

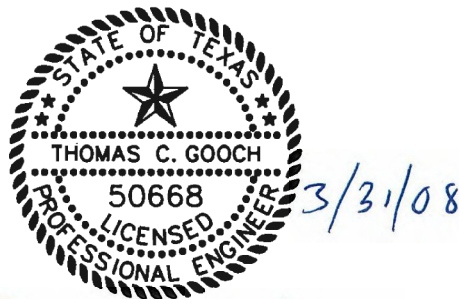
**MODEL WATER
CONSERVATION
AND DROUGHT
CONTINGENCY
AND WATER
EMERGENCY
RESPONSE PLAN
FOR NORTH TEXAS
MUNICIPAL
WATER DISTRICT
MEMBER CITIES
AND CUSTOMERS**



Stephanie W. Griffin
Stephanie W. Griffin, P.E.

MARCH 2008
Prepared for:

**NORTH TEXAS
MUNICIPAL WATER
DISTRICT**



Thomas C. Gooch
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NTD06130
WCF 06-4

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FORWARD

This model water conservation and drought contingency and water emergency response plan was prepared by Freese and Nichols for the North Texas Municipal Water District (NTMWD). It is intended to be used as a guide by NTMWD Member Cities and Customers as they develop their own water conservation and drought contingency and water emergency response plans. The model plan was prepared pursuant to Texas Commission on Environmental Quality rules. Some material is based on the existing water conservation plans listed in Appendix A. To develop a regional approach, the conservation plans for the City of Fort Worth and the City of Dallas were consulted.

Questions regarding this model water conservation and drought contingency and water emergency response plan should be addressed to the following:

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The model water conservation and drought contingency and water emergency response plan is based on the Texas Administrative Code in effect on August 31, 2007. The Texas Commission on Environmental Quality (TCEQ) is currently preparing additional regulations in compliance with the mandates of Senate Bill 3 and House Bill 4 enacted in 2007 by the 80th Texas Legislature. The draft regulations have been considered in the preparation of this plan. The following items are presented in the draft regulations and are not currently in the regulations:

- A definition for “best management practices” will be added.
- A copy of the plan must be submitted to the Executive Administrator of the Texas Water Development Board.
- An annual progress report will be required to be submitted to the Texas Water Development Board. (The annual report may be in a different format than the annual report included in Appendix I).
- Requirement that water suppliers providing service to 3,300 or more connections must prepare a water conservation plan.
- Enforcement authority in relation to violations of the rules regulating water conservation plans and annual report is provided to the Texas Water Development Board.

None of the proposed adjustments will cause this model plan to be obsolete. The most current annual report form should be obtained from TCEQ when preparing the annual report (Appendix I) to submit to the TCEQ. A copy of the annual report should be sent to the Texas Water Development Board as well as to the TCEQ.

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

- 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

Considerations for Landscape Water Management Regulations

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Letters to Region C and Region D Water Planning Groups

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- Municipal Ordinance Adopting Water Conservation and Drought Contingency and Water Emergency Response Plan
- Municipal Utility District Order Adopting Water Conservation and Drought Contingency and Water Emergency Response Plan
- Special Utility District Order Adopting Water Conservation and Drought Contingency and Water Emergency Response Plan
- Water Supply Corporation Resolution Adopting Water Conservation and Drought Contingency and Water Emergency Response Plan

APPENDIX H

Illegal Water Connections and Theft of Water

- Municipal Ordinance Pertaining to Illegal Water Connections and Theft of Water
- Municipal Utility District Order Pertaining to Illegal Water Connections and Theft of Water

- Special Utility District Order Pertaining to Illegal Water Connections and Theft of Water
- Water Supply Corporation Resolution Pertaining to Illegal Water Connections and Theft of Water

APPENDIX I

TCEQ Water Conservation Implementation Report

Model Water Conservation and Drought Contingency and Water Emergency Response Plan for North Texas Municipal Water District Member Cities and Customers

MARCH 2008

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 has led to increasing demands for water supplies. At the same time, local and less expensive sources of water supply are largely developed. Additional supplies to meet higher demands will be expensive and difficult to develop. 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.^{1, 2} TCEQ guidelines and requirements are included in Appendix B. The best management practices established by the Water Conservation Implementation Task Force³, established pursuant to SB1094 by the 78th Legislature, were also considered in the development of the water conservation measures. The North Texas Municipal Water District (NTMWD) has developed this model water conservation and drought contingency and water emergency response plan for its Member Cities and Customers following TCEQ guidelines and requirements. This model water conservation and drought contingency and water emergency response plan was developed in concert with the NTMWD's water conservation and drought contingency and water emergency response plan.⁴ This model water conservation and drought contingency and water emergency response plan replaces the model plans dated August 2004 and April 2006.

The water conservation sections of this plan include measures that are intended to result in ongoing, long-term water savings. The 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 model water conservation 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.

¹ Superscripted numbers match references listed in Appendix A.

- To document 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.

The water conservation plan presented in this document is a model water conservation plan intended for adoption by the NTMWD Member Cities and Customers. In order to adopt this plan, each Member City and Customer will need to do the following:

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

The water utility profile, goals, and ordinance(s) or regulations should be provided to NTMWD in draft form for review and comments. Final adopted versions should also be provided to NTMWD, as well as TCEQ.

This model plan includes all of the elements required by TCEQ. Some elements of this model plan go beyond TCEQ requirements. Any water supplier wishing to adjust elements of the plan should coordinate with NTMWD.

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.”¹ 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 and Appendix F
- 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. This report is included in Appendix I.

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 1, 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 temporary and potentially recurring water supply shortages and other water supply emergencies.”²

3. WATER UTILITY PROFILE

Appendix C to this model water conservation and drought contingency and water emergency response plan is a sample water utility profile based on the format recommended by the TCEQ. In adopting this model water conservation plan, each Member City and Customer will provide a draft water utility profile to NTMWD for review and comment. A final water utility profile will be provided 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, each Member City and Customer must develop 5-year and 10-year goals for per capita municipal use. These goals should be submitted to NTMWD in draft form for review. The goals for this water conservation 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 2008 and subsequent years, as discussed in Section 5.4. (The 12 percent goal for unaccounted water is recommended but is not required. Systems with long distances between customers may adopt a higher unaccounted water goal.)
- Implement and maintain a program of universal metering and meter replacement and repair, as discussed in Section 5.2.
- Increase efficient water usage through a water conservation ordinance, order or resolution as discussed in Section 8.4 and Appendix E. (This ordinance is required by the NTMWD.)
- Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 8.5. (These landscape water management regulations are recommended but are not required.)
- 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	Current Average (gpcd)	5-Year Goal (gpcd)	10-Year Goal (gpcd)
Current 5-Year Average Per Capita Municipal Use with Credit for Reuse			
Expected Reduction due to Low-Flow Plumbing Fixtures			
Projected Reduction Due to Elements in this Plan			
Water Conservation Goals (with credit for reuse)			

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 within the next three years.

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 over the next three years.

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 below. 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. (Included in Appendix G.)
- 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 2008 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 below 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

Appendix I includes the TCEQ-required water conservation implementation report. The report 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:

- 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.
- 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 and to 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. An example water rate structure is as follows:

Residential Rates

1. Monthly minimum charge. This can (but does not have to) include up to 2,000 gallons water use with no additional charge.
2. Base charge per 1,000 gallons up to the approximate average residential use.
3. 2nd tier (from the average to 2 times the approximate average) at 1.25 to 2.0 times the base charge.
4. 3rd tier (above 2 times the approximate average) at 1.25 to 2.0 times the 2nd tier.
5. The residential rate can also include a lower tier for basic household use up to 4,000 gallons per month or a determined basic use.

Commercial/Industrial Rates

Commercial/industrial rates should include at least 2 tiers, with rates for the 2nd tier at 1.25 to 2.0 times the first tier. Higher water rates for commercial irrigation use are encouraged, but not required.

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's permits do allow some coordinated operation of its water supply sources, and NTMWD is seeking additional water rights for coordinated operation to optimize its available water supplies.

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 this treated wastewater through Lake Lavon 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. When fully developed, these two reuse projects will provide up to 44 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, 3.0 gpm for showerheads, and 1.6 gallons per flush for toilets. 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

The following landscape water management measures are required by the NTMWD for this plan. These are the minimal measures that should be implemented and enforced in order to irrigate the landscape appropriately.

- Time of day restrictions prohibiting lawn irrigation watering from 10 AM to 6 PM beginning April 1 and ending October 31 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 limited to twice per week.
- Prohibiting the use of treated water to fill or refill residential, amenity, and any other natural or manmade 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 and/or ET or Smart controllers required on all new irrigation systems. Rain and freeze sensors and/or ET or Smart 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.
- Member Cities and Customers are responsible for developing regulations, ordinances, policies, or procedures for enforcement of water conservation guidelines.
- Prohibition of watering areas that have been overseeded with cool season grasses (such as rye grass or other similar grasses), except for golf courses and public athletic fields.

8.5 Additional Water Conservation Measures (Not Required)

The following water conservation measures are also included in this Plan as options to be considered by Member Cities and Customers:

- Additional landscape water management regulations
- Landscape ordinance
- Water audits
- Rebates

Appendix E is a summary of considerations for landscape water management regulations adopted as part of the development of this water conservation plan. These regulations are intended to minimize waste in landscape irrigation. Appendix E includes the required landscape water measures in 8.4. In addition, NTMWD recommends the following measures, but they are not required:

- Requirement that all existing irrigation systems be retrofitted with rain and freeze sensors and/or ET or Smart controllers capable of multiple programming. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.
- Prohibition of use of poorly maintained irrigation systems that waste water.
- Prohibition of planting cool season grasses (such as rye grass or other similar grasses) that intensify cool season water requirements, exception allowed for golf courses or public athletic fields.

- Requirement that all new athletic fields be irrigated by a separate irrigation system from surrounding areas.
- Implementation of other measures to encourage off-peak water use.

Landscape ordinances are developed by cities to guide developers in landscaping requirements for the city. NTMWD recommends that the following measures be included in the entity's landscape ordinance:

- Requirement that all new irrigation systems be in compliance with state design and installation regulations (TAC Title 30, Part 1, Chapter 344).
- Native, drought tolerant, or adaptive plants should be encouraged.
- Drip irrigation systems should be promoted.
- Evapotranspiration (ET) / Smart controllers that only allow sprinkler systems to irrigate when necessary should be promoted.

Water audits are useful in finding ways in which water can be used more efficiently at a specific location. NTMWD recommends that Member Cities and Customers offer water audits to customers.

In addition to the conservation measures described above, the NTMWD considers the following water conservation incentive programs as options that might be included in the plan:

- Low-flow toilet replacement and rebate programs,
- Rebates for rain/freeze sensors and/or ET or Smart controllers,
- Low-flow showerhead and sink aerators replacement programs or rebates,
- ET/Smart irrigation controller rebates,
- Water efficient clothes washer rebates,
- Pressure reducing valve installation programs or rebates,
- Rain barrel rebates,
- On-demand hot water heater rebates, or
- Other water conservation incentive programs.

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 conservation 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.¹ 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

Appendix F includes a letter sent to the Chair of the Region C water planning group with this model water conservation plan. Each Member City and Customer will send a copy of their draft ordinance(s) or regulation(s) implementing the plan and their water utility profile to NTMWD for review and comment. The adopted ordinance(s) or regulation(s) and the adopted water utility profile will be sent to the Chair of the Region C Water Planning Group and to NTMWD.

9. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

Appendix G contains a copy of an ordinance, order, or resolution which may be tailored to meet Member or Customer City needs and be adopted by the City Council or governing board regarding the model water conservation plan. The ordinance, order, or resolution designates responsible officials to implement and enforce the water conservation plan. Appendix E, the considerations for landscape water management regulations, also includes information about enforcement. Appendix H includes a copy of an ordinance, order, or resolution that may be adopted related to illegal connections and water theft.

10. REVIEW AND UPDATE OF WATER CONSERVATION PLAN

TCEQ requires that the water conservation plans be updated prior to May 1, 2009. 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 model 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 model plan was developed by NTMWD in consultation with its Member Cities. In order to adopt this model 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 model plan calls for Member Cities and Customers to adopt drought stages initiated by NTMWD during a drought or water supply emergency. Member Cities and Customers may also adopt more stringent drought or water emergency response stages than NTMWD if conditions warrant.

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 model 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.² 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

Member Cities and Customers 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

Member Cities and Customers 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 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, Member Cities and Customers 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). Billing inserts 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, General Manager, Mayor, Chief Executive, or 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 supplier's web site (if available) as described in Section 3.2.
- 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, Member Cities and Customers 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. For other trigger conditions internal to a city or water supply entity, the City Manager, General Manager, Mayor, Chief Executive, or official designee may decide not to order the implementation of a drought response stage or water emergency even though one or more of the trigger criteria for the stage are met. 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, General Manager, Mayor, Chief Executive, or 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 supplier's web site (if available) as described in Section 3.2.
- 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, Member Cities and Customers will notify the Executive Director of the TCEQ and the Executive Director of the NTMWD within 5 business days.

The City Manager, General Manager, Mayor, Chief Executive, or 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:
 - The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1.
 - Water demand is projected to approach the limit of the permitted supply.
 - The storage in Lavon Lake is less than 65 percent of the total conservation pool capacity.
 - NTMWD's storage in Jim Chapman Lake is less than 65 percent of NTMWD's total conservation pool capacity.
 - The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Mild drought.
 - NTMWD has concern that Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source may be limited in availability in the next 6 months.

- NTMWD water demand exceeds 90 percent of the amount that can be delivered to customers for three consecutive days.
- Water demand for all or part of NTMWD's delivery system approaches delivery capacity because delivery capacity is inadequate.
- NTMWD's supply source becomes contaminated.
- NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components.
- Supplier's water demand exceeds 90 percent of the amount that can be delivered to customers for three consecutive days.
- Supplier's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.
- Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components.
- Supplier's individual plan may be implemented if other criteria dictate.

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.

Goal for Use Reduction and Actions Available under Stage 1

Stage 1 is intended to raise public awareness of potential drought or water emergency problems. The goal for water use reduction under Stage 1 is a two percent reduction in the amount of water produced by NTMWD. The City Manager, General Manager, Mayor, Chief Executive, or official designee may order the implementation of any of the actions listed below, as deemed necessary:

- Request voluntary reductions in water use by the public and by wholesale customers.
- Notify wholesale customers of actions being taken and request implementation of similar procedures.
- Increase public education efforts on ways to reduce water use.
- Review the problems that caused the initiation of Stage 1.
- Intensify efforts on leak detection and repair.
- Reduce non-essential city government water use. (Examples include street cleaning, vehicle washing, operation of ornamental fountains, etc.)
- Notify major water users and work with them to achieve voluntary water use reductions.
- Reduce city government water use for landscape irrigation.
- Ask the public to follow voluntary landscape watering schedules.

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:
 - The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2.
 - Water demand is projected to approach the limit of the permitted supply.
 - The storage in Lavon Lake is less than 55 percent of the total conservation pool capacity.
 - NTMWD's storage in Jim Chapman Lake is less than 55 percent of NTMWD's total conservation pool capacity.
 - The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Mild drought.
 - NTMWD has concern that Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source may be limited in availability in the next 3 months.
 - NTMWD water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days.
 - NTMWD water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate.
 - NTMWD's supply source becomes contaminated.
 - NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components.
- Supplier's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days.
- Supplier's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.
- Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components.
- Supplier's individual plan may be implemented if other criteria dictate.

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.

Goal for Use Reduction and Actions Available under Stage 2

The goal for water use reduction under Stage 2 is a five percent reduction in the amount of water produced by NTMWD. If circumstances warrant or if required by NTMWD, the City

Manager, General Manager, Mayor, Chief Executive, or official designee can set a goal for greater water use reduction. The City Manager, General Manager, Mayor, Chief Executive, or 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 supplier must notify 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.
- Initiate engineering studies to evaluate alternatives should conditions worsen.
- Further accelerate public education efforts on ways to reduce water use.
- Halt non-essential city government water use. (Examples include street cleaning, vehicle washing, operation of ornamental fountains, etc.)
- Encourage the public to wait until the current drought or emergency situation has passed before establishing new landscaping.
- **Requires Notification to TCEQ** – Limit landscape watering with sprinklers or irrigation systems to no more than two days per week. An exception is allowed for landscape associated with new construction that may be watered as necessary for 30 days from the date of the certificate of occupancy. An exemption is also allowed for registered and properly functioning ET/Smart irrigation systems and drip irrigation systems, which do not have restrictions to the number of days per week of operation.
- **Requires Notification to TCEQ** – Restrict landscape and lawn irrigation from 10 AM to 6 PM beginning April 1 through October 31 of each year.
- **Requires Notification to TCEQ** – Prohibit planting of cool season grasses (such as rye grass or other similar grasses) that intensify cool season water requirements.

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:
 - The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3.
 - Water demand is projected to approach or exceed the limit of the permitted supply.
 - The storage in Lavon Lake is less than 45 percent of the total conservation pool capacity.

- NTMWD’s storage in Jim Chapman Lake is less than 45 percent of NTMWD’s total conservation pool capacity.
 - The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Moderate drought. (Measures required by SRA under a Moderate drought designation are similar to those under NTMWD’s Stage 3.)
 - The supply from Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source has become limited in availability.
 - NTMWD water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days.
 - NTMWD water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - NTMWD’s supply source becomes contaminated.
 - NTMWD’s water supply system is unable to deliver water due to the failure or damage of major water system components.
- Supplier’s water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days.
 - Supplier’s water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - Supply source becomes contaminated.
 - Supplier’s water supply system is unable to deliver water due to the failure or damage of major water system components.
 - Supplier’s individual plan may be implemented if other criteria dictate.

Stage 3 may terminate when NTMWD terminates its Stage 3 condition or when the circumstances that caused the initiation of Stage 3 no longer prevail.

Goals for Use Reduction and Actions Available under Stage 3

The goal for water use reduction under Stage 3 is a reduction of ten percent in the amount of water obtained from NTMWD. If circumstances warrant or if required by NTMWD, the City Manager, General Manager, Mayor, Chief Executive, or official designee can set a goal for a greater water use reduction.

The City Manager, General Manager, Mayor, Chief Executive, or official designee must implement any action(s) required by NTMWD. In addition, the City Manager, General Manager, Mayor, Chief Executive, or 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 supplier must notify TCEQ and NTMWD within five business days if these measures are implemented:

- Continue or initiate any actions available under Stages 1 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** – Initiate mandatory water use restrictions as follows:
 - Prohibit hosing of paved areas, buildings, or windows. (Pressure washing of impervious surfaces 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 with sprinklers or irrigation systems at each service address to once every seven days. Exceptions are as follows:
 - 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 irrigation system.
 - Golf courses may water greens and tee boxes without restrictions.
 - Public athletic fields used for competition may be watered twice per week.
 - Locations using other sources of water supply for irrigation may irrigate without restrictions.
 - Registered and properly functioning ET/Smart irrigation systems and drip irrigation systems may irrigate without restrictions.
- **Requires Notification to TCEQ** – Limit landscape watering with sprinklers or irrigation systems between November 1 and March 31 to once every two weeks. An exception is allowed for landscape associated with new construction that may be watered as necessary for 30 days from the date of the certificate of occupancy, temporary certificate of occupancy, or certificate of completion.
- **Requires Notification to TCEQ** – Prohibit hydroseeding, hydromulching, and sprigging.
- **Requires Notification to TCEQ** – Existing swimming pools may not be drained and refilled (except to replace normal water loss).
- **Requires Notification to TCEQ** - Initiate a rate surcharge as requested by NTMWD.
- **Requires Notification to TCEQ** - Initiate a rate surcharge for all water use over a certain level.
- **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.

Stage 4

Initiation and Termination Conditions for Stage 4

- The NTMWD has initiated Stage 4, which may be initiated due to one or more of the following:
 - The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 4.
 - Water demand is projected to approach or exceed the limit of the permitted supply.
 - The storage in Lavon Lake is less than 35 percent of the total conservation pool capacity.
 - NTMWD's storage in Jim Chapman Lake is less than 35 percent of NTMWD's total conservation pool capacity.
 - 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 or Emergency.
 - The supply from Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source has become severely limited in availability.
 - NTMWD water demand exceeds the amount that can be delivered to customers.
 - NTMWD water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate.
 - NTMWD's supply source becomes contaminated.
 - NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components.
- Supplier's water demand exceeds the amount that can be delivered to customers.
- Supplier's water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate.
- Supply source becomes contaminated.
- Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components.
- Supplier's individual plan may be implemented if other criteria dictate.

Stage 4 may terminate when NTMWD terminates its Stage 4 condition or when the circumstances that caused the initiation of Stage 4 no longer prevail.

Goals for Use Reduction and Actions Available under Stage 4

The goal for water use reduction under Stage 4 is a reduction of whatever amount is necessary in the amount of water obtained from NTMWD. If circumstances warrant or if required by NTMWD, the City Manager, General Manager, Mayor, Chief Executive, or official designee can set a goal for a greater water use reduction.

The City Manager, General Manager, Mayor, Chief Executive, or official designee must implement any action(s) required by NTMWD. In addition, the City Manager, General Manager, Mayor, Chief Executive, or 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 supplier must notify TCEQ and NTMWD within five business days if these measures are implemented.

- Continue or initiate any actions available under Stages 1, 2, and 3.
- 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 irrigation of new landscaping using treated water.
- **Requires Notification to TCEQ** – Prohibit washing of vehicles except as necessary for health, sanitation, or safety reasons.
- **Requires Notification to TCEQ** – Prohibit commercial and residential landscape watering, except that foundations and trees may be watered for 2 hours on any day with a hand-held hose, a soaker hose, or a dedicated zone using a drip irrigation system. ET/Smart 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** – Require all commercial water users to reduce water use by a percentage established by the City Manager, General Manager, Mayor, Chief Executive, or 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.
- **Requires Notification to TCEQ** - Initiate a rate surcharge for all water use over normal rates for all water use.

11.7 Procedures for Granting Variances to the Plan

The City Manager, General Manager, Mayor, Chief Executive, or official designee may grant temporary 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, General Manager, Mayor, Chief Executive, 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.

11.8 Procedures for Enforcing Mandatory Water Use Restrictions

Mandatory water use restrictions may be imposed in Stage 2, Stage 3 and Stage 4 drought contingency and water emergency response stages. The penalties associated with the mandatory water use restrictions will be determined by each entity.

Appendix G contains potential ordinances, resolutions, and orders that may be adopted by the city council, board, or governing body approving the drought contingency plan and water response plan, including enforcement of same.

11.9 Coordination with the Regional Water Planning Groups

Appendix F includes a copy of a letter sent to the Chair of the Region C water planning group with this model drought contingency and water emergency response plan.

The suppliers will send a draft of its ordinance(s) or other regulation(s) implementing this plan to NTMWD for their review and comment. The supplier will also send the final ordinance(s) or other regulation(s) to NTMWD.

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

As required by TCEQ rules, Member Cities and Customers must review the drought contingency and water emergency response plan every five years. The plan will be updated as appropriate based on new or updated information.

APPENDIX A
LIST OF REFERENCES

Appendix A List of References

- (1) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rules 288.1 and 288.2, downloaded from [http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288), July 2007.
- (2) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter B, Rule 288.20, downloaded from <http://www.tnrcc.state.tx.us/oprd/rules/pdflib/288a.pdf>, July 2007.
- (3) 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.
- (4) Freese and Nichols, Inc.: *North Texas Municipal Water District Water Conservation and Drought Contingency and Water Emergency Response Plan*, prepared for the North Texas Municipal Water District, Fort Worth, March 2008.

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> 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**

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 retrofit 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 1

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 C
TCEQ WATER UTILITY PROFILE

APPENDIX C
TCEQ Water Utility Profile
 (Based on November 5, 2004 TCEQ Profile)

The purpose of the Water Utility Profile is to assist an applicant with water conservation plan development and to ensure that important information and data be considered when preparing your water conservation plan and goals. You may contact the Municipal Water Conservation Unit of the TWDB at 512-936-2391 for assistance, or the Resource Protection Team at 512-239-4691 if submitted to the TCEQ. You may also contact Denise Hickey of NTMWD at 972/442-5405 or Tom Gooch of Freese and Nichols at 817/735-7300.

Name of Entity: _____
 Address & Zip: _____
 Telephone Number: _____
 Fax Number: _____
 Form Completed by: _____
 Title: _____
 Signature: _____
 Date: _____

Name and phone number of person/department responsible for implementing a water conservation program:
 Name: _____
 Phone Number: _____

I. POPULATION AND CUSTOMER DATA

A. Population and Service Area Data

1. Please attach a copy of your service-area map and, if applicable, a copy of your Certificate of and a service-area map.
2. Service area size (square miles): _____
3. Current population of service area: _____ as of year _____
4. Current population served by utility:
 water: _____
 wastewater: _____
5. Population served by water utility for the previous five years. (Please list by year in ascending order.):

Year	Population

6. Projected population for service area in the following decades:

Year	Population
2010	
2020	
2030	
2040	
2050	
2060	

7. List source/method for the calculation of current and projected population:

B. Active Connections

1. Current number of active connections.

Check whether multi-family service is counted as Residential ___ or Commercial ___.

Current year is: _____

Treated Water Users	Metered	Non-Metered	Total
Residential			
Commercial			
Industrial			
Other			
Total			

2. List the net number of new connections per year for most recent three years:

Year			
Residential			
Commercial			
Industrial			
Other			
Total			

C. High Volume Customers

List annual water use for the five highest volume customers.

(Please indicate if treated or raw water delivery.):

Customer	Use (1,000 gal/yr)	Treated or Raw Water?

II. WATER USE DATA FOR SERVICE AREA

A. Water Accounting Data

1. Amount of water use for previous five years (in 1,000 gal):

Please indicate: Diverted Water ___
 Treated Water ___

Year					
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total					

Please indicate how the above figures were determined (e.g., from a master meter located at the point of diversion, from a stream, or located at a point where raw water enters the treatment plant, or from water sales)

2. Amount of water (in 1,000 gallons) delivered (sold) as recorded by the following account types

Year	Residential	Commercial	Industrial	Wholesale	Other	Total Sold

3. List previous five years records for water loss (the difference between water diverted (or treated) and water delivered (sold)).

Data is calculated in Appendix D on tab "D-4". TWDB requires that the data for this entry be reported in g

Year	Amount (gal.)	%

4. Municipal water use for previous five years:

Year	Population	Total Diverted (or Treated) (1,000 gal)

B. Projected Water Demands

If applicable, attach projected water supply demands for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years any additional water supply requirement from such growth.

Year	Projected Demand (Ac-Ft)	Source of data	Additional Water Supply Requirements

III. WATER SUPPLY SYSTEM DATA

A. Water Supply Sources

List all current water supply sources and the amounts authorized with each:

Type	Source	Amount Available (AF/Y)
Surface Water		
Groundwater		
Contracts	North Texas Municipal Water District (SW)	
Other		

B. Treatment and Distribution System

1. Design daily capacity of system: _____ MGD

2. Storage capacity:
 - Elevated _____ MG
 - Ground _____ MG

3. If surface water, do you recycle filter backwash to the head of the plant?
 Yes ___ No ___. If yes, approximately ___ MGD.

4. Please attach a description of the water system. Include the number of treatment plants, wells, and storage tanks. If possible, include a sketch of the system layout.

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data

1. Design capacity of wastewater treatment plant(s): _____ MGD

2. Is treated effluent used for irrigation on-site ____, off-site ____, plant washdown ____, or chlorination/dechlorination ____? If yes, approximately ____ gallons per month.

3. Briefly describe the wastewater system(s) of the area serviced by the water utility. Describe how treated wastewater is disposed of. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and, if wastewater is discharged, the receiving stream. Please provide a sketch or map which located the plant(s) and di

Treatment Plant Name	TCEQ Number	Operator	Owner	Receiving Stream

B. Wastewater Data for Service Area

- 1. Percent of water service area served by wastewater system: _____ %
- 2. Monthly wastewater volume for previous three years (in 1,000 gallons):

Year			
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Total			

Appendix C1

Definitions of Commonly Used Terms

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.

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.

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.

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.

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.

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.

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.

Public water supplier - An individual or entity that supplies water to the public for human consumption.

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.

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.

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.

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).

Water loss - The difference between water diverted or treated and water delivered (sold). Water loss can result from:

1. inaccurate or incomplete record keeping;
2. meter error;
3. unmetered uses such as firefighting, line flushing, and water for public buildings and water treatment plants;
4. leaks; and
5. water theft and unauthorized use.

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.

If you have any questions on how to fill out this form or about the _____ program, please contact us at 512/239-_____.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

APPENDIX D

**NTMWD MEMBER CITY AND CUSTOMER ANNUAL WATER
CONSERVATION REPORT**

APPENDIX D
NTMWD MEMBER CITY AND CUSTOMER ANNUAL WATER CONSERVATION REPORT
Due: March 31 of every year

Entity Reporting: _____
Filled Out By: _____
Date Completed: _____
Year Covered: _____
of Connections _____

Recorded Deliveries and Sales by Month (in Million Gallons):

Month	Deliveries from NTMWD	Other Supplies	Sales by Category						
			Residential	Commercial	Public/Institutional	Industrial	Wholesale	Other	Total
January									
February									
March									
April									
May									
June									
July									
August									
September									
October									
November									
December									
TOTAL									

Unaccounted Water (Million Gallons):

NTMWD Deliveries	from Table above
Other Supplies	from Table above
Total Supplies	from Table above
Total Sales	from Table above
Estimated Fire Use	estimated from best available data
Estimated Line Flushing Use	estimated from best available data
Unaccounted Water	
% Unaccounted	
Goal for % Unaccounted	12.00%

Per Capita Municipal Use (Gallons per person per day)

Municipal Use (MG) from Table above (NTMWD deliveries+ other supplies - industrial sales - municipal sales - other sales)

Estimated Population please describe source of population estimate

Per Capita Use (gpcd)

5-year Per Capita Goal (___)

10-year Per Capita Goal (___)

Recorded Wholesale Sales by Month (in Million Gallons):

Month	Sales to	Sales to	Sales to	Sales to	Sales to	Sales to	Sales to	Total Wholesale Sales
January								
February								
March								
April								
May								
June								
July								
August								
September								
October								
November								
December								
TOTAL								

Information on Wholesale Customers:

Customer	Estimated Population
-----------------	-----------------------------

Unusual Circumstances (use additional sheets if necessary):

--

Progress in Implementation of Conservation Plan (use additional sheets if necessary):

--

Conservation measures planned for next year (use additional sheets if necessary):

--

Assistance requested from North Texas Municipal Water District (use additional sheets if necessary):

--

Other (use additional sheets if necessary):

--

Historical Water Use Data for _____

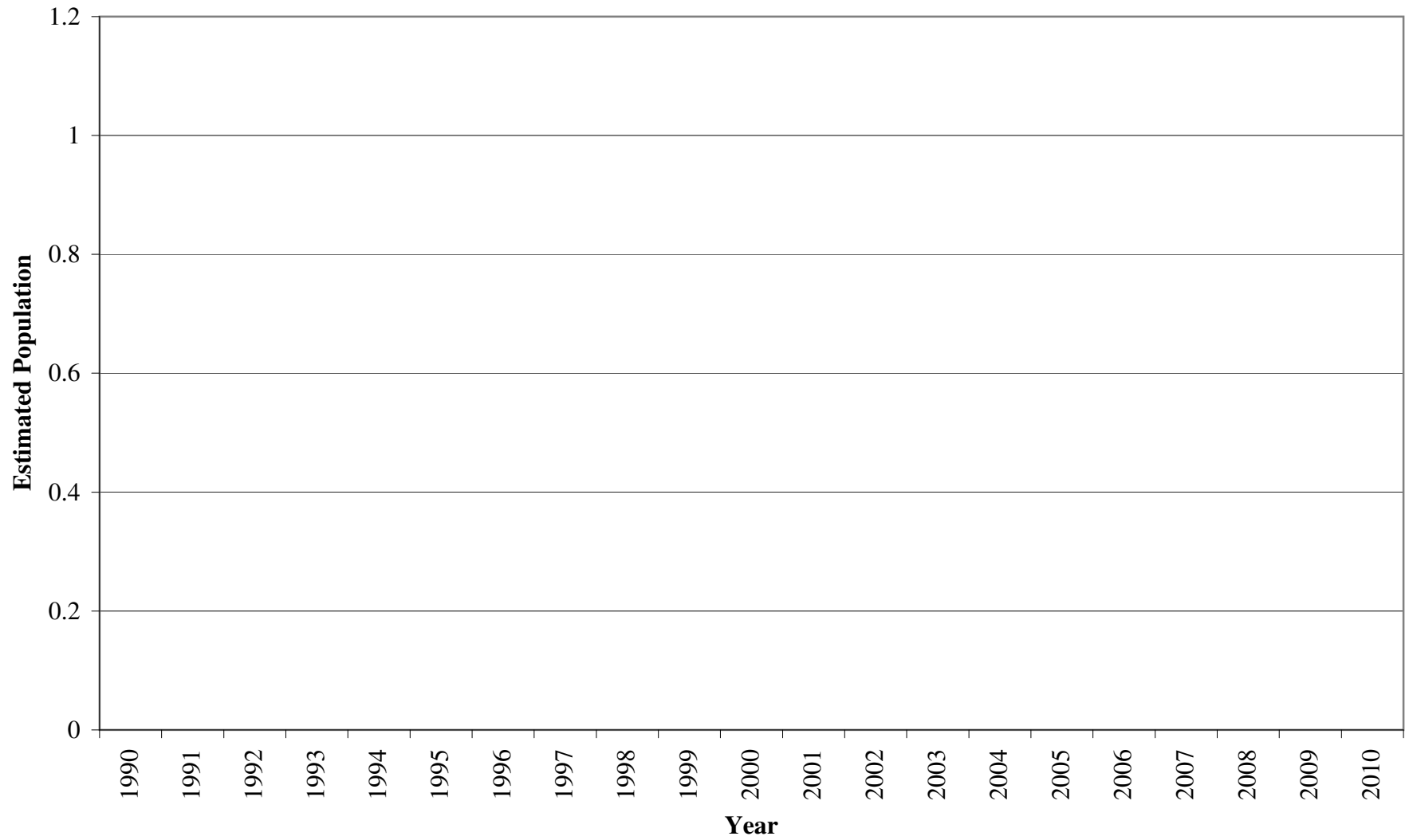
Year	Connections	Estimated Population	Deliveries from NTMWD (MG)	Other Supplies (MG)	Metered Sales by Category (Million Gallons)						
					Residential	Commercial	Public/ Institutional	Industrial	Wholesale	Other	Total
1990											
1991											
1992											
1993											
1994											
1995											
1996											
1997											
1998											
1999											
2000											
2001											
2002											
2003											
2004											
2005											
2006											
2007											
2008											
2009											
2010											

Historical Per Capita Use Data and Unaccounted Water for _____

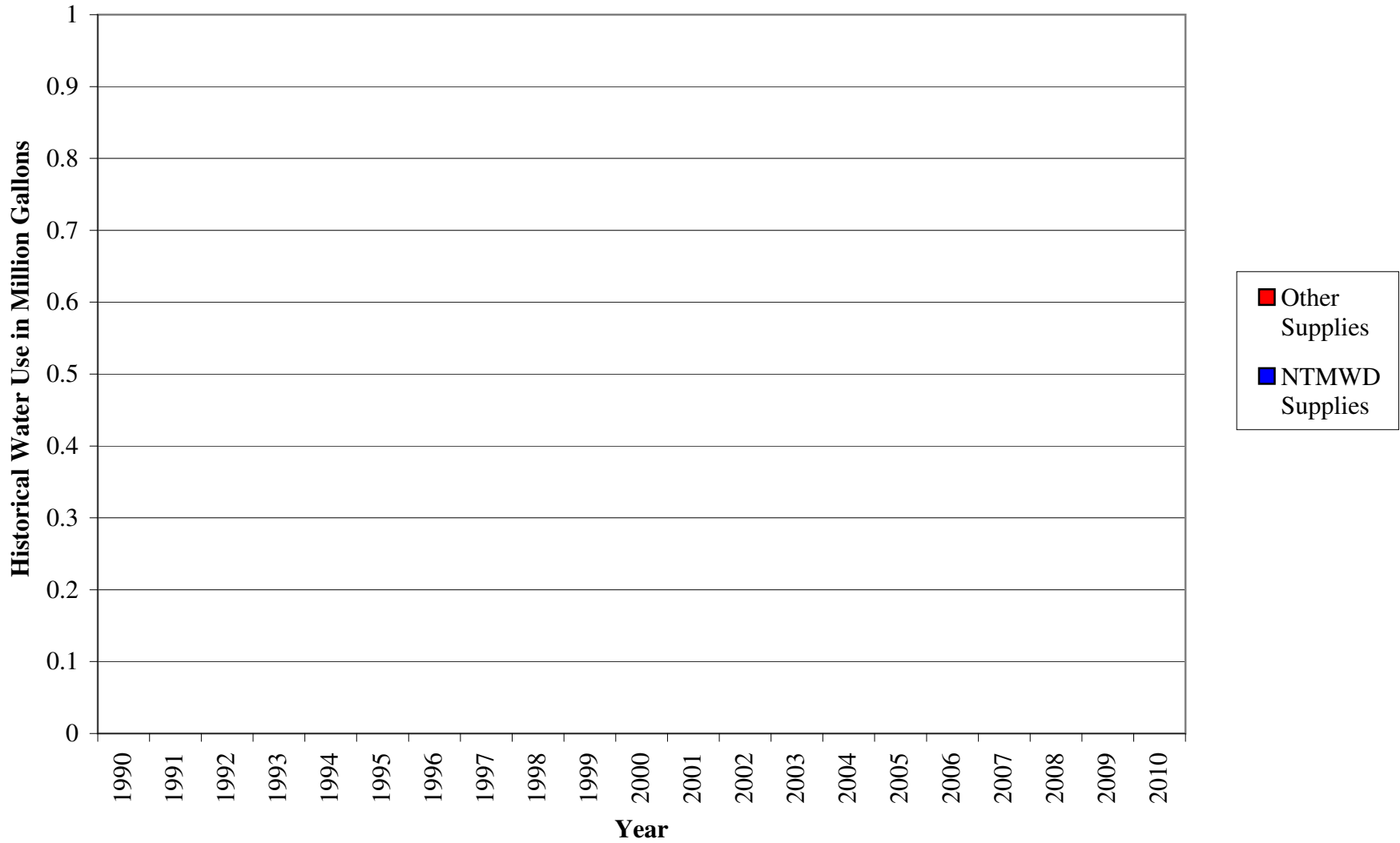
Year	Estimated Population	In-City Municipal Use (MG)	Per Capita Municipal Use (gpcd)	Deliveries from NTMWD (MG)	Other Supplies (MG)	Total Metered Sales (MG)	Estimated Fire Use (MG)	Estimated Line Flushing (MG)	Unaccounted Water (MG)	% Unaccounted
1990										
1991										
1992										
1993										
1994										
1995										
1996										
1997										
1998										
1999										
2000										
2001										
2002										
2003										
2004										
2005										
2006										
2007										
2008										
2009										
2010										

Note: In-city municipal use = total water supplied less sales to industry, wholesale sales and other sales.

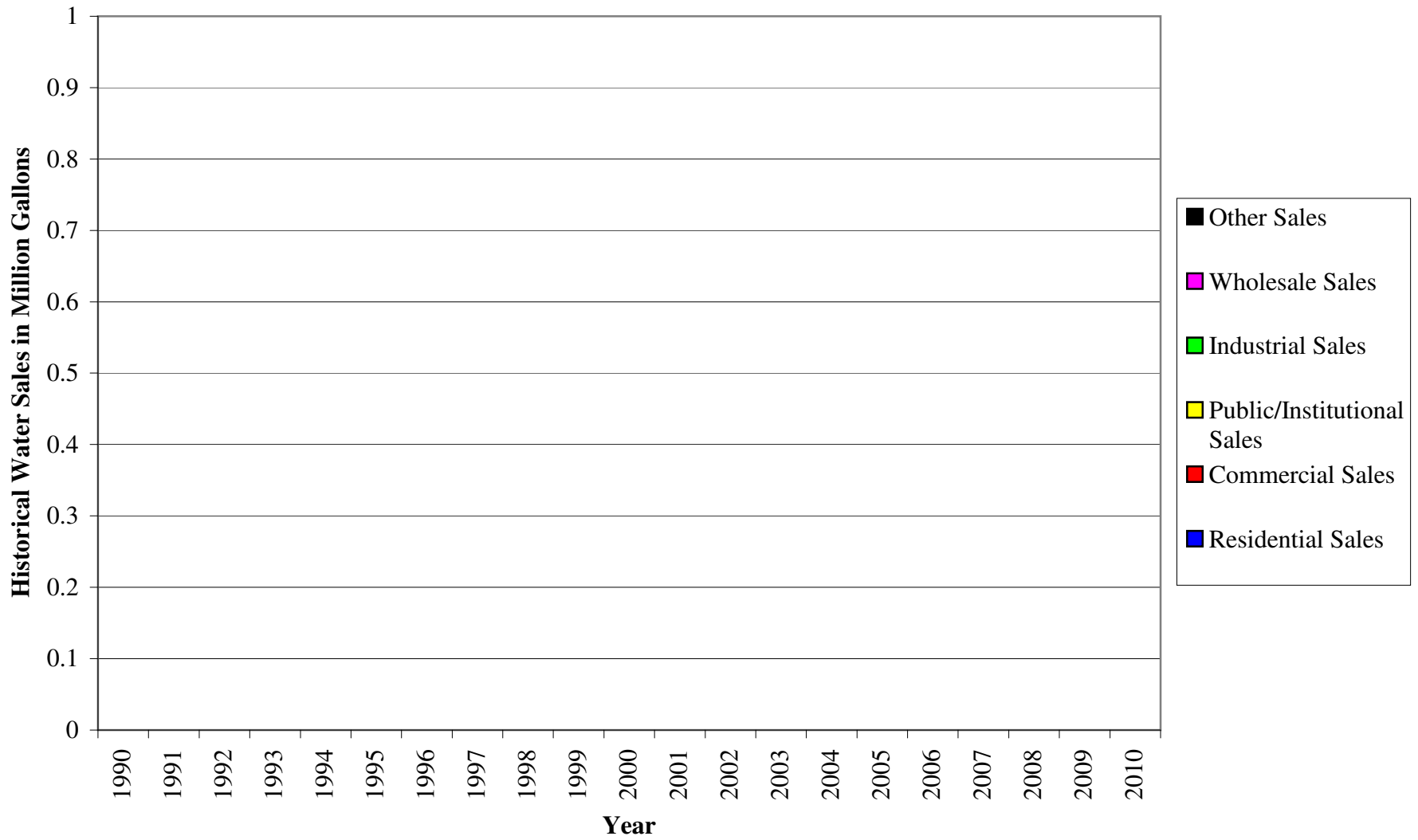
Estimated Historical Population



Historical Water Use



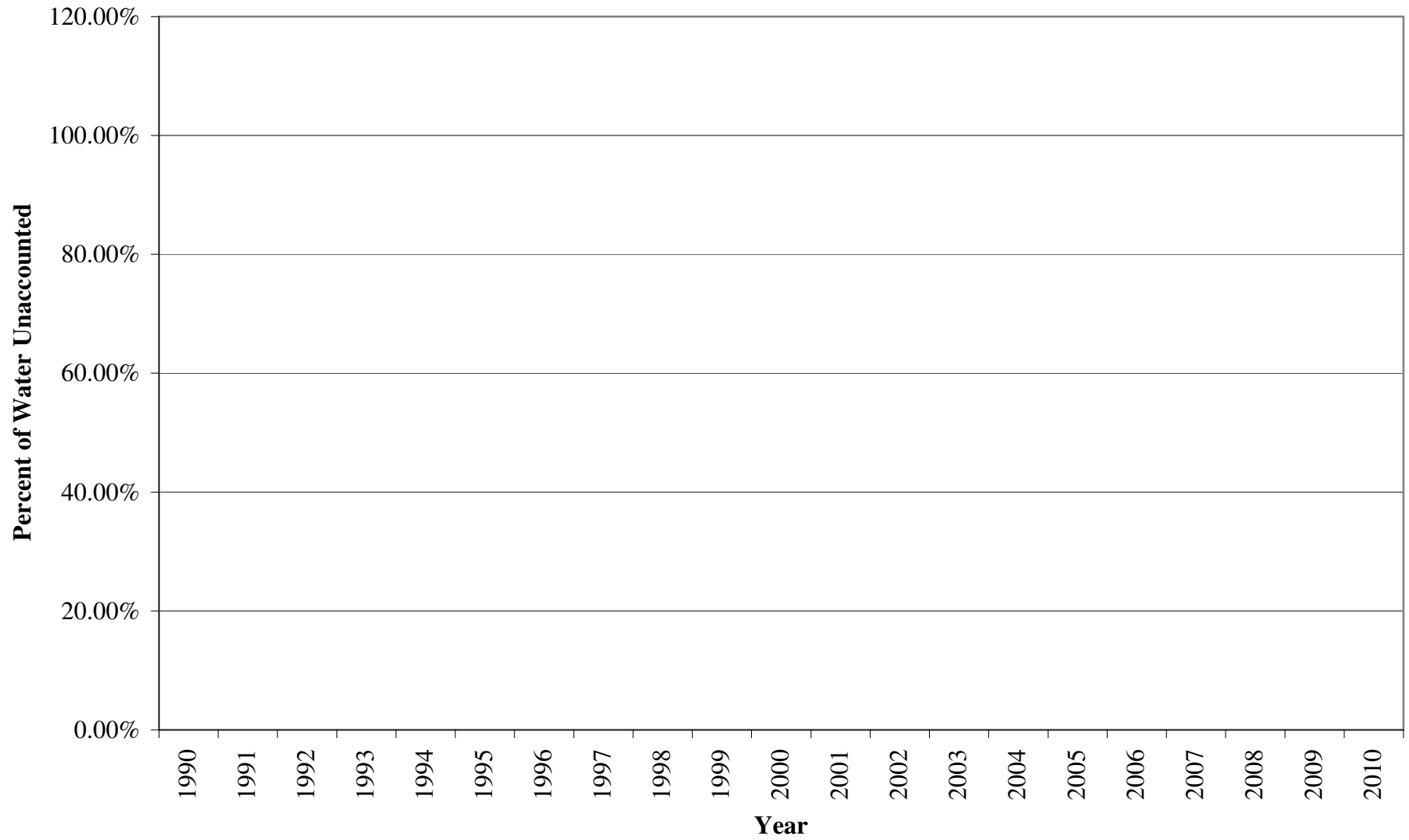
Historical Water Sales by Classification



Historical Per Capita Municipal Use



Historical Percent Unaccounted Water



APPENDIX E

**CONSIDERATIONS FOR LANDSCAPE
WATER MANAGEMENT REGULATIONS**

APPENDIX E
Considerations for Landscape Water Management Regulations

A. Purpose

The purpose of these proposed landscape water management regulations is to provide a consistent mechanism for preventing the waste of water resources. To enact these provisions, entities must verify legal authority to adopt such provisions, and must promulgate valid rules, orders, or ordinances.

B. Required Measures

The following landscape water conservation measures are required to be included in the landscape management regulations adopted and enforced in this plan.

1. Lawn and Landscape Irrigation Restrictions

- a. 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 the hours of 10:00 a.m. and 6:00 p.m. from April 1 through October 31 of any year.
- b. A person commits an offense 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:
 - i. 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
 - ii. irrigating lawn or landscape during any form of precipitation or freezing conditions. This restriction applies to all forms of irrigation, including automatic sprinkler systems; or
 - iii. the irrigation of impervious surfaces or other non-irrigated areas, wind driven water drift taken into consideration.
- c. A person commits an offense if the person knowingly or recklessly allows the irrigation or watering of any lawn or landscape located on any property owned, leased, or managed by the person more than two times per week (Sunday through Saturday).

2. Rain and Freeze Sensors and/or ET or Smart Controllers

- a. Any new irrigation system installed on or after January 1, _____, must be equipped with rain and freeze sensing devices and/or ET or Smart controllers in compliance with state design and installation regulations.
- b. A person commits an offense on property owned, leased or managed if the person:

- i. knowingly or recklessly installs or allows the installation of new irrigation systems in violation of Subsection B.2.a; or
- ii. knowingly or recklessly operates or allows the operation of an irrigation system that does not comply with Subsection B.2.a.

3. Filling or Refilling of Ponds

- a. A person commits an offense if the person knowingly or recklessly fills or refills any natural or manmade pond located on any property owned, leased, or managed by the person by introducing any treated water to fill or refill the pond. This does not restrict the filling or maintenance of pond levels by the effect of natural water runoff or the introduction of well water into the pond. A pond is considered to be a still body of water with a surface area of 500 square feet or more.

4. Washing of Vehicles

- a. A person commits an offense if the person knowingly or recklessly washes a vehicle without using a water hose with a shut-off nozzle on any property owned, leased, or managed by the person.

5. Enforcement

- a. Each entity will develop its own set of penalties for violations of the ordinance, order, or resolution. The ordinance, order, or resolution will designate the responsible official(s) to implement and enforce the landscape water conservation measures.

C. Recommended Measures

1. Lawn and Landscape Irrigation Restrictions

- a. 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:
 - i. has broken or missing sprinkler head(s); or
 - ii. has not been properly maintained to prevent the waste of water.
- b. A person commits an offense if the person knowingly or recklessly overseeds a lawn with rye or winter grass on property that the person owns, leases, or manages. Golf courses and public athletic fields are exempt from this restriction.
- c. All new athletic fields must have separate irrigation systems that are capable of irrigating the playing fields separately from other open spaces.

2. Rain and Freeze Sensors

- a. Existing irrigation systems must be retrofitted with similar rain and freeze sensors capable of multiprogramming within 5 years.

D. Variances

1. In special cases, variances may be granted to persons demonstrating extreme hardship or need. Variances 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 variance; and
 - b. the variance must not cause an immediate significant reduction to the water supply; and
 - c. the extreme hardship or need requiring the variance 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 variance.
2. A variance will be revoked 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

**LETTERS TO REGION C AND REGION D
WATER PLANNING GROUPS**

APPENDIX F
Letters to Region C and Region D Water Planning Groups

Date

Region C Water Planning Group
North Texas Municipal Water District
P.O. Box 2408
Wylie, TX 75098

Dear Sir:

Enclosed please find a copy of the recently updated Model Water Conservation and Drought Contingency and Water Emergency Response Plan for the Member Cities and Customers of the North Texas Municipal Water District. I am submitting a copy of this model plan to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of the North Texas Municipal Water District adopted the updated model plan on _____, 2008.

Sincerely,

Jim Parks
North Texas Municipal Water District

Date

Mr. Jim Thompson
Chair, Region D Water Planning Group
P.O. Box 1107
Atlanta, TX 75551

Dear Mr. Thompson:

Enclosed please find a copy of the recently updated Model Water Conservation and Drought Contingency and Water Emergency Response Plan for the Member Cities and Customers of the North Texas Municipal Water District. I am submitting a copy of this model plan to the Region D Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of the North Texas Municipal Water District adopted the updated model plan on _____, 2008.

Sincerely,

Jim Parks
Executive Director
North Texas Municipal Water District

APPENDIX G

**ADOPTION OF WATER CONSERVATION AND DROUGHT
CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN**

APPENDIX G
**Adoption of Water Conservation and Drought
Contingency and Water Emergency Response Plan**

Municipal Ordinance
**Adopting Water Conservation and Drought
Contingency and Water Emergency Response Plan**

Ordinance No. _____

AN ORDINANCE ADOPTING A WATER CONSERVATION AND DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN FOR THE CITY OF _____ TO PROMOTE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION AND DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN.

WHEREAS, the City of ____, Texas (the “City”), recognizes that the amount of water available to its water customers is limited; and

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

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the “Commission”) require that the City adopt a Water Conservation and Drought Contingency and Water Emergency Response Plan; and

WHEREAS, the City has determined an urgent need in the best interest of the public to adopt a Water Conservation and Drought Contingency and Water Emergency Response Plan; and

WHEREAS, pursuant to Chapter 54 of the Local Government Code, the City is authorized to adopt such Ordinances necessary to preserve and conserve its water resources; and

WHEREAS, the City Council of the City of ____ desires to adopt the North Texas Municipal Water District (the “NTMWD”) Model Water Conservation and Drought Contingency and Water Emergency Response Plan as official City policy for the conservation of water.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF _____ THAT:

Section 1. The City Council hereby approves and adopts the NTMWD Model Water Conservation and Drought Contingency and Water Emergency Response Plan (the “Plan”), attached hereto as Addendum A, as if recited verbatim herein. The City commits to implement the requirements and procedures set forth in the adopted Plan.

Section 2. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a fine of up to two thousand dollars (\$2,000.00) and/or discontinuance of 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 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 3. The City Council does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Ordinance was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Ordinance and the subject matter thereof has been discussed, considered and formally acted upon. The City Council further ratifies, approves and confirms such written notice and the posting thereof.

Section 4. Should any paragraph, sentence, clause, phrase or word of this Ordinance be declared unconstitutional or invalid for any reason, the remainder of this Ordinance shall not be affected.

Section 5. The City Manager or his designee is hereby directed to file a copy of the Plan and this Ordinance with the Commission in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

Section 6. The City Secretary is hereby authorized and directed to cause publication of the descriptive caption of this ordinance as an alternative method of publication provided by law.

Section 7. {If Applicable} Ordinance No. _____, adopted on _____, is hereby repealed.

Passed by the City Council on this ___ day of _____, ____.

Mayor

Attest:

City Secretary

**Municipal Utility District Order
Adopting Water Conservation and Drought
Contingency and Water Emergency Response Plan**

Order No. _____

AN ORDER ADOPTING A WATER CONSERVATION AND DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN FOR THE _____ MUNICIPAL UTILITY DISTRICT TO PROMOTE THE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION PLAN.

WHEREAS, the _____ Municipal Utility District (the “District”), recognizes that the amount of water available to its water customers is limited; and

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

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the “Commission”) require that the District adopt a Water Conservation and Drought Contingency and Water Emergency Response Plan; and

WHEREAS, the District has determined an urgent need in the best interest of the public to adopt a Water Conservation and Drought Contingency and Water Emergency Response Plan; and

WHEREAS, pursuant to Chapter 49 of the Water Code, the District is authorized to adopt such policies necessary to accomplish the purposes for which it was created, including but not limited to the preservation and conservation of water resources; and

WHEREAS, the Board of Directors of the District desires to adopt the North Texas Municipal Water District (the “NTMWD”) Model Water Conservation and Drought Contingency and Water Emergency Response Plan as official District policy for the conservation of water.

NOW THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF THE _____ MUNICIPAL UTILITY DISTRICT THAT:

Section 1. The Board of Directors hereby approves and adopts the NTMWD Model Water Conservation and Drought Contingency and Water Emergency Response Plan (the

“Plan”), attached hereto as Addendum A, as if recited verbatim herein. The District commits to implement the requirements and procedures set forth in the adopted Plan.

Section 2. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a monetary fine as allowed by law, and/or discontinuance of water service by the District. 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 Plan is a separate violation. The District's authority to seek injunctive or other civil relief available under the law is not limited by this section.

Section 3. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Order was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Order and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 4. The General Manager or his designee is hereby directed to file a copy of the Plan and this Ordinance with the Commission in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Order be declared unconstitutional or invalid for any reason, the remainder of this Order shall not be affected.

Section 6. {If Applicable} Order No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

President, Board of Directors

Attest:

Secretary

**Special Utility District Order
Adopting Water Conservation and Drought
Contingency and Water Emergency Response Plan**

Order No. _____

AN ORDER ADOPTING A WATER CONSERVATION AND DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN FOR THE _____ SPECIAL UTILITY DISTRICT TO PROMOTE THE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION AND DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN.

WHEREAS, the _____ Special Utility District (the “District”), recognizes that the amount of water available to its water customers is limited; and

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

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the “Commission”) require that the District adopt a Water Conservation and Drought Contingency and Water Emergency Response Plan; and

WHEREAS, the District has determined an urgent need in the best interest of the public to adopt a Water Conservation Plan; and

WHEREAS, pursuant to Chapter 65 of the Water Code, the District is authorized to adopt such policies necessary to accomplish the purposes for which it was created, including but not limited to the preservation and conservation of water resources; and

WHEREAS, the Board of Directors of the District desires to adopt the North Texas Municipal Water District (the “NTMWD”) Model Water Conservation and Drought Contingency and Water Emergency Response Plan as official District policy for the conservation of water.

NOW THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF THE _____ SPECIAL UTILITY DISTRICT THAT:

Section 1. The Board of Directors hereby approves and adopts the NTMWD Model Water Conservation and Drought Contingency and Water Emergency Response Plan (the “Plan”), attached hereto as Addendum A, as if recited verbatim herein. The District commits to implement the requirements and procedures set forth in the adopted Plan.

Section 2. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a monetary fine as allowed by law, and/or discontinuance of water service by the District. 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 Plan is a separate violation. The District's authority to seek injunctive or other civil relief available under the law is not limited by this section.

Section 3. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Order was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Order and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 4. The General Manager or his designee is hereby directed to file a copy of the Plan and this Ordinance with the Commission in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Order be declared unconstitutional or invalid for any reason, the remainder of this Order shall not be affected.

Section 6. {If Applicable} Order No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

President, Board of Directors

Attest:

Secretary

**Water Supply Corporation Resolution
Adopting Water Conservation and Drought
Contingency and Water Emergency Response Plan**

Resolution No. _____

A RESOLUTION ADOPTING A WATER CONSERVATION AND DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN FOR THE _____ WATER SUPPLY CORPORATION TO PROMOTE THE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION AND DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN.

WHEREAS, the _____ Water Supply Corporation (the “WSC”), recognizes that the amount of water available to its water customers is limited; and

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

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the “Commission”) require that the WSC adopt a Water Conservation and Drought Contingency and Water Emergency Response Plan; and

WHEREAS, the WSC has determined an urgent need in the best interest of the public to adopt a Water Conservation and Drought Contingency and Water Emergency Response Plan; and

WHEREAS, pursuant to Chapter 67 of the Water Code, the WSC is authorized to adopt such policies necessary to preserve and conserve its water resources; and

WHEREAS, the Board of Directors of the WSC desires to adopt the North Texas Municipal Water District (the “NTMWD”) Model Water Conservation and Drought Contingency and Water Emergency Response Plan as official WSC policy for the conservation of water.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE _____ WATER SUPPLY CORPORATION THAT:

Section 1. The Board of Directors hereby approves and adopts the NTMWD Model Water Conservation and Drought Contingency and Water Emergency Response Plan (the

“Plan”), attached hereto as Addendum A, as if recited verbatim herein. The WSC commits to implement the requirements and procedures set forth in the adopted Plan.

Section 2. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a monetary fine as allowed by law, and/or discontinuance of water service by the WSC. 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 Plan is a separate violation. The WSC's authority to seek injunctive or other civil relief available under the law is not limited by this section.

Section 3. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Resolution was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Resolution and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 4. The General Manager or his designee is hereby directed to file a copy of the Plan and this Ordinance with the Commission in accordance with Title 30, Chapter 288 of the Texas Administrative Code. Further, the Board of Directors hereby authorizes the General Manager or his designee to file an amendment to the WSC's tariff to incorporate the Plan therein.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Resolution be declared unconstitutional or invalid for any reason, the remainder of this Resolution shall not be affected.

Section 6. {If Applicable} Resolution No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the _____ on this ___ day of _____, ____.

President, Board of Directors

Attest:

Secretary

APPENDIX H
ILLEGAL WATER CONNECTIONS AND THEFT OF WATER

APPENDIX H
Illegal Water Connections and Theft of Water

Municipal Ordinance
Pertaining to Illegal Water Connections and Theft of Water

Ordinance No. _____

AN ORDINANCE PERTAINING TO ILLEGAL WATER CONNECTIONS AND/OR THE THEFT OF WATER RELATED TO THE WATER SUPPLY FOR THE CITY OF _____.

WHEREAS, the City of _____, Texas (the “City”) recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 54 of the Local Government Code, the City is authorized to adopt such policies necessary to preserve and conserve available water supplies; and

WHEREAS, the City seeks to adopt an ordinance pertaining to illegal water connections and theft of water.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF _____ THAT:

Section 1. The City Council hereby approves and adopts this Ordinance as described herein.

Section 2. A person commits an offense of theft of water by any of the following actions:

- (a) A person may not knowingly tamper, connect to, or alter any component of the City’s water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the City.
- (b) If, without the written consent of the City Manager or the City Manager’s designee, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).

(c) A person may not knowingly make or cause a false report to be made to the City of a reading of a water meter installed for metered billing.

(d) A person commits a separate offense each day that the person performs an act prohibited by this section or fails to perform an act required by this section.

Section 3. An offense under this Ordinance is a Class C misdemeanor punishable by a fine of up to two thousand dollars (\$2,000.00) and/or discontinuance of water service by the City.

Section 4. The City Council does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Ordinance was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Ordinance, and the subject matter thereof, has been discussed, considered and formally acted upon. The City Council further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Ordinance be declared unconstitutional or invalid for any reason, the remainder of this Ordinance shall not be affected.

Section 6. The City Secretary is hereby authorized and directed to cause publication of the descriptive caption of this ordinance as an alternative method of publication provided by law.

Section 7. {If Applicable} Ordinance No. _____, adopted on _____, is hereby repealed.

Passed by the City Council on this ____ day of _____, ____.

Mayor

Attest:

City Secretary

**Municipal Utility District Order
Pertaining to Illegal Water Connections and Theft of Water**

Order No. _____

**AN ORDER PERTAINING TO ILLEGAL WATER CONNECTIONS AND/OR
THE THEFT OF WATER RELATED TO THE WATER SUPPLY FOR THE
_____ MUNICIPAL UTILITY DISTRICT.**

WHEREAS, the _____ Municipal Utility District (the “District”), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 49 of the Water Code, the District is authorized to adopt such policies necessary to accomplish the purposes for which it was created, including but not limited to the preservation and conservation of available water supplies; and

WHEREAS, the District seeks to adopt an order pertaining to illegal water connections and theft of water.

**NOW THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF
THE _____ MUNICIPAL UTILITY DISTRICT THAT:**

Section 1. The Board of Directors hereby approves and adopts this Order as described herein.

Section 2. A person commits an offense of theft of water by any of the following actions:

- (a) A person may not knowingly tamper, connect to, or alter any component of the District’s water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the District.
- (b) If, without the written consent of the District, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).
- (c) A person may not knowingly make or cause a false report to be made to the District of a reading of a water meter installed for metered billing.
- (d) A person commits a separate offense each day that the person performs an act prohibited by this section or fails to perform an act required by this section.

Section 3. An offense under this Order is punishable in accordance with the District's rules and policies regarding rates and may result in disconnection of service.

Section 4. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Order was posted at a designated place convenient to the public for the time required by law preceding this meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Order, and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Order be declared unconstitutional or invalid for any reason, the remainder of this Order shall not be affected.

Section 6. {If Applicable} Order No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

President, Board of Directors

Attest:

Secretary

**Special Utility District Order
Pertaining to Illegal Water Connections and Theft of Water**

Order No. _____

**AN ORDER PERTAINING TO ILLEGAL WATER CONNECTIONS AND/OR
THE THEFT OF WATER RELATED TO THE WATER SUPPLY FOR THE
_____ SPECIAL UTILITY DISTRICT.**

WHEREAS, the _____ Special Utility District (the “District”), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 65 of the Water Code, the District is authorized to adopt such policies necessary to preserve and conserve available water supplies; and

WHEREAS, the District seeks to adopt an order pertaining to illegal water connections and theft of water.

**NOW THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF
THE _____ SPECIAL UTILITY DISTRICT THAT:**

Section 1. The Board of Directors hereby approves and adopts this Order as described herein.

Section 2. A person commits an offense of theft of water by any of the following actions:

- (a) A person may not knowingly tamper, connect to, or alter any component of the District’s water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the District.
- (b) If, without the written consent of the District, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).
- (c) A person may not knowingly make or cause a false report to be made to the District of a reading of a water meter installed for metered billing.
- (d) A person commits a separate offense each day that the person performs an act prohibited by this section or fails to perform an act required by this section.

Section 3. An offense under this Order is punishable in accordance with the District’s rules and policies regarding rates and may result in disconnection of service.

Section 4. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Order was posted at a designated place convenient to the public for the time required by law preceding this meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Order, and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Order be declared unconstitutional or invalid for any reason, the remainder of this Order shall not be affected.

Section 6. {If Applicable} Order No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

President, Board of Directors

Attest:

Secretary

**Water Supply Corporation Resolution
Pertaining to Illegal Water Connections and Theft of Water**

Resolution No. _____

**A RESOLUTION PERTAINING TO ILLEGAL WATER CONNECTIONS
AND/OR THE THEFT OF WATER RELATED TO THE WATER SUPPLY FOR
THE _____ WATER SUPPLY CORPORATION.**

WHEREAS, the _____ Water Supply Corporation (the “WSC”), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 67 of the Water Code, the WSC is authorized to adopt such policies necessary to preserve and conserve available water supplies; and

WHEREAS, the WSC seeks to adopt an order pertaining to illegal water connections and theft of water.

**NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF
THE _____ WATER SUPPLY CORPORATION THAT:**

Section 1. The Board of Directors hereby approves and adopts this Resolution as described herein.

Section 2. A person commits an offense of theft of water by any of the following actions:

- (a) A person may not knowingly tamper, connect to, or alter any component of the WSC’s water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the WSC.
- (b) If, without the written consent of the WSC, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).
- (c) A person may not knowingly make or cause a false report to be made to the WSC of a reading of a water meter installed for metered billing.
- (d) A person commits a separate offense each day that the person performs an act prohibited by this section or fails to perform an act required by this section.

Section 3. An offense under this Resolution is punishable in accordance with the WSC's rules and policies regarding rates, including its approved tariff, and may result in disconnection of service.

Section 4. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Resolution was posted at a designated place convenient to the public for the time required by law preceding this meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Resolution, and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Resolution be declared unconstitutional or invalid for any reason, the remainder of this Resolution shall not be affected.

Section 6. {If Applicable} Resolution No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

President, Board of Directors

Attest:

Secretary

APPENDIX I
TCEQ WATER CONSERVATION
IMPLEMENTATION REPORT

Description of Water Conservation Measure:

Date Implemented: _____

Description of Water Conservation Measure:

Date Implemented: _____

Description of Water Conservation Measure:

Date Implemented: _____

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Date Implemented: _____

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Date Implemented: _____

III. TARGETS

- A. Provide the **specific and quantified five and ten-year targets** as listed in water conservation plan for previous planning period.

5-Year Specific/Quantified Target: _____

Date to achieve target: _____

10-Year Specific/Quantified Target: _____

Date to achieve target: _____

- B. State if these targets in the water conservation plan are being met.

C. List the **actual amount of water saved**.

D. If the targets are not being met, provide an explanation as to why, including any progress on the targets.

If you have any questions on how to fill out this form or about the Water Conservation program, please contact the Texas Commission on Environmental Quality at (512) 239-4691.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.