Water Management Plan shall be subject to a fine of up to two thousand dollars and 00/100 dollars (\$2,000.00) per day per

occurrence and/or discontinuance of irrigation or water service by the City. Proof of a culpable mental state is not required for a conviction of an offense under this section. Each day a customer fails to comply with the Water Management Plan is a separate violation. The City's authority to seek injunctive or other civil relief available under the law is not limited by this section.

SECTION 8. Effective Date. This Ordinance shall become effective from and after its adoption and publication as required by the City Charter and by law.

DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF FRISCO, TEXAS on this 16th day of April, 2019.



Jeff Cheney
Jeff Cheney, Mayor

**ATTESTED TO AND CORRECTLY
RECORDED BY:**

Kristi Morrow
Kristi Morrow, City Secretary

APPROVED AS TO FORM:

Ryan D. Pittman
Abemathy, Roeder, Boyd & Hullett, P.C.
Ryan D. Pittman, City Attorneys

Dates of Publication: April 19 and 26, 2019, *Frisco Enterprise*

Exhibit A

City of Frisco Water Management Plan

TABLE OF CONTENTS

1.	INTRODUCTION AND OBJECTIVES.....	1-3
2.	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES.....	2-1
2.1	Conservation Plans.....	2-1
2.2	Drought Plans.....	2-2
3.	WATER UTILITY PROFILE.....	3-1
4.	SPECIFICATION OF WATER CONSERVATION GOALS.....	4-1
5.	METERING, WATER USE RECORDS, CONTROL OF UNACCOUNTED WATER, AND LEAK DETECTION AND REPAIR.....	5-1
5.1	Accurate Metering of Treated Water Deliveries from NTMWD.....	5-1
5.2	Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement.....	5-1
5.3	Record Management System.....	5-2
5.4	Determination and Control of Unaccounted Water.....	5-2
5.5	Leak Detection and Repair.....	5-2
5.6	Monitoring of Effectiveness and Efficiency – Annual Water Conservation Report.....	5-3
5.7	Water Conservation Implementation Report.....	5-3
6.	CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN.....	6-1
7.	WATER RATE STRUCTURE.....	7-1
8.	OTHER WATER CONSERVATION MEASURES.....	8-1
8.1	NTMWD System Operation Plan.....	8-1
8.2	Reuse and Recycling of Wastewater.....	8-1
8.3	Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures.....	8-1
8.4	Landscape Water Management Measures.....	8-1
8.5	Rebates and Other Water Use Efficiency Programs.....	8-2
8.6	Requirement for Water Conservation Plans by Wholesale Customers.....	8-3
8.7	Coordination with Regional Water Planning Group and NTMWD.....	8-3

9.	IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN.....	9-1
10.	REVIEW AND UPDATE OF WATER CONSERVATION PLAN.....	10-1
11.	DROUGHT CONTINGENCY AND WATER EMERGENCY REPOSE PLAN.....	11-1
11.1	Introduction.....	11-1
11.2	State Requirements for Drought Contingency and Water Emergency Response Plans.....	11-2
11.3	Provisions to Inform the Public and Opportunity for Public Input.....	11-3
11.4	Provisions for Continuing Public Education and Information.....	11-3
11.5	Initiation and Termination of Drought or Water Emergency Response Stages.....	11-4
11.6	Drought Contingency and Water Emergency Response Stages and Measures.....	11-5
11.7	Procedures for Granting Variances to the Plan.....	11-13
11.8	Procedures for Enforcing Mandatory Water Use Restrictions.....	11-14
11.9	Coordination with the Regional Water Planning Groups.....	11-16
11.10	Review and Update of Drought Contingency and Water Emergency Response Plan.....	11-16
EXHIBIT B	WEEKLY WATERING DAY LOCATION MAP (corresponds with residential trash day locations)	
APPENDIX A	List of References	
APPENDIX B	Texas Commission on Environmental Quality Rules on Municipal Water Conservation and Drought Contingency	
	• Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.1 -Definitions (Page B-1)	
	• Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.2 Water Conservation Plans for Municipal Uses by Public Water Suppliers (Page B-4)	
	• Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter B, Rule §288.20 - Drought Contingency Plans for Municipal Uses by Public Water Suppliers (Page B-7)	
APPENDIX C	TCEQ Water Utility Profile	
APPENDIX D	NTMWD Member City and Customer Annual Water Conservation Report	
APPENDIX E	Landscape Water Management Regulations	
APPENDIX F	Rebates and Other Water Use Efficiency Programs	
APPENDIX G	TCEQ Water Conservation Implementation Report	

Water Management Plan

Updated March 2019

1. INTRODUCTION AND OBJECTIVES

Water supply has always been a key issue in the development of Texas. In recent years, the growing population and economic development of North Central Texas have led to growing demands for water supplies. At the same time, local and less expensive sources of water supply are largely already developed. Additional supplies to meet future demands will be expensive and difficult to secure. Severe drought conditions in recent years have highlighted the importance of efficient use of our existing supplies to make them last as long as possible. It is therefore important that NTMWD and its Member Cities and Customers make the most efficient use of existing supplies. This will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

Recognizing the need for efficient use of existing water supplies, the Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing the development of water conservation and drought contingency plans for public water suppliers. TCEQ guidelines and requirements are included in Appendix A and B. The best management practices established by the Water Conservation Implementation Task Force established pursuant to SB1094 by the 78th Legislature, were also considered in the development of the water conservation measures. This Water Management Plan for the City of Frisco was developed in concert with the NTMWD's water conservation, and drought contingency and water emergency response plan.

The water conservation sections of this plan are incorporated into a year-round water efficiency plan and include measures that are intended to result in ongoing, long-term water savings. An emergency response plan is also included for the Frisco water distribution system. The NTMWD drought contingency and water emergency response sections of this plan address strategies designed to temporarily reduce water use in response to specific conditions.

The objectives of this water management plan are as follows:

- To reduce water consumption from the levels that would prevail without conservation efforts.
- To reduce the loss and waste of water.
- To improve efficiency in the use of water.

- Encourage efficient outdoor water use.
- To maximize the level of recycling and reuse in the water supply.
- To extend the life of current water supplies by reducing the rate of growth in demand.
- To document the level of recycling and reuse in the water supply.

In order to adopt this plan, the City of Frisco will need to do the following:

- Complete the water utility profile (provided in Appendix C).
- Complete the annual water conservation implementation report.
- Set five-year and ten-year goals for per capita water use.
- Adopt an ordinance approving the plan.

This plan includes all of the elements required by TCEQ. Some elements of this plan go beyond TCEQ requirements. Any member of the NTMWD wishing to adjust elements of their individual plan should coordinate with NTMWD. The final adopted version of this Water Management Plan including appendices, and ordinance will be provided to NTMWD, as well as TCEQ.

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

2.1 Conservation Plans

The TCEQ rules governing development of water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a water conservation plan is defined as "A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water." The elements in the TCEQ water conservation rules covered in this conservation plan are listed below.

Minimum Conservation Plan Requirements

The minimum requirements in the Texas Administrative Code for Water Conservation Plans for Public Water Suppliers are covered in this report as follows:

- 288.2(a)(1)(A) - Utility Profile - Section 3 and Appendix C
- 288.2(a)(1)(B) - Specification of Goals - Section 4
- 288.2(a)(1)(C) - Specific, Quantified Goals - Section 4
- 288.2(a)(1)(D) - Accurate Metering- Sections 5.1 and 5.2
- 288.2(a)(1)(E) - Universal Metering - Section 5.2
- 288.2(a)(1)(F) - Determination and Control of Unaccounted Water - Section 5.4
- 288.2(a)(1)(G) - Public Education and Information Program - Section 6
- 288.2(a)(1)(H) - Non-Promotional Water Rate Structure - Section 7
- 288.2(a)(1)(I) - Reservoir System Operation Plan - Section 8.1
- 288.2(a)(1)(J) - Means of Implementation and Enforcement - Section 9
- 288.2(a)(1)(K) - Coordination with Regional Water Planning Group - Section 8.7
- 288.2(c) - Review and Update of Plan - Section 10

Conservation Additional Requirements (Population over 5,000)

The Texas Administrative Code includes additional requirements for water conservation plans for drinking water supplies serving a population over 5,000:

- 288.2(a)(2)(A) - Leak Detection, Repair, and Water Loss Accounting - Sections 5.4, 5.5, and 5.6
- 288.2(a)(2)(B) - Record Management System- Section 5.3
- 288.2(a)(2)(C) - Requirement for Water Conservation Plans by Wholesale Customers - Section 8.6

Additional Conservation Strategies

The TCEQ requires that a water conservation implementation report be completed and submitted on an annual basis.

In addition to the TCEQ required water conservation strategies, the NTMWD also requires the following strategy to be included in the Member City and Customer plans:

- 288.2(a)(3)(F) - Considerations for Landscape Water Management Regulations - Section 8.4 and Appendix E

TCEQ rules also include optional, but not required, conservation strategies, which may be adopted by suppliers. The NTMWD recommends that the following strategies be included in the Member City and Customer water conservation plans:

- 288.2(a)(3)(A) - Conservation Oriented Water Rates - Section 7
- 288.2(a)(3)(B) - Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures - Section 8.3
- 288.2(a)(3)(C) - Replacement or Retrofit of Water-Conserving Plumbing Fixtures - Section 8.5
- 288.2(a)(3)(D) - Reuse and Recycling of Wastewater - Section 8.2
- 288.2(a)(3)(F) - Considerations for Landscape Water Management Regulations - Section 8.5 and Appendix E
- 288.2(a)(3)(G) - Monitoring Method - Section 5.6
- 288.2(a)(3)(H) - Additional Conservation Ordinance Provisions - Section 8.5

2.2 Drought Contingency Plans

The TCEQ rules governing development of drought contingency plans for public water suppliers are contained in Title 30, Part I, Chapter 288, Subchapter B, Rule 288.20 of the Texas Administrative Code, a current copy of which is included in Appendix B. For the purpose of these rules, a drought contingency and water emergency response plan is defined as "a strategy or combination of strategies for temporary supply and demand management responses to temporarily and potentially recurring water supply shortages and other water supply emergencies."

3. WATER UTILITY PROFILE

Appendix C to this water management plan is a water utility profile based on the format recommended by the TCEQ. In adopting this plan, the City of Frisco will provide a final water utility profile to NTMWD.

4. SPECIFICATION OF WATER CONSERVATION GOALS

TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. As part of plan adoption, the City of Frisco must develop 5-year and 10-year goals for per capita municipal use. These goals should be submitted to NTMWD. The goals for this water management plan include the following:

- Maintain the per capita municipal water use below the specified amount in gallons per capita per day in a dry year, as shown in the completed Table 4.1.
- Maintain the level of unaccounted water in the system below 12 percent annually in 2019 and subsequent years, as discussed in Section 5.4.
- Implement and maintain a program of universal metering and meter replacement and repair, as discussed in Section 5.2
- Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 8.4 and Appendix E.
- Increase efficient water usage as discussed in Section 8.5.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 6.
- Develop a system specific strategy to conserve water during peak demands, thereby reducing the peak use.

Table 4.1
Five-Year and Ten-Year Municipal Per Capita Water Use Goals (gpcd)

Description	Historic Average (GPCD)	2024 Goal (GPCD)	2029 Goal (GPCD)
Current 5-Year Avg. Residential Per Capita Use	106	110	106
Current 5-Year Avg. Water Loss (GPCD)	7	10	9
Current 5-Year Avg. Water Loss (%)	4.5%	10%	10%
Water Conservation Goals - Projects a 1% reduction per year	-	195	185

Historic average based on 2014 - 2018 consumption figures. It is low due to mandatory drought restrictions in 2014.

5. METERING, WATER USE RECORDS, CONTROL OF UNACCOUNTED WATER, AND LEAK DETECTION AND REPAIR

One of the key elements of water conservation is tracking water use and controlling losses through illegal diversions and leaks. It is important to carefully meter water use, detect and repair leaks in the distribution system and provide regular monitoring of unaccounted water.

5.1 Accurate Metering of Treated Water Deliveries from NTMWD

Water deliveries from NTMWD are metered by NTMWD using meters with accuracy of $\pm 2\%$. These meters are calibrated on a monthly basis by NTMWD to maintain the required accuracy.

5.2 Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement

The provision of water to all customers, including public and governmental users, should be metered. In many cases, Member Cities and Customers already meter retail and wholesale water users. For those Member Cities and Customers who do not currently meter all internal water uses, as well as all-subsequent users, these entities should implement a program to meter all water uses.

Most Member Cities and Customers test and replace their customer meters on a regular basis. All customer meters should be replaced on a minimum of a 15-year cycle. Those who do not currently have a meter testing and replacement program should implement such a program.

5.3 Record Management System

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), a record management system should allow for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information should be included in an annual water conservation report, as described in Section 5.6. Those entities whose record management systems do not currently comply with this requirement should move to implement such a system within the next five years.

5.4 Determination and Control of Unaccounted Water

Unaccounted water is the difference between water delivered to Member Cities and Customers from NTMWD (and other supplies, if applicable) and metered water sales to customers plus authorized but unmetered uses. (Authorized but unmetered uses would include use for fire fighting, releases for flushing of lines, uses associated with new construction, etc.) Unaccounted water can include several categories:

- Inaccuracies in customer meters. (Customer meters tend to run more slowly as they age and under-report actual use.)
- Accounts which are being used but have not yet been added to the billing system.
- Losses due to water main breaks and leaks in the water distribution system.
- Losses due to illegal connections and theft. (Ordinance 05-05-41)
- Other.

Measures to control unaccounted water should be part of the routine operations of Member Cities and Customers. Maintenance crews and personnel should look for and report evidence of leaks in the water distribution system. A leak detection and repair program is described in Section 5.5 below. Meter readers should watch for and report signs of illegal connections, so they can be quickly addressed.

Unaccounted water should be calculated in accordance with the provisions of Appendix C. With the measures described in this plan, Member Cities and Customers should maintain unaccounted water below 12 percent in 2019 and subsequent years. If unaccounted water exceeds this goal, the Member City or Customer should implement a more intensive audit to determine the source(s) of and reduce the unaccounted water. The annual conservation report described in Section 5.6 is the primary tool that should be used to monitor unaccounted water.

5.5 Leak Detection and Repair

As described above, city crews and personnel should look for and report evidence of leaks in the water distribution system. Areas of the water distribution system in which numerous leaks and line breaks occur should be targeted for replacement as funds are available.

5.6 Monitoring of Effectiveness and Efficiency - Annual Water Conservation Report

Appendix D is a form that should be used in the development of an annual water conservation report by Member Cities and Customers. This form should be completed by March 31 of the following year and used to monitor the effectiveness and efficiency of the water conservation program and to plan conservation-related activities for the next year. The form records the water use by category, per capita municipal use, and unaccounted water for the current year and compares them to historical values. The annual water conservation report should be sent to NTMWD, which will monitor NTMWD Member Cities' and Customers' water conservation trends.

5.7 Water Conservation Implementation Report

The TCEQ-required water conservation implementation report (Appendix G) is due to the TCEQ by May 1 of every year, starting in the year 2010. This report lists the various water conservation strategies that have been implemented, including the date the strategy was implemented. The report also calls for the five-year and ten-year per capita water use goals from the previous water conservation plan. The reporting entity must answer whether or not these goals have been met and if not, why not. The amount of water saved is also requested.

6. CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN

The continuing public education and information campaign on water conservation includes the following elements:

- The City of Frisco operates and maintains an evapotranspiration weather station and four automatic rain gauges that generate data used to provide weekly outdoor watering recommendations. These recommendations are available on the city website, through a weekly e-mail subscription service, via text messaging, and over a dedicated telephone line.
- Utilize the "Water IQ: Know Your Water" and other public education materials produced by the NTMWD.
- Insert water conservation information with water bills. Inserts will include material developed by Member Cities' and Customers' staff and material obtained from the TWDB, the TCEQ, and other sources.
- Encourage local media coverage of water conservation issues and the importance of water conservation.
- Notify local organizations, schools, and civic groups that Member City or Customer staff and staff of the NTMWD are available to make presentations on the importance of water conservation and ways to save water.
- Leadership Frisco Class VI purchased a robot, Professor Waterwise, which is now available through City Staff for school presentations and other events.
- Promote the Texas Smartscape web site (www.txsmartscape.com) and provide water conservation brochures and other water conservation materials available to the public at City Hall and other public places.
- Make information on water conservation available on its website (if applicable) and include links to the "Water IQ: Know Your Water" website, Texas Smartscape website, TX A&M AgriLife Research and Extension Center, and information on water conservation on the TWDB and TCEQ web sites and other resources.

7. WATER RATE STRUCTURE

Member Cities and Customers should adopt, if they have not already done so, an increasing block rate water structure that is intended to encourage water conservation and discourage excessive use and waste of water upon completion of the next rate study or within five years. Ordinance 15-04-15 (Water and Sewer Service Charges), provides an increasing block rate structure and lists the minimum charge and base charges for all tiers for the residential and commercial/industrial water rates. The City of Frisco water rate structure is as follows:

Residential Rates

1. Monthly minimum charge up to the first 2,000 gallons.
2. A second tier from 2,001 gallons to 15,000 gallons with a base charge per 1,000 gallons.
3. A third tier from 15,001 gallons to 25,000 gallons with an increased base charge per 1,000 gallons.
4. A fourth tier from 25,001 gallons to 40,000 gallons with an increased base charge per 1,000 gallons.
5. A fifth tier from 40,001 gallons to 80,000 gallons with an increased base charge per 1,000 gallons.
6. A sixth tier for 80,001 gallons and above with an additional increase in the base charge per 1,000 gallons.

Commercial/Industrial Rates

Commercial/industrial rates have an increased minimum charge up to the first 2,000 gallons as the size of the meter increases with a base charge per 1,000 gallons for usage from 2,000 gallons to 40,000 gallons for all meter sizes, and an increased based charge per 1,000 gallons for all irrigation meters above 40,000 gallons.

8. OTHER WATER CONSERVATION MEASURES

8.1 NTMWD System Operation Plan

Member Cities and Customers of NTMWD purchase treated water from NTMWD and do not have surface water supplies for which to implement a system operation plan. NTMWD operates multiple sources of water supply as a system. The operation of the reservoir system is intended to optimize the use of the District's sources (within the constraints of existing water rights) while minimizing energy use cost for pumping, maintaining water quality, minimizing potential impacts on recreational users of the reservoirs and fish and wildlife.

8.2 Reuse and Recycling of Wastewater

Most Member Cities and Customers do not own and operate their own wastewater treatment plants. Their wastewater is treated by NTMWD. NTMWD currently has the largest wastewater reuse program in the state. NTMWD has water rights allowing reuse of up to 71,882 acre-feet per year of treated wastewater discharges from the Wilson Creek Wastewater Treatment Plant for municipal purposes. In addition, NTMWD has also developed the East Fork Raw Water Supply Project which can divert up to 157,393 acre-feet per year based on treated wastewater discharges by the NTMWD. With the addition of the Main Stem Pump station the NTMWD will be able to increase flows through the East Fork Reuse Project up to an additional 56,100 acre-feet per year. When fully developed, these three reuse projects will provide up to 42 percent of the NTMWD's currently permitted water supplies. NTMWD also provides treated effluent from its wastewater treatment plants available for direct reuse for landscape irrigation and industrial use.

Those Member Cities and Customers who own and operate their own wastewater treatment plants should move toward reusing treated effluent for irrigation purposes at their plant site over the next three years. These entities should also seek other alternatives for reuse of recycled wastewater effluent.

8.3 Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures

The state has required water-conserving fixtures in new construction and renovations since 1992. The state standards call for flows of no more than 2.5 gallons per minute (gpm) for faucets and 2.5 gpm for showerheads. As of January 1, 2014, the state requires maximum average flow rates of 1.28 gallons per flush (gpf) for toilets and 0.5 gpf for urinals. Similar standards are now required nationally under federal law. These state and federal standards assure that all new construction and renovations will use water-conserving fixtures. Optional rebate programs to encourage replacement of older fixtures with water conservation programs are discussed in Section 8.5.

8.4 Landscape Water Management Measures

Appendix E identifies the landscape water management regulations adopted as part of the Water Management Plan. These regulations are intended to minimize waste in landscape irrigation and include the requirements for rain/freeze sensors, pressure regulating devices, and irrigation controllers capable of providing multiple programs.

The following general basic water conservation measures are required by the NTMWD and the City of Frisco for this plan. These measures must be implemented and enforced in order to reduce water waste:

- Time of day restrictions prohibiting lawn irrigation watering from 10 AM to 6PM during the Daylight Saving Time period of each year.
- Prohibition of watering of impervious surfaces. (Wind driven water drift will be taken into consideration.)
- Prohibition of outdoor watering during precipitation or freeze events.
- Lawn and landscape irrigation must conform to the best management practices for outdoor irrigation based on the City of Frisco weather station data and subsequent weekly watering recommendations as discussed in Section 9 of this plan.
- Prohibiting the use of treated water to fill or refill residential, amenity, and any other natural or man-made ponds. A pond is considered to be a still body of water with a surface area of 500 square feet or more.
- Rain and freeze sensors are required on all new irrigation systems. Rain and freeze sensors and irrigation controllers must be maintained to function properly.
- "At home" car washing can be done only when using a water hose with a shut-off nozzle.
- Prohibition of planting and/or watering areas that have been overseeded or planted with cool season grasses (such as rye grass or other similar grasses) under certain conditions, except for golf courses, erosion protection, and public use areas related to public safety.

8.5 Rebates and Other Water Use Efficiency Programs

The City of Frisco offers rebates and other programs to encourage water use efficiency and to reduce water waste. Appendix F describes the available rebate programs with the procedures required to participate. The following list identifies rebate programs currently available and those under consideration:

- Currently Available:
 - o Irrigation controllers capable of using weather data to adjust watering run times
- Under Consideration:
 - o Water Efficient Clothes Washers
 - o Rain Barrels
 - o High Efficient Toilets
 - o Pressure Reducing Valves
 - o Low-Flow Shower Heads
 - o Rain/Freeze Sensors

The City of Frisco also has other existing and future programs designed to promote and encourage water use efficiency. These programs are also mentioned in Appendix F and include:

- Free Irrigation Check-up Program
- Frisco Website Weekly Irrigation Recommendations
- Frisco Weekly Newsletter Program
- Voluntary Weather Station Pledge Program
- Top Residential and Commercial User Programs
- Waterwise Car Wash Program
- Water upon Request Program for Restaurants.

The Comprehensive Zoning Ordinance of the City of Frisco also addresses water conservation. Article IV, Section 2 of the Comprehensive Zoning Ordinance (ZA6-0005) provides landscape requirements for new commercial development regarding landscape design standards, required irrigation plans, and approved plant materials focusing on drought tolerant design.

City of Frisco Ordinance No. 17-12-83 (Minimum Standards for Installation of Irrigation Systems), was also adopted to promote water conservation. This adoption was required to enforce HB 1656 in cities with a population of greater than 20,000. Provisions of this ordinance require plan submittal of new irrigation systems, installation inspection, and a final walk-through.

8.6 Requirement for Water Conservation Plans by Wholesale Customers

Every contract for the wholesale sale of water by Member Cities and/or Customers that is entered into, renewed, or extended after the adoption of this water management plan will include a requirement that the wholesale customer and any wholesale customers of that wholesale customer develop and implement a water conservation plan meeting the requirements of Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code. The requirement will also extend to each successive wholesale customer in the resale of the water.

8.7 Coordination with Regional Water Planning Group and NTMWD

The City of Frisco will send a copy of this water management plan, the ordinance adopting the plan, and the water utility profile to the NTMWD and the Chair of the Region C Water Planning Group.

9. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

The Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing water conservation plans and drought contingency plans for public water suppliers as defined in Title 30, Part 1, Chapter 288 of the Texas Administrative Code, and attached hereto as Appendix B.

This section of the Water Management Plan addresses water use from conservation and emergency response perspectives, and meets all TCEQ requirements. The City of Frisco will implement water conservation initiatives and emergency responses related to the ability to operate the water distribution system. The North Texas Municipal Water District will implement drought stages and emergency responses regarding water supply from the reservoirs, and are included in Section 11 of this Plan. The City of Frisco will be solely responsible for the enforcement of this Water Management Plan.

The water conservation initiatives in this section are divided into two separate plans: the annual Water Efficiency Plan and the Emergency Response Plan. The Water Efficiency Plan will be administered and enforced year round to reduce the annual waste of water. The Emergency Response Plan will be administered and enforced only during conditions that jeopardize the ability to deliver an adequate volume and pressure of water to Frisco customers.

The Water Efficiency Plan provides annual recommendations, requirements, and enforcement during Central Standard Time and Daylight Saving Time of each year. This plan is consistent and compatible with the NTMWD goals to achieve necessary water use reduction to promote the efficient use of water.

The City of Frisco owns and operates an evapotranspiration weather station and four automatic rain gauges. Using Texas A&M methodology, the data from this equipment is used to estimate weekly outdoor watering requirements for turf grass common to the North Texas region. This weekly data, available to all residents, is the basis of this annual Water Efficiency Plan's outdoor watering recommendations for the City of Frisco. This information is available on the city website, through a free weekly e-mail subscription service, via text messaging, and over the Frisco "Watering Line" by telephone.

The City of Frisco has established best management practices for outdoor irrigation throughout the year:

- The use of hose-end sprinklers and automatic sprinkler systems for turf grass irrigation is permitted if necessary once per week based on the regular residential trash day location,
- The use of hand-held hoses, soaker hoses, bubbler systems, and drip systems can be used on any day up to two hours per day for turf grass, trees, landscaping, and foundations,

- Only if twice per week watering is necessary based on the City of Frisco weekly watering recommendations from Frisco's weather station, the use of hose-end sprinklers and automatic sprinkler systems is permitted for one additional day per week in addition to the regular watering day as follows:

Regular Watering Day	Additional Watering Day
Monday	Thursday
Tuesday	Saturday
Wednesday	Saturday
Thursday	Sunday
Friday	Tuesday

The recommendations, requirements, and enforcement of the annual Water Efficiency Plan are shown as follows:

CENTRAL STANDARD TIME (Fall and Winter)

Recommendations:

- Turn off automatic sprinkler systems and operate manually.
- Operate system based on weather station weekly recommendations.
- If necessary, outdoor watering is permitted from 10 a.m. to 6 p.m.
- Irrigation controllers should be adjusted for the time change.
- Replace the back-up battery in the irrigation controller.
- The selection and installation of drought tolerant plants is encouraged.
- Schedule a free irrigation check-up annually provided by the city.

Requirements:

- No outdoor watering of impervious surfaces.
- No outdoor watering during precipitation or at temperatures below 40 F.
- No water runoff flowing away from property.
- The use of leaking or damaged irrigation systems is prohibited.
- Over seeding, planting, and watering of cool season grasses is prohibited.

Enforcement:

- Water waste can be reported by using the myFRISCO app, telephone, e-mail, and observed by city employees. Notification of violations can be provided by door-hangers, letters, e-mail, phone calls, etc.
- Violations will be documented by electronic photographs and filed for review annually.
- First-time violations will include a \$50.00 administrative fee included on the next available water bill.
- The \$50.00 administrative fee will be waived or credited after the completion of a free irrigation check-up performed by city staff within 30 days.
- For additional violations, a \$100.00 fee for the second violation and a \$200.00 fee for the third violation will also be included on a water bill, followed by the issuance of a citation for each subsequent violation.

DAYLIGHT SAVING TIME (Spring and Summer)

Recommendations:

- Turn off automatic sprinkler systems and operate manually.
- Operate system based on weather station weekly recommendations.
- Irrigation controllers should be adjusted for the time change.
- Replace the back-up battery in the irrigation controller.
- The selection and installation of drought tolerant plants is encouraged.
- Schedule a free irrigation check-up annually provided by the city.

Requirements:

- No outdoor watering from 10 a.m. to 6 p.m. daily.
- No outdoor watering of impervious surfaces.
- No outdoor watering during precipitation or at temperatures below 40° F.
- No water runoff flowing away from property.
- The use of leaking or damaged irrigation systems is prohibited.
- Over seeding, planting, and watering of cool season grasses is prohibited.

Enforcement:

- Water waste can be reported by using the myFRISCO app, telephone, e-mail, and observed by city employees. Notification of violations can be provided by door-door-hangers, letters, e-mail, phone calls, etc.
- Violations will be documented by electronic photographs and filed for review annually.
- First-time violations will include a \$50.00 administrative fee included on the next available water bill.
- The \$50.00 administrative fee will be waived or credited after the completion of a free irrigation check-up performed by city staff within 30 days.
- For additional violations, a \$100.00 fee for the second violation and a \$200.00 fee for the third violation will also be included on a water bill, followed by the issuance of a citation for each subsequent violation.

Additional Permitted Uses:

- With city approval, landscape associated with new construction and/or erosion control may be watered as necessary up to 30 days (other requirements still apply) from the date of installation, certificate of occupancy, temporary certificate of occupancy, or certificate of completion. A free irrigation check-up performed by city staff is required at the end of the 30-day exemption period.
- As determined by the City of Frisco, turf grass/playgrounds/athletic fields may be watered twice per week in consideration of public safety.
- Locations using non-potable water sources such as well water or reclaimed water for irrigation purposes should use water efficiently and may irrigate without watering day restrictions. Registration of wells with the North Texas Groundwater Conservation District is required. Use of all non-potable water that adversely affects public safety is prohibited. All reclaimed water use customers must follow the assigned watering schedule.
- City-registered and properly functioning weather-based irrigation systems may irrigate turf grass without watering day restrictions, but must be consistent with weekly watering recommendations.
- Washing or rinsing of vehicles by hose is permitted with a hose end shut-off nozzle.
- Existing swimming pools may be drained and refilled for maintenance. Pools must be drained to the sanitary sewer system for all maintenance. Water may be added to maintain pool levels.

- Hydro-seeding, hydro mulching, and sprigging is permitted.
- The operation of all ornamental fountains is permitted. We recommend conversion to a City of Frisco reuse agreement to avoid restrictions during drought.
- Normal water use is permitted for all businesses including swimming pool construction, commercial car washes, pressure-washing, water injection processes, nurseries, etc.
- The use of public and private recreational water devices is permitted. However, watering flowing away propely is prohibited.
- All permitted uses prohibit using water in such a manner that creates any type of water waste or flow away from property.

EMERGENCY RESPONSE PLAN

The Emergency Response Plan may be implemented at any time by the City Manager or the official designee when the City of Frisco determines that an adequate volume of water at adequate pressure can not be continuously provided for normal water demands. This plan is designed primarily for use during mechanical or electrical failures, system repairs, excessive water use, or for other critical issues.

The following actions will be taken when the Emergency Response Plan is initiated:

- The public will be notified through local media, reverse 911, and/or the City of Frisco website.
- Wholesale customers (if any) will be notified by e-mail with a follow-up letter or fax that provides details of the reasons for initiation of the Emergency Response Plan.
- If any provisions of the Emergency Response Plan are activated or terminated, the City of Frisco will notify the Executive Director of the TCEQ and the Executive Director of the NTMWD within 5 business days.

This plan is defined by two levels of service. Service Level I can be initiated in the event that the City of Frisco water distribution system has been limited up to 75 percent of maximum capacity for an indefinite period of time or when water demands require maximum pumping capacity for more than eight hours. Service Level II can be initiated immediately when the delivery capacity of the water system is reduced to 50 percent or less.

The following restrictions are mandatory during **Emergency Service Level I** conditions:

- No outdoor watering from 10 am to 6 pm daily during Daylight Saving Time.
- A maximum of once per week outdoor watering based on the residential trash day location.

- City-registered and properly functioning weather-based irrigation systems may irrigate without watering day restrictions, but not more than once per week.
- Landscaping associated with new construction and/or erosion control may be watered as necessary up to 30 days from the time of installation. A city exemption is required.
- No outdoor watering of impervious surfaces.
- No outdoor watering during precipitation or at temperatures below 40° F.
- No water runoff flowing away from property.
- Prohibit hosing of paved areas, buildings, or windows. (Commercial pressure washing is allowed.)
- Prohibit operation of all non-residential ornamental fountains or other amenity impoundments to the extent they use treated water.
- Prohibit washing or rinsing of vehicles by hose except with a hose end shut-off nozzle.
- Prohibit using water in such a manner as to allow runoff or other waste.
- Foundations, turf grass, landscaping, and trees may be watered for up to two hours on any day by a hand-held hose, a soaker hose, or a dedicated zone using a drip or bubbler irrigation system.
- Areas approved by the city that affect public safety may be watered twice per week.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Prohibit hydro seeding, hydromulching, and sprigging.
- Prohibit the planting of cool season grasses (such as rye grass or other similar grasses), except for erosion protection and public use areas related to public safety.
- Existing swimming pools may be drained and refilled for maintenance. Pools must be drained to the sanitary sewer system for all maintenance. Water may be added to maintain pool levels.
- Prohibit the operation of all spray water parks.
- Prohibit watering of golf courses using treated water, except as needed for greens and tee boxes.
- Prohibit the procurement of water from fire hydrants from the City of Frisco water system that will be used outside the corporate city limits of the City of Frisco.

- Locations using non-potable water sources such as well water or reclaimed water for irrigation purposes should use water efficiently and may irrigate without watering day restrictions. Use of all non-potable water that adversely affects public safety is prohibited.
- All reclaimed water use customers must follow the assigned watering schedule.

Enforcement:

- Water waste can be reported by using myFRISCO app, telephone, e-mail, and observed by city employees.
- Violations will be documented by electronic photographs and filed for review annually.
- For first-time violations, the sprinkler system will be disconnected and identified with a RED yard sign, with a \$50.00 administrative fee included on the next available water bill.
- The \$50.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system within 30 days.
- For additional violations, the sprinkler system will be disconnected and identified with a RED yard sign, with a \$100.00 fee for the second violation, and a \$200.00 fee for the third violation, added to the next available water bill. Additional violations will include the issuance of citations.
- The red yard sign can only be removed by City personnel.

The following restrictions are mandatory during **Emergency Service Level II** conditions:

- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Prohibit washing of vehicles except as necessary for health, sanitation, or safety reasons.
- Prohibit all landscape watering, except soaker hoses, drip/bubbler systems, or hand-held hoses may be used to water landscaping, turf grass, and trees up to two hours per day, or foundations as necessary, and the minimum necessary watering to maintain public safety at parks and athletic fields. Weather-based irrigation systems are not exempt from this requirement.
- Prohibit golf course watering with treated water except for greens and tee boxes.
- Prohibit all other non-essential outdoor water use.

- Prohibit the permitting of private pools. Pools already permitted may be completed and filled with water. Existing private and public pools may add water to maintain pool levels but may not be drained and refilled unless maintenance is required.
- Prohibit all underground construction and trenching in the vicinity of the City of Frisco water system and water use related to any construction activity.
- Prohibit all procurement of water from Frisco fire hydrants except for emergencies.
- Require all commercial water users to reduce water use by a percentage established by the City Manager, or the official designee.
- Locations using other water sources such as well water or reclaimed water for irrigation may irrigate as previously permitted.

Enforcement:

- Water waste can be reported by using the myFRISCO app, telephone, e-mail, and observed by city employees.
- Violations will be documented by electronic photographs and filed for review annually.
- For first-time violations, the sprinkler system will be disconnected and identified with a RED yard sign, with a \$50.00 administrative fee included on the next available water bill.
- The \$50.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system within 30 days.
- For additional violations, the sprinkler system will be disconnected and identified with a RED yard sign, with a \$100.00 fee for the second violation, a \$200.00 fee for the third violation, added to the next available water bill. Additional violations will include the issuance of citations.
- The red yard sign can only be removed by City personnel.

The City of Frisco maintains the right, at any violation level, to disconnect irrigation systems and/or total water services to a customer with applicable fees and citations. Any City of Frisco employee, as designated by the Director of Public Works, may implement any provision of the enforcement process of this Water Management Plan.

The City Manager or the official designee may grant variances for existing water uses otherwise prohibited under the Water Efficiency Plan and Emergency Response Plan if one or more of the following conditions are met:

- Failure to grant such a variance would cause an emergency condition adversely affecting health, sanitation, or fire safety for the public or the person or entity requesting the variance; or
- Compliance with this plan cannot be accomplished due to technical or other limitations; or
- Alternative methods that achieve the same level of reduction in water use can be implemented.

Variances shall be granted or denied at the discretion of the City Manager or official designee. All petitions for variances should be in writing and should include the following information:

- Name and address of the petitioners
- Purpose of water use
- Specific provisions from which relief is requested
- Detailed statement of the adverse effect of the provision from which relief is requested
- Description of the relief requested
- Period of time for which the variance is sought
- Alternative measures that will be taken to reduce water use
- Other pertinent information.

The Water Management Plan Ordinance adopts and authorizes the implementation and enforcement of this plan including the designation of responsible officials as previously mentioned to implement and enforce the Water Management Plan. In addition, City of Frisco Ordinance No. 05-05-41 provides for offenses pertaining to illegal water connections, theft of water, and penalties for violations.

10. REVIEW AND UPDATE OF WATER MANAGEMENT PLAN

TCEQ requires that water conservation plans be updated prior to May 1, 2019. The plans are required to be updated every five years thereafter. The plan will be updated as required and as appropriate based on new or updated information.

11. DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN

11.1 Introduction

The purpose of this drought contingency and water emergency response plan is as follows:

- To conserve the available water supply in times of drought and emergency.
- To maintain supplies for domestic water use, sanitation, and fire protection.
- To protect and preserve public health, welfare, and safety.
- To minimize the adverse impacts of water supply shortages.
- To minimize the adverse impacts of emergency water supply conditions.

The NTMWD supplies treated water to its Member Cities and Customers. This section was developed by NTMWD in consultation with its Member Cities. In order to adopt this plan, each NTMWD Member City and Customer will need to adopt ordinance(s) or regulation(s) implementing the plan, including the determination of fines and enforcement procedures. The plan calls for Member Cities and Customers to adopt drought stages initiated by NTMWD during a drought or water supply emergency.

A drought is defined as an extended period of time when an area receives insufficient amounts of rainfall to replenish the water supply, causing water supply sources, in this case reservoirs, to be depleted. In the absence of drought response measures, water demands tend to increase during a drought due to the need for additional outdoor irrigation. The severity of a drought depends on the degree of depletion of supplies and on the relationship of demand to available supplies. The NTMWD considers a drought to end when all of its supply reservoirs refill to the conservation storage pool.

11.2 State Requirements for Drought Contingency and Water Emergency Response Plans

This drought contingency and water emergency response plan is consistent with Texas Commission on Environmental Quality guidelines and requirements for the development of drought contingency plans for public water suppliers, contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.20 of the Texas Administrative Code. This rule is contained in Appendix B.

Minimum Requirements

TCEQ's minimum requirements for drought contingency plans are addressed in the following subsections of this report:

- 288.20(a)(1)(A) - Provisions to Inform the Public and Provide Opportunity for Public Input - Section 11.3
- 288.20(a)(1)(B) - Provisions for Continuing Public Education and Information - Section 11.4
- 288.20(a)(1)(C) - Coordination with the Regional Water Planning Group - Section 11.9
- 288.20(a)(1)(D) - Criteria for Initiation and Termination of Drought Stages - Section 11.5
- 288.20(a)(1)(E) - Drought and Emergency Response Stages - Section 11.6
- 288.20(a)(1)(F) - Specific, Quantified Targets for Water Use Reductions - Section 11.6
- 288.20(a)(1)(G) - Water Supply and Demand Management Measures for Each Stage - Section 11.6
- 288.20(a)(1)(H) - Procedures for Initiation and Termination of Drought Stages - Section 11.5
- 288.20(a)(1)(I) - Procedures for Granting Variances - Section 11.7
- 288.20(a)(1)(J) - Procedures for Enforcement of Mandatory Restrictions - Section 11.8
- 288.20(a)(3) - Consultation with Wholesale Supplier - Sections 1, 11.1, 11.5, and 11.6
- 288.20(b) - Notification of Implementation of Mandatory Measures - Section 11.5
- 288.20(c) - Review and Update of Plan - Section 11.10

11.3 Provisions to Inform the Public and Opportunity for Public Input

The City of Frisco will provide opportunity for public input in the development of this drought contingency and water emergency response plan by the following means:

- Providing written notice of the proposed plan and the opportunity to comment on the plan by newspaper, posted notice, and notice on the supplier's web site (if available).
- Making the draft plan available on the supplier's web site (if available).
- Providing the draft plan to anyone requesting a copy.
- Holding a public meeting.

11.4 Provisions for Continuing Public Education and Information

The City of Frisco will inform and educate the public about the drought contingency and water emergency response plan by the following means:

- Preparing a bulletin describing the plan and making it available at city hall and other appropriate locations.
- Making the plan available to the public through the supplier's web site (if available).
- Including information about the drought contingency and water emergency response plan on the supplier's web site (if available).
- Notifying local organizations, schools, and civic groups that staff are available to make presentations on the drought contingency and water emergency response section of the Water Management Plan (usually in conjunction with presentations on water conservation programs).

At any time that the drought contingency and water emergency response plan is activated or the drought stage or water emergency response stage changes, the City of Frisco will notify local media of the issues, the drought response stage or water emergency response stage (if applicable), and the specific actions required of the public. The information will also be publicized on the supplier's web site (if available). Notifications with the utility billing will also be used as appropriate.

11.5 Initiation and Termination of Drought or Water Emergency Response Stages

Initiation of a Drought or Water Emergency Response Stage

The City Manager or the official designee may order the implementation of a drought or water emergency response stage when one or more of the trigger conditions for that stage is met. The following actions will be taken when a drought or water emergency response stage is initiated:

- The public will be notified through local media and the City of Frisco web site (if available)
- Wholesale customers (if any) and the NTMWD will be notified by e-mail with a follow-up letter or fax that provides details of the reasons for initiation of the drought/water emergency response stage.
- If any mandatory provisions of the drought contingency and water emergency response plan are activated, the City of Frisco will notify the Executive Director of the TCEQ and the Executive Director of the NTMWD within 5 business days.

Drought contingency/water emergency response stages imposed by NTMWD action must be initiated by Member Cities and Customers. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, the anticipation of replenished water supplies, or the anticipation that additional facilities will become available to meet needs. The reason for this decision should be documented.

Termination of a Drought/Water Emergency Response Stage

The City Manager or the official designee may order the termination of a drought or water emergency response stage when the conditions for termination are met or at their discretion. The following actions will be taken when a drought or emergency response stage is terminated:

- The public will be notified through local media and the City of Frisco web site (if available).
- Wholesale customers (if any) and the NTMWD will be notified by e-mail with a follow-up letter or fax.
- If any mandatory provisions of the drought contingency and water emergency response plan that have been activated are terminated, the City of Frisco will notify the Executive Director of the TCEQ and the Executive Director of the NTMWD within 5 business days.

The City Manager or the official designee may decide not to order the termination of a drought or water emergency response stage even though the conditions for termination of the stage are met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, or the anticipation of potential changed conditions that warrant the continuation of the drought stage. The reason for this decision should be documented.

11.6 Drought Contingency and Water Emergency Response Stages and Measures

Stage 1

Initiation and Termination Conditions for Stage 1

The NTMWD has initiated Stage 1, which may be initiated due to one or more of the following:

- o The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1.
- o Water demand is projected to approach the limit of the permitted supply.
- o The storage in Lavon Lake is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March.
- o The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought.
- o NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD source may be limited in availability in the next six (6) months.
- o NTMWD water demand exceeds 95 percent of the amount that can be delivered to customers for three (3) consecutive days.
- o NTMWD water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.
- o NTMWD supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause.
- o NTMWD water supply system is unable to deliver water due to the failure or damage of major water system components.
- o NTMWD system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted.

Stage 1 may terminate when:

- NTMWD terminates its Stage 1 condition or when the circumstances that caused the initiation of Stage 1 no longer prevail.
- The storage level in Lavon Lake, is greater than 75 percent of the total conservation pool capacity during any of the months of April through October or greater than 65 percent of the total conservation pool capacity during any of the months of November through March.

Goal for Use Reduction and Actions Available under Stage 1

The goal for water use reduction under Stage 1 is a two percent (2%) reduction in the amount of water produced by NTMWD from the previous annual payment period prior to drought restrictions. If circumstances warrant or if required by the NTMWD; the City Manager or official designee can set a goal for greater or lesser water use reduction. Best Management Practices available in the Water Efficiency Plan will meet or exceed the requirements during a NTMWD Stage 1 condition. The City Manager or the official designee may order the implementation of any of the actions listed as deemed necessary. Measures described as "requires notification to TCEQ" impose mandatory requirements on customers. The City of Frisco must notify TCEQ and NTMWD within five (5) business days if these measures are implemented:

- Continue Best Management Practices in the Water Efficiency Plan.
 - Notify wholesale customers of actions being taken and request them to implement similar procedures.
 - Initiate engineering studies to evaluate alternatives should conditions worsen.
 - Further accelerate public education efforts on ways to reduce water use.
 - **Requires Notification to TCEQ** - Initiate mandatory or continue water use restrictions as follows:
 - o Prohibit hosing of paved areas, buildings, or windows. (Pressure washing of impervious surfaces for public health and safety issues is allowed.)
 - o Prohibit operation of all non-residential ornamental fountains or other amenity impoundments to the extent they use treated water.
 - o Prohibit washing or rinsing of vehicles by hose except with a hose end cutoff nozzle.
 - o Prohibit using water in such a manner as to allow runoff or other waste.
 - **Requires Notification to TCEQ** - Prohibit landscape and lawn irrigation from 10 AM to 6 PM during Daylight Saving Time of each year.
 - **Requires Notification to TCEQ** - Prohibit watering of cool season grasses (such as rye grass or other similar grasses) that intensify water requirements except for erosion control and public safety.
 - **Requires Notification to TCEQ** Limit landscape watering with sprinklers or irrigation systems to no more than one day per week. An additional watering day per week will only be permitted, if necessary, based on the City of Frisco weather station data. An exception is allowed for landscape associated with new construction and may be watered as necessary for 30 days from the date of installation. An exemption is also allowed for registered and properly functioning irrigation systems and drip irrigation systems, which do not have restrictions for specific days of the week for operation but limited to no more than twice per week.
-

Require all City of Frisco water users to comply with the following one-day per week water use schedule based on location within the residential trash collection zones for automatic and hose-end sprinkler systems during daylight savings time:

Regular Watering Day

Monday

Tuesday

Wednesday

Thursday

Friday

Additional Watering Day

(if recommended by Frisco's weather station)

Thursday

Saturday

Saturday

Sunday

Tuesday

- o Require all City of Frisco water users to comply with the following Best Management Practices during Central Standard Time of each year:
 - o Use soaker hoses to maintain foundation moisture on any day; and
 - o Irrigate landscaping by hand using hand-held hoses on any day; and
 - o Operate sprinkler system a maximum of once each week if necessary based on regular watering day schedule.
- o Allow soaker hoses for foundation moisture, drip/bubbler systems, and hand-watering at any time.
- o Restrict non-essential city government water use. (Examples include street cleaning, vehicle washing, operation of ornamental fountains, etc.)
- o Additions and modifications to existing landscapes requiring the use of an automatic sprinkler system must submit and be approved for a watering schedule exemption. A free irrigation check-up performed by the City of Frisco is required at the end of the 30-day exemption period.
- o Initiate a rate surcharge of up to 100% for all residential and irrigation customers over 25,000 gallons per billing cycle or the surcharge provided by the NTMWD, subject to council approval.
- o Allow normal water use for all businesses including swimming pool construction and maintenance, commercial car washes, nurseries, etc.

Stage 2

Initiation and Termination Conditions for Stage 2

- The NTMWD has initiated Stage 2, which may be initiated due to one or more of the following:
 - o The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2.
 - o Water demand is projected to approach or exceed the limit of the permitted supply.
 - o The storage in Lavon Lake is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March.
 - o The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are similar to those under NTMWD's Stage 2 drought.
 - o The supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD source has become limited in availability in the next three (3) months.
 - o NTMWD water demand exceeds 98 percent of the amount that can be delivered to customers for three (3) consecutive days.
 - o NTMWD water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate.
 - o NTMWD's supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause.
 - o NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components.
 - o NTMWD system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted.

Stage 2 may terminate when:

- NTMWD terminates its Stage 2 condition or when the circumstances that caused the initiation of Stage 2 no longer prevail.
- The storage level in Lavon Lake is greater than 70 percent of the total conservation pool capacity during any of the months of April through October or greater than 60 percent of the total conservation pool capacity during any of the months of November through March.

Goals for Use Reduction and Actions Available under Stage 2

The goal for water use reduction under Stage 2 is a reduction of ten percent (10%) in the amount of water obtained from NTMWD, from the previous annual payment period prior to drought restrictions. If circumstances warrant or if required by NTMWD, the City Manager, or the official designee can set a goal for a greater or lesser water use reduction.

The City Manager or the official designee may order the implementation of any of the actions listed below, as deemed necessary. Measures described as "requires notification to TCEQ" impose mandatory requirements on customers. The City of Frisco will notify the TCEQ and NTMWD within five business days if these measures are implemented:

- Continue or initiate any actions available under Stage 1.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Implement viable alternative water supply strategies.
- **Requires Notification to TCEQ** - Initiate mandatory water use restrictions as follows:
 - Prohibit hosing of paved areas, buildings, or windows. (Pressure washing of impervious surfaces for public health and safety issues is allowed.)
 - Prohibit operation of all ornamental fountains or other amenity impoundments to the extent they use treated water.
 - Prohibit washing or rinsing of vehicles by hose except with a hose end cutoff nozzle.
 - Prohibit using water in such a manner as to allow runoff or other waste.

- **Requires Notification to TCEQ** - Limit landscape watering at each service address to once every seven days based on location within the residential trash collection zones. See Exhibit B, Weekly Watering Day Location Map. Exceptions are as follows:
 - o Foundations, new landscaping, new plantings (first year) of shrubs, and trees may be watered for up to 2 hours on any day by a hand-held hose, a soaker hose, or a dedicated zone using a drip/bubbler irrigation system.
 - o Landscape associated with new construction may be watered as necessary for 30 days from the date of installation.
 - o Areas associated with public safety as determined by the City of Frisco may be watered twice per week.
 - o Locations using other water sources such as well water, water reuse, or reclaimed water for irrigation may irrigate without watering day restrictions.
 - o Registered and properly functioning irrigation systems may irrigate without watering day restrictions, but not more than once per week.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- If NTMWD has imposed a reduction in water available to member cities and customers, impose the same percent reduction on wholesale customers.
- Requires Notification to TCEQ - Prohibit hydro seeding, hydromulching, over-seeding, and sprigging.
- Requires Notification to TCEQ - Existing swimming pools may not be drained and refilled (except for structural or chemical maintenance). Pools must be drained to the sanitary sewer system for approved maintenance.
- Requires Notification to TCEQ - Prohibit the operation of all spray water parks.
- Requires Notification to TCEQ - If NTMWD has imposed a reduction in water available to Member Cities and Customers, impose the same percent reduction on wholesale customers.
- Requires Notification to TCEQ - Prohibit watering of golf courses using treated water, except as needed to keep greens and tee boxes alive.
- Requires Notification to TCEQ-Prohibit the procurement of water from fire hydrants from the City of Frisco water system that will be used outside the corporate city limits of the City of Frisco.

Stage 3

Initiation and Termination Conditions for Stage 3

The NTMWD has initiated Stage 3, which may be initiated due to one or more of the following:

- o The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3.
- o Water demand is projected to approach or exceed the limit of the permitted supply.
- o The storage in Lavon Lake is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March.
- o The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a severe drought.
- o The supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD source has become severely limited in availability.
- o NTMWD water demand exceeds the amount that can be delivered to customers.
- o NTMWD water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate.
- o NTMWD's supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.
- o NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components.
- o NTMWD has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted.

Stage 3 may terminate its Stage 3 condition when:

- NTMWD terminates its Stage 3 condition or when the circumstances that caused the initiation of Stage 3 no longer prevail.
- The storage level in Lavon Lake is greater than is greater than 55 percent of the total conservation pool capacity during any of the months of April through October or greater than 45 percent of the total conservation pool capacity during any of the months of November through March.

Goals for Use Reduction and Actions Available under Stage 3

The goal for water use reduction under Stage 3 is a reduction of whatever amount is necessary in the amount of water obtained from NTMWD from the previous annual payment period prior to drought restrictions. If circumstances warrant or if required by NTMWD, the City Manager or the official designee can set a goal for a greater or lesser water use reduction.

The City Manager or the official designee may order the implementation of any of the actions listed below, as deemed necessary. Measures described as "requires notification to TCEQ" impose mandatory requirements on member cities and customers. The City of Frisco will notify TCEQ and NTMWD within five business days if these measures are implemented.

- Continue or initiate any actions available under Stages I and 2.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Implement viable alternative water supply strategies.
- **Requires Notification to TCEQ-** Prohibit the use of potable water for the irrigation of new landscaping.
- **Requires Notification to TCEQ -** Prohibit washing of vehicles except as necessary for health, sanitation, or safety reasons.
- **Requires Notification to TCEQ -** Prohibit all landscape watering, except that soaker hoses, drip/bubbler systems, or hand-held hoses may be used to water trees up to two hours per week or foundations as necessary, and the minimum necessary watering to maintain public safety at parks and athletic fields. Registered and properly functioning irrigation systems are not exempt from this requirement.
- **Requires Notification to TCEQ -** Prohibit golf course watering with treated water except for greens and tee boxes.
- **Requires Notification to TCEQ** Prohibit the permitting of private pools. Pools already permitted may be completed and filled with water. Existing private and public pools may add water to maintain pool levels but may not be drained and refilled.
- **Requires Notification to TCEQ -** Prohibit the use of all recreational water devices, both public and private.

- **Requires Notification to TCEQ** - Prohibit all underground construction and trenching in the vicinity of the City of Frisco water system and water use related to any construction activity, as ordered by the City Manager or official designee.
- **Requires Notification to TCEQ** - Require all commercial water users to reduce water use by a percentage established by the City Manager, or the official designee.
- **Requires Notification to TCEQ** – If NTMWD has imposed a reduction in water available to Member Cities and Customers, impose the same percent reduction on wholesale customers.

11.7 Procedures for Granting Variances to the Plan

The City Manager or the official designee may grant variances for existing water uses otherwise prohibited under this drought contingency and water emergency response plan if one or more of the following conditions are met:

- Failure to grant such a variance would cause an emergency condition adversely affecting health, sanitation, or fire safety for the public or the person or entity requesting the variance.
- Compliance with this plan cannot be accomplished due to technical or other limitations.
- Alternative methods that achieve the same level of reduction in water use can be implemented.

Variances shall be granted or denied at the discretion of the City Manager or the official designee. All petitions for variances should be in writing and should include the following information:

- Name and address of the petitioners
- Purpose of water use
- Specific provisions from which relief is requested
- Detailed statement of the adverse effect of the provision from which relief is requested
- Description of the relief requested
- Period of time for which the variance is sought
- Alternative measures that will be taken to reduce water use
- Other pertinent information

11.8 Procedures for Enforcing Mandatory Water Use Restrictions

The procedures for enforcing the mandatory water use restrictions for drought contingency or a NTMWD emergency response are as follows:

Stage 1:

- Violations can be reported by using myFRISCO app, telephone, e-mail, and observed by City employees.
- Violations will be documented by electronic photographs and filed for review.
- First-time violations will have the sprinkler system disconnected with a RED yard sign displayed and a \$100.00 administrative fee included on the next available water bill.
- The \$100.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system.
- For additional violations, the sprinkler system will be disconnected with a RED yard sign displayed, a \$200.00 fee for the second violation, a \$300.00 fee for the third violation and the issuance of a citation, beginning with the fourth violation.

Stage 2:

- Violations can be reported by using the myFRISCO app, telephone, e-mail, and observed by City employees.
- Violations will be documented by electronic photographs and filed for review.
- First-time violations will have the sprinkler system disconnected with a RED yard sign displayed and a \$100.00 administrative fee included on the next available water bill.
- The \$100.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system.
- For additional violations, the sprinkler system will be disconnected with a RED yard sign displayed, a \$200.00 fee for the second violation, a \$300.00 fee for the third violation and the issuance of a citation, beginning with the fourth violation.

Stage 3:

- Violations can be reported by using the myFRISCO app, telephone, e-mail, and observed by City employees.
- Violations will be documented by electronic photographs and filed for review.
- For first-time violations, the sprinkler system will be disconnected with a RED yard sign displayed and a \$100.00 administrative fee included on the next available water bill.
- The \$100.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system.
- For additional violations, the sprinkler system will be disconnected with a RED yard sign displayed, a \$200.00 fee for the second violation, a \$300.00 fee for the third violation and the issuance of a citation, beginning with the fourth violation.

The City of Frisco maintains the right, at any violation level to disconnect irrigation systems and/or total water services to a customer for public safety issues (includes icing and traffic hazards) with reconnection fees and possible monetary penalties. Any City of Frisco employee, as designated by the Director of Public Works, may implement any provision of the enforcement process of this Water Management Plan.

11.9 Coordination with the Regional Water Planning Groups

The City of Frisco will send a copy of the ordinance or other regulation(s) implementing this plan to NTMWD and the chair of the Region C planning group.

11.10 Review and Update of Drought Contingency and Water Emergency Response Plan

As required by TCEQ rules, the City of Frisco must review this plan every five years. The plan will be updated as appropriate based on new or updated information.

EXHIBIT B

City of Frisco

Weekly Watering Schedule Map

April 2019



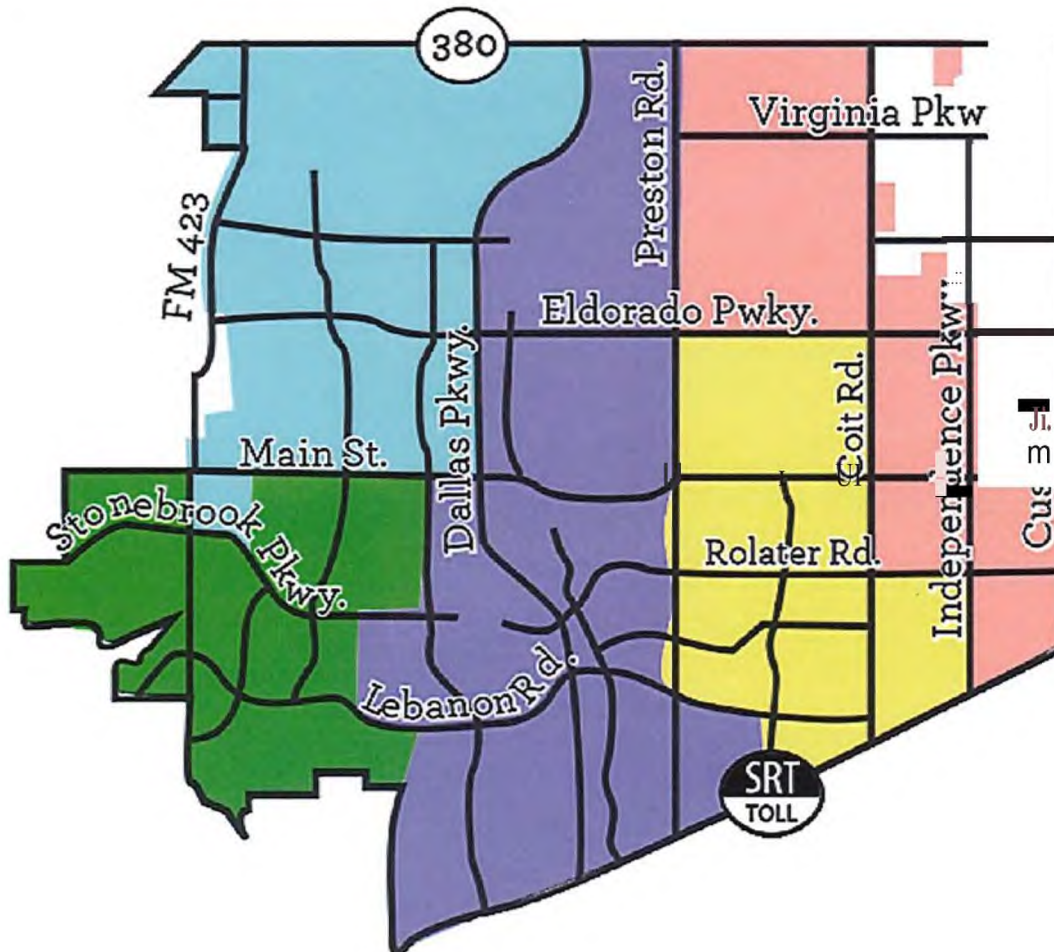
Regular Watering Day

	Monday
	Tuesday
	Wednesday
	Thursday
	Friday

Additional Day*

Thursday
Saturday
Saturday
Sunday
Tuesday

* Additional day permitted only when recommended by the City's weather station.



Appendix A

List of References

- (1) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter B, Rules 288.20 and 288.22, downloaded from [http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tacview=4&ti=30&pt=1&ch=288](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tacview=4&ti=30&pt=1&ch=288), July 2018.
- (2) Water Conservation Implementation Task Force: "Texas Water Development Board Report 362, Water Conservation Best Management Practices Guide," prepared for the Texas Water Development Board, Austin, November 2004.
- (3) Freese and Nichols, Inc.: *North Texas Municipal Water District Water Conservation and Drought Contingency/Water Emergency Response Plan*, prepared for the North Texas Municipal Water District, Fort Worth, February 2019.
- (4) Texas Water Development Board, Water Data for Texas, Lavon Lake, <https://waterdatafortexas.org/reservoirs/individual/lavon>.

The following conservation and drought contingency plans and related documents were reviewed in the development of this plan. References marked with a* were used heavily in the development of this plan.

- (5) Edward Motley, Marisa Vergara, Tom Gooch, and Stephanie Griffin: Memorandum to File on "Region C Municipal Water Use Projections Adopted on August 18, 2003," Fort Worth, August 21, 2003.
- (6) City of Austin Water Conservation Division: "City of Austin Water Drought Contingency Plan, Developed to Meet Senate Bill 1 Regulatory Requirements," Austin, August 1999.
- (7) City of Austin Water Conservation Division: "City of Austin Water Conservation Plan, Developed to Meet Senate Bill 1 Regulatory Requirements," Austin, August 1999.
- (8) Upper Trinity Regional Water District: "Water Conservation Plan and Emergency Water Demand Management Plan," adopted by the Board of Directors, Lewisville, August 5, 1999.
- (9) Upper Trinity Regional Water District: "Water Conservation Plan and Emergency Water Demand Management Plan (2002 Amended)," adopted by the Board of Directors, Lewisville, February 2002.
- (10) *City of Dallas Water Utilities Department: "City of Dallas Water Management Plan," adopted by the City Council, Dallas, September 1999.
- (11) Updates to City of Dallas Water Management Plan found at <http://www.dallascityhall.com> in September 2003.
- (12) *City of Dallas Water Utilities Department: "City of Dallas Water Conservation Plan," adopted by the City Council, Dallas, September 1999.
- (13) *City of Fort Worth: "Water Conservation plan for the City of Fort Worth," Fort Worth, August 1999.

- (14) Updates to the City of Fort Worth water conservation plan found at [http:// ci./fort-worth.tx.us](http://ci.fort-worth.tx.us) in September 2003.
- (15) *City of Fort Worth: "Emergency Water Management Plan for the City of Fort Worth," Fort Worth, August 19, 2003.
- (16) HDR Engineering, Inc.: "Water Conservation and Emergency Demand Management Plan," prepared for the Tarrant Regional Water District, Austin, February 2000.
- (17) Freese and Nichols, Inc.: "Water Conservation and Drought Contingency Plan," prepared for Brown County Water Improvement District No. 1, Fort Worth, August 1999.
- (18) Freese and Nichols, Inc.: "Water Conservation and Drought Contingency Plan," prepared for the Sabine River Authority of Texas, Fort Worth, September 1994.
- (19) HDR Engineering, Inc.: "Water Conservation and Emergency Demand Management Plan," prepared for the Tarrant Regional Water District, Austin, June 1998.
- (20) HDR Engineering, Inc.: "Water Conservation Plan for the City of Corpus Christi," adopted by the City of Corpus Christi City Council, August 24, 1999.
- (21) City of Houston's water conservation plan downloaded September 2003 from <http://www.cityofhouston.gov>
- (22) City of Houston: "Ordinance N. 2001-753, Amending Chapter 47 of the Code of Ordinances Relating to Water Emergencies," Houston, August 2001.
- (23) City of Houston: "Ordinance No. 98-764, Relating to Water Conservation," Houston, September 1998.
- (24) City of Houston: "Water Conservation Plan," 1998.
- (25) City of Houston: "Water Emergency Response Plan," Houston, July 15, 1998.
- (26) City of Lubbock: "Water Conservation Plan," ordinance number 10177 adopted by the City Council in August 1999.
- (27) City of El Paso Water Conservation Ordinance downloaded August 14, 2003 from <http://www.epwu.org/ordinance.html>
- (28) San Antonio Water System: "Water Conservation and Reuse Plan," San Antonio, November 1998 with June 2002 updates.
- (29) North Texas Municipal Water District: "District Policy No. 24 Water Conservation Plan Containing Drought Contingency Plan," adopted August 1999.
- (30) GDS Associates, Inc.: "Water Conservation Study," prepared for the Texas Water Development Board, Fort Worth, 2002.
- (31) A & N Technical Services, Inc.: "BMP Costs & Savings Study: A Guide to Data and Methods for Cost-Effectiveness Analysis of Urban Water Conservation Best Management Practices," prepared for The California Urban Water Conservation Council, Santa Monica, California, July 2000.
- (32) *City of Dallas: "City of Dallas Ordinances, Chapter 49, Section 21.1," Dallas, October 1, 2001.

APPENDIX B
**Texas Commission on Environmental Quality Rules on Municipal Water
Conservation and Drought Contingency Plans**

	Texas Administrative Code
<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER A</u>	WATER CONSERVATION PLANS
RULE §288.1	Definitions

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

- (1) Agricultural or Agriculture--Any of the following activities:
 - (A) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;
 - (B) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media by a nursery grower;
 - (C) raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;
 - (D) raising or keeping equine animals;
 - (E) wildlife management; and
 - (F) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure.
- (2) Agricultural use--Any use or activity involving agriculture, including irrigation.
- (3) Conservation--Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.
- (4) Drought contingency plan--A strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies. A drought contingency plan may be a separate document identified as such or may be contained within another water management document(s).
- (5) Industrial use--The use of water in processes designed to convert materials of a lower

order of value into forms having greater usability and commercial value, commercial fish production, and the development of power by means other than hydroelectric, but does not include agricultural use.

- (6) Irrigation--The agricultural use of water for the irrigation of crops, trees, and pastureland, including, but not limited to, golf courses and parks which do not receive water through a municipal distribution system.
- (7) Irrigation water use efficiency--The percentage of that amount of irrigation water which is beneficially used by agriculture crops or other vegetation relative to the amount of water diverted from the source(s) of supply. Beneficial uses of water for irrigation purposes include, but are not limited to, evapotranspiration needs for vegetative maintenance and growth, salinity management, and leaching requirements associated with irrigation.
- (8) Mining use—The use of water for mining processes including hydraulic use, drilling, washing sand and gravel, and oil field repressuring.
- (9) Municipal per capita water use--The sum total of water diverted into a water supply system for residential, commercial, and public and institutional uses divided by actual population served.
- (10) Municipal use--The use of potable water within or outside a municipality and its environs whether supplied by a person, privately owned utility, political subdivision, or other entity as well as the use of sewage effluent for certain purposes, including the use of treated water for domestic purposes, fighting fires, sprinkling streets, flushing sewers and drains, watering parks and parkways, and recreational purposes, including public and private swimming pools, the use of potable water in industrial and commercial enterprises supplied by a municipal distribution system without special construction to meet its demands, and for the watering of lawns and family gardens.
- (11) Municipal use in gallons per capita per day--The total average daily amount of water diverted or pumped for treatment for potable use by a public water supply system. The calculation is made by dividing the water diverted or pumped for treatment for potable use by population served. Indirect reuse volumes shall be credited against total diversion volumes for the purpose of calculating gallons per capita per day for targets and goals.
- (12) Nursery grower--A person engaged in the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, who grows more than 50% of the products that the person either sells or leases, regardless of the variety sold, leased, or grown. For the purpose of this definition, grow means the actual cultivation or propagation of the product beyond the mere holding or maintaining of the item prior to sale or lease, and typically includes activities associated with the production or multiplying of stock such as the development of new plants from cuttings, grafts, plugs, or seedlings.
- (13) Pollution--The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

- (14) Public water supplier--An individual or entity that supplies water to the public for human consumption.
- (15) Regional water planning group--A group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code, §16.053.
- (16) Retail public water supplier--An individual or entity that for compensation supplies water to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants when that water is not resold to or used by others.
- (17) Reuse--The authorized use for one or more beneficial purposes of use of water that remains unconsumed after the water is used for the original purpose of use and before that water is either disposed of or discharged or otherwise allowed to flow into a watercourse, lake, or other body of state-owned water.
- (18) Water conservation plan -A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document(s).
- (19) Wholesale public water supplier--An individual or entity that for compensation supplies water to another for resale to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants as an incident of that employee service or tenancy when that water is not resold to or used by others, or an individual or entity that conveys water to another individual or entity, but does not own the right to the water which is conveyed, whether or not for a delivery fee.

Source Note: The provisions of this §288.1 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective August 15, 2002, 27 TexReg 7146, amended to be effective October 7, 2004, 29 TexReg 9384.

Texas Administrative Code

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER A</u>	WATER CONSERVATION PLANS
RULE§288.2	Water Conservation Plans for Municipal Uses by Public Water Suppliers

- (a) A water conservation plan for municipal water use by public water suppliers shall provide information in response to the following. If the plan does not provide information for each requirement, the public water supplier shall include in the plan an explanation of why the requirement is not applicable.
- (1) Minimum requirements. All water conservation plans for municipal uses by public drinking water suppliers must include the following elements:
- (A) a utility profile including, but not limited to, information regarding population and customer data, water use data, water supply system data, and wastewater system data;
 - (B) until May 1, 2005, specification of conservation goals including, but not limited to, municipal per capita water use goals, the basis for the development of such goals, and a time frame for achieving the specified goals;
 - (C) beginning May 1, 2005, specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use, in gallons per capita per day. The goals established by a public water supplier under this subparagraph are not enforceable;
 - (D) metering device(s), within an accuracy of plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply;
 - (E) a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement;
 - (F) measures to determine and control unaccounted-for uses of water (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections; abandoned services; etc.);
 - (G) a program of continuing public education and information regarding water conservation;
 - (H) a water rate structure which is not "promotional," i.e., a rate structure which is cost-based and which does not encourage the excessive use of water;
 - (I) a reservoir systems operations plan, if applicable, providing for the

- coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies; and
- (J) a means of implementation and enforcement which shall be evidenced by:
 - (i) a copy of the ordinance, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and
 - (ii) a description of the authority by which the water supplier will implement and enforce the conservation plan; and
 - (K) documentation of coordination with the regional water planning groups for the service area of the public water supplier in order to ensure consistency with the appropriate approved regional water plans.
- (2) Additional content requirements. Water conservation plans for municipal uses by public drinking water suppliers serving a current population of 5,000 or more and/or a projected population of 5,000 or more within the next ten years subsequent to the effective date of the plan must include the following elements:
- (A) 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;
 - (B) 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:
 - (i) residential;
 - (ii) commercial;
 - (iii) public and institutional; and
 - (iv) industrial;
 - (C) a requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in this chapter. If the customer intends to resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.
- (3) Additional conservation strategies. Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements in paragraphs (1) and (2) of this subsection, if they are necessary to achieve the stated water conservation goals of the plan. The commission may require that any of the following strategies be implemented by the water supplier if the commission determines that the strategy is necessary to achieve the goals of the

water conservation plan:

- (A) conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;
 - (B) adoption of ordinances, plumbing codes, and/or rules requiring water-conserving plumbing fixtures to be installed in new structures and existing structures undergoing substantial modification or addition;
 - (C) a program for the replacement or retro-fit of water-conserving plumbing fixtures in existing structures;
 - (D) reuse and/or recycling of wastewater and/or graywater;
 - (E) a program for pressure control and/or reduction in the distribution system and/or for customer connections;
 - (F) a program and/or ordinance(s) for landscape water management;
 - (G) a method for monitoring the effectiveness and efficiency of the water conservation plan; and
 - (H) any other water conservation practice, method, or technique which the water supplier shows to be appropriate for achieving the stated goal or goals of the water conservation plan.
- (b) A water conservation plan prepared in accordance with 31 TAC §363.15 (relating to Required Water Conservation Plan) of the Texas Water Development Board and substantially meeting the requirements of this section and other applicable commission rules may be submitted to meet application requirements in accordance with a memorandum of understanding between the commission and the Texas Water Development Board.
- (c) Beginning May 1, 2005, a public water supplier for municipal use shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The public water supplier for municipal use shall review and update the next revision of its water conservation plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group.

Source Note: The provisions of this §288.2 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384.

Texas Administrative Code

TITLE 30

ENVIRONMENTAL QUALITY

PART I

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CHAPTER 288

WATER CONSERVATION PLANS, DROUGHT
CONTINGENCY PLANS, GUIDELINES AND
REQUIREMENTS

SUBCHAPTER B

DROUGHT CONTINGENCY PLANS

RULE §288.20

**Drought Contingency Plans for Municipal Uses by Public
Water Suppliers**

-
- (a) A drought contingency plan for a retail public water supplier, where applicable, must include the following minimum elements.
- (1) Minimum requirements. Drought contingency plans must include the following minimum elements.
- (A) Preparation of the plan shall include provisions to actively inform the public and affirmatively provide opportunity for public input. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the public and providing written notice to the public concerning the proposed plan and meeting.
- (B) Provisions shall be made for a program of continuing public education and information regarding the drought contingency plan.
- (C) The drought contingency plan must document coordination with the regional water planning groups for the service area of the retail public water supplier to ensure consistency with the appropriate approved regional water plans.
- (D) The drought contingency plan must include a description of the information to be monitored by the water supplier, and specific criteria for the initiation and termination of drought response stages, accompanied by an explanation of the rationale or basis for such triggering criteria.
- (E) The drought contingency plan must include drought or emergency response stages providing for the implementation of measures in response to at least the following situations:
- (i) reduction in available water supply up to a repeat of the drought of record;
 - (ii) water production or distribution system limitations;
 - (iii) supply source contamination; or
 - (iv) system outage due to the failure or damage of major water system components (e.g., pumps).
- (F) The drought contingency plan must include the specific, quantified targets for water use reductions to be achieved during periods of water shortage and

drought. The entity preparing the plan shall establish the targets. The goals established by the entity under this subparagraph are not enforceable.

- (G) The drought contingency plan must include the specific water supply or water demand management measures to be implemented during each stage of the plan including, but not limited to, the following:
 - (i) curtailment of non-essential water uses; and
 - (ii) utilization of alternative water sources and/or alternative delivery mechanisms with the prior approval of the executive director as appropriate (e.g., interconnection with another water system, temporary use of a non-municipal water supply, use of reclaimed water for non-potable purposes, etc.).
 - (H) The drought contingency plan must include the procedures to be followed for the initiation or termination of each drought response stage, including procedures for notification of the public.
 - (I) The drought contingency plan must include procedures for granting variances to the plan.
 - (J) The drought contingency plan must include procedures for the enforcement of any mandatory water use restrictions, including specification of penalties (e.g., fines, water rate surcharges, discontinuation of service) for violations of such restrictions.
- (2) Privately-owned water utilities. Privately-owned water utilities shall prepare a drought contingency plan in accordance with this section and incorporate such plan into their tariff.
- (3) Wholesale water customers. Any water supplier that receives all or a portion of its water supply from another water supplier shall consult with that supplier and shall include in the drought contingency plan appropriate provisions for responding to reductions in that water supply.
- (b) A wholesale or retail water supplier shall notify the executive director within five business days of the implementation of any mandatory provisions of the drought contingency plan.
 - (c) The retail public water supplier shall review and update, as appropriate, the drought contingency plan, at least every five years, based on new or updated information, such as the adoption or revision of the regional water plan.

Source Note: The provisions of this §288.20 adopted to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384.

APPENDIX E

Best Management Practices for Landscape Water Management

A. Purpose

The purpose of these landscape water management practices is to provide a consistent mechanism for preventing the waste of water resources. These practices do not apply to systems on well water, reuse, or reclaimed water except for those items that directly or indirectly result in public safety or health hazards including, but not limited to, the irrigation of driving surfaces and freezing conditions. All water wells must register with the North Texas Groundwater Conservation District.

B. Lawn and Landscape Irrigation Restrictions

1. A person commits an offense if the person irrigates, waters, or knowingly or recklessly causes or allows the irrigation or watering of any lawn or landscape located on any property owned, leased, or managed by the person between 10:00 a.m. and 6:00 p.m. during the Daylight Saving Time period of each year.
2. A person commits an offense at any time during the year if the person knowingly or recklessly irrigates, waters, or causes or allows the irrigation or watering of lawn or landscape located on any property owned, leased, or managed by that person in such a manner that causes:
 - a. over-watering lawn or landscape, such that a constant stream of water overflows from the lawn or landscape onto a street or other drainage area; or
 - b. irrigating lawn or landscape during any form of precipitation. This restriction applies to all forms of irrigation, including automatic sprinkler systems and hose-end sprinklers; or
 - c. irrigating lawn or landscape when the temperature reaches 40° F or below. This restriction applies to all forms of irrigation, including automatic sprinkler systems and hose-end sprinklers; or
 - d. the irrigation of impervious surfaces or other non-irrigated areas.
3. A person commits an offense if the person knowingly or recklessly operates a lawn or irrigation system or device on property that the person owns, leases, or manages that:
 - a. has broken or missing sprinkler head(s); or
 - b. has not been properly maintained to prevent the waste of water.
4. Residential or non-residential systems on well water, reuse, or reclaimed water must display signs provided by the City of Frisco to inform the public of the nature of their irrigation water.

5. All residential water customers that use more than 50,000 gallons in any one billing cycle bi-annually and have an automatic sprinkler system are required to schedule and complete a free irrigation check-up performed by the City of Frisco prior to March 1 of the following year. After March 1, a \$100.00 administrative fee will be charged to each water customer's water bill that does not comply with this requirement. The inspection year for even addresses will be even numbered years and odd numbered years for odd addresses.
6. All non-residential water customers with an automatic sprinkler system are required to have an irrigation system inspection bi-annually, including all zones and controllers, performed by a State of Texas licensed irrigator with city- approved documentation of the inspection and completed repairs provided to the City of Frisco prior to March 1. After March 1, a \$250.00 administrative fee will be charged to each water customer's water bill that does not comply with this requirement. The inspection year for even addresses will be even numbered years and odd numbered years for odd addresses.

C. Rain and Freeze Sensors

1. Any new irrigation system installed on or after June 1, 2005, must be equipped with rain and freeze sensing devices in compliance with state design and installation regulations.
2. A person commits an offense on property owned, leased or managed by the person, if the person:
 - a. knowingly or recklessly installs or allows the installation of new irrigation systems in violation of Subsection C.1; or
 - b. knowingly or recklessly operates or allows the operation of an irrigation system that does not comply with Subsection C.1.
 - c. fails to repair or replace a broken or missing rain/freeze sensor within 30 days.

D. Pressure Regulating Devices

1. Any new irrigation system installed on or after June 1, 2005, must be equipped with one or any combination of the following devices:
 - a. each zone must be equipped with a pressure regulating valve; or
 - b. the entire system must utilize pressure regulating nozzles; or
 - c. the entire system must utilize pressure regulating spray heads and/or rotors.
2. All devices must be in compliance with state design and installation regulations.

E. Irrigation Controllers

1. Any new irrigation system installed on or after November 27, 2006 must be equipped with a programmable controller approved by the city and properly programmed. An irrigation controller shall be capable of the following:
 - a. multiple irrigation programs with at least three (3) start times per program;
 - b. limiting the irrigation frequency to once every seven (7) days and once every fourteen (14) days; and
 - c. water budgeting features
2. The irrigation controller identified for installation must be selected from the current City of Frisco approved list. The list includes weather-based units and soil moisture-based units. The City of Frisco will have final approval upon selection.
3. The City of Frisco reserves the right to add to the list of approved irrigation controllers, temporarily suspend the use of any unit, or permanently remove a unit from use in the City of Frisco.
4. For the current list of approved irrigation controllers check the city website at www.friscotexas.gov/water.
5. Other requirements that are pursuant to Article IV, Section 2 of the Comprehensive Zoning Ordinance (ZA6-0005).
6. Other requirements as contained in City of Frisco Ordinance No. 17-12-83, (Minimum Standards for the Installation of Irrigation Systems.)

F. Modifications

1. In special cases, modifications to the requirements of this Appendix E may be granted by the Director of Public Works or his/her designee, to persons demonstrating extreme hardship or need. Modifications may be granted under the following circumstances:
 - a. the applicant must sign a Compliance Agreement agreeing to irrigate or water the lawn and/or landscape only in the amount and manner permitted by the modification; and
 - b. the modification must not cause an immediate significant reduction to the water supply; and
 - c. the extreme hardship or need requiring the modification must relate to the health, safety, or welfare of the person making the request; and
 - d. the health, safety, and welfare of the public and the person making the request must not be adversely affected by the requested modification.

2. An approved modification will be revoked by the Director of Public Works, or his/her designee, upon a finding that:
 - a. the applicant can no longer demonstrate extreme hardship or need; or
 - b. the terms of the Compliance Agreement are violated; or
 - c. the health, safety, or welfare of the public or other persons requires revocation.

APPENDIX F

Rebates and Other Water Use Efficiency Programs

A. Purpose

The purpose of these programs is to provide an incentive mechanism for promoting water use efficiency through rebates and for increasing water awareness by daily exposure to water conservation initiatives.

B. Rebate Programs (Current and Future)

1. Irrigation Controller;
 - a. Any existing irrigation system installed prior to November 27, 2006 may be upgraded to incorporate technology capable of using weather data to adjust watering run times.
 - i. The controller must be selected from a list approved by the city and installed by a city-approved installer and properly programmed.
 - ii. Watering day exemptions for the Water Efficiency Plan, Emergency Service Level I of the Emergency Response Plan and for Stages 1 and 2 of the Drought Contingency Plan shall be provided to existing irrigation systems upgraded with a properly operating weather - based controller annually registered with the city.
 - iii. Qualification for the exemption requires annual registration at no charge with a free inspection performed by the City of Frisco. The renewal must be completed prior to the end of February of each year.
 - iv. A maximum \$100.00 rebate, if available, for each controller will be provided upon the initial registration with documentation of purchase and proper installation verified by the city.
 - v. Units that receive a weather signal must supply proof of annual registration.
 - vi. All units must be registered annually to maintain the watering day exemptions.
 - b. Each customer equipped with a registered controller shall display a small city-owned sign furnished by the city visible from the street at a city- approved smart controller location to indicate the use of weather - based technology. Without annual registration, the yard sign must be surrendered to the city.

2. Water Efficient Clothes Washers;
3. Rain/Freeze Sensors;
4. Pressure Reducing Valves;
5. Rain Barrels;
6. Low-Flow Shower Heads;
7. High Efficiency Toilets; and
8. Other Efficiency Products.

C. Other Water Efficiency Programs (Current and Future)

1. Free Irrigation Check-ups;

The City of Frisco with a State of Texas licensed irrigator on staff provides free annual irrigation check-ups when scheduled by the City's water customers. The check-up does not make repairs, but does identify problems with spray heads, rotors, valves, and the distribution piping. Our licensed staff member will also check the controller and provide suggestions for proper settings and zone run times.

a. Top Residential Users

At the beginning of each year, the City of Frisco will review utility billing records from the previous year. A list of the top residential users will be identified and compiled. These users can be notified by mail of their high water usage with information on how to reduce outdoor watering with landscaping tips provided.

2. City of Frisco Weekly Waterwise Newsletter;
3. Frisco Website Weekly Lawn Watering Advice;
4. Weekly Lawn Watering Advice Text Messaging;
5. Water Upon Request Program for Restaurants;
6. Waterwise Car Wash Program; and
7. Other Programs.