

**CONSERVATION
PLAN FOR CASH
SPECIAL UTILITY
DISTRICT AND
WHOLESALE
CUSTOMERS**

April 2009



ACKNOWLEDGEMENTS

This model water conservation plan was prepared by Freese and Nichols for the North Texas Municipal Water District (NTMWD). It is intended to be used by NTMWD member cities and customers as they develop their own water conservation 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 used extensively.

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TABLE OF CONTENTS

1. INTRODUCTION AND OBJECTIVES..... 1-1

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES..... 2-1

3. WATER UTILITY PROFILE..... 3-1

4. SPECIFICATION OF WATER CONSERVATION GOALS 4-1

5. METERING, WATER USE RECORDS, CONTROL OF UNACCOUNTED WATER, AND LEAK DETECTION AND REPAIR 5-1

5.1 Accurate Metering of Treated Water Deliveries from NTMWD 5-1

5.2 Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement..... 5-1

5.3 Record Management System 5-1

5.4 Determination and Control of Unaccounted Water 5-1

5.5 Leak Detection and Repair..... 5-2

5.6 Monitoring of Effectiveness and Efficiency - Annual Water Conservation Report..... 5-2

5.7 Water Conservation Implementation Report..... 5-2

6. CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN 6-1

7. WATER RATE STRUCTURE..... 7-1

8. OTHER WATER CONSERVATION MEASURES 8-1

8.1 Distribution Monitoring..... 8-1

8.2 Water Accounting 8-1

8.3 Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures..... 8-1

8.4 Considerations for Landscape Water Management Regulations (Optional) . 8-1

8.5 Requirement for Water Conservation Plans by Wholesale Customers 8-2

8.6 Coordination with Regional Water Planning Group and NTMWD..... 8-2

9. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN..... 9-1

10. REVIEW AND UPDATE OF WATER CONSERVATION PLAN.....10-1

APPENDICES

APPENDIX A	List of References
APPENDIX B	Texas Commission on Environmental Quality Rules on Municipal Water Conservation Plans <ul style="list-style-type: none">• 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)
APPENDIX C	Water Utility Profile and Definitions of Terms
APPENDIX D	Water Conservation Report
APPENDIX E	Considerations for Landscape Water Management Regulations
APPENDIX F	Letters to Region C and Region D Water Planning Groups
APPENDIX G	Adoption of Water Conservation Plan <ul style="list-style-type: none">• Ordinance Adopting Water Conservation Plan
APPENDIX H	Illegal Water Connections and Theft of Water <ul style="list-style-type: none">• Ordinance Pertaining to Illegal Water Connections and Theft of Water
APPENDIX I	TCEQ Water Conservation Implementation Report

Conservation Plan for Cash Special Utility District (the “District”) and Wholesale Customers

APRIL 2009

1. INTRODUCTION AND OBJECTIVES

Water supply has always been a key issue in the development of Texas. In recent years, the growing population and economic development of North Central Texas have led to 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 we make efficient use of our existing supplies and make them last as long as possible. 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 plans for public water suppliers¹. TCEQ guidelines and requirements are included in Appendix B. The North Texas Municipal Water District (NTMWD) has also developed this model water conservation plan for its member cities and customers following TCEQ guidelines and requirements.

The objectives of this 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.
- 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 per Customer.

¹ Superscripted numbers match references listed in Appendix A.

The water utility profile, goals, and ordinance(s) or regulations should be provided to the District for review and comments.

This plan includes all of the elements required by TCEQ. Some elements of this plan go beyond TCEQ requirements, and wholesale customers can be flexible in their implementation. The following elements are recommended for inclusion in the water conservation plan but are not required:

- landscape water management plan and
- 12% goal for unaccounted water. (The goal for unaccounted water might be higher for rural systems.)

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

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) – Accurate Metering – Sections 5.1 and 5.2
- 288.2(a)(1)(D) – Universal Metering – Section 5.2
- 288.2(a)(1)(E) – Determination and Control of Unaccounted Water – Section 5.4
- 288.2(a)(1)(F) – Public Education and Information Program – Section 6
- 288.2(a)(1)(G) – Non-Promotional Water Rate Structure – Section 7
- 288.2(a)(1)(H) – Reservoir System Operation Plan – Section 8.1
- 288.2(a)(1)(I) – Means of Implementation and Enforcement – Section 9
- 288.2(a)(1)(J) – Coordination with Regional Water Planning Group – Section 8.6 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 cities with 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 8.5

Additional Conservation Strategies

TCEQ rules also list additional optional but not required conservation strategies, which may be adopted by suppliers. The following optional strategies are included in this plan:

- 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)(D) – Reuse and Recycling of Wastewater – Section 8.2
- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 8.4 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

3. WATER UTILITY PROFILE

Appendix C to this water conservation plan is a water utility profile based on the format recommended by the TCEQ. In adopting this water conservation plan, each wholesale customer will provide a water utility profile to the District.

Current Wholesale Customers required to submit Utility Profiles to the District

City of Quinlan

City of Lone Oak

AquaTexas

4. SPECIFICATION OF WATER CONSERVATION GOALS

Current TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. As part of plan adoption, each wholesale customer will develop 5-year and 10-year goals for per capita municipal use, following TCEQ procedures described in the water utility profile (Appendix C). These goals should be submitted to the District.

The goals for this water conservation plan include the following:

- Keep the per capita municipal water use below the specified amount in gallons per capita per day in a dry year, to be shown on the completed Table C-1 (5-year and 10-year goals).
- Keep the level of unaccounted water in the system below 12% annually in 2008 and subsequent years, as discussed in Section 5.4. (The 12% 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.
- Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 8.4. (The 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.

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

One of the key elements in water conservation is careful tracking of water use and control of losses through illegal diversions and leaks. Careful metering of water deliveries and water use, detection and repair of leaks in the distribution system and regular monitoring of unaccounted water are important in controlling losses.

5.1 Accurate Metering of Treated Water Deliveries from the District

The District supplies all of the water used by its customer and wholesale customers. Water deliveries are metered by the District using meters with accuracy of $\pm 2\%$. All residential meters have just been replaced with new radio read meters. These meters will be tested upon customer request and changed out if the meter fails to read within the AWWA standards. All residential meters will be replaced after 10 years or 1 million gallons usage. All Wholesale Customers and Distribution Pressure Plain Meters are calibrated on a yearly basis to maintain the required accuracy.

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

All wholesale customers, including public and governmental users, should be metered. For those member cities and customers who do not currently meter all of their water uses, these entities will 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. Those who do not currently have a meter testing and replacement program will 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), the record management system allows for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information will be included in an annual water conservation report, as described in Section 5.6 below.

For those entities whose record management systems do not currently allow for the separation of water sales as described above, they will 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 the District's customers through the residential, wholesale meters and water pumped into the District's distribution system. (Authorized but un-metered uses would include use for fire fighting, releases for flushing of lines, and uses associated with new construction.) 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 leaks in the water distribution system.
- Losses due to illegal connections and theft. (Included in Appendix H.)
- Other.

Measures to control unaccounted water are part of the routine operations of the District and customers. Maintenance crews and personnel are asked to look for and report evidence of leaks in the water distribution system. The leak detection and repair program is described in Section 5.5 below. Meter readers are asked to watch for and report signs of illegal connections, so they can be addressed quickly. Also the District offers a leak credit of \$25.00 dollars to any customer who reports a leak on the District's distribution system.

Unaccounted water is to be calculated in Appendix C. With the measures described in this plan, the District and wholesale customers intend to maintain the unaccounted water below 12% in 2008 and subsequent years. If unaccounted water exceeds this goal, the District or wholesale customer will 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 used to monitor unaccounted water.

5.5 Leak Detection and Repair

As described above, District personnel are asked to 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 are targeted for replacement as funds are available.

5.6 Monitoring of Effectiveness and Efficiency - Annual Water Conservation Report

Appendix D is a form that will be used in the development of an annual water conservation report for wholesale customers. This form will be completed by March 31 of the following year and will be 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 will also be sent to region C and D, which will monitor regional 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:

- Insert water conservation information with water bills. Inserts will include material developed by the Districts' 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 the Districts' staff are available to make presentations on the importance of water conservation and ways to save water.
- Make the "*Major Rivers Program*", water conservation brochures, and other water conservation materials available to the Public Schools in the Districts' service area, office and other public places.
- Make information on water conservation available on its website (cashwater.org) and include links to the "*Water IQ: Know your Water*" Website, Texas Smartscape www.txsmartscape.com website and to information on water conservation on the TWDB and TCEQ web sites.

1. WATER RATE STRUCTURE

The District has an increasing block rate water structure that is intended to encourage water conservation and discourage excessive use and waste of water. The Districts' water rate structure is as follows:

Residential Rates

Base rate = \$23.50 / month, no water.

0 – 5,000 gals = \$3.50/1000 gals

5,001 – 10,000 gals = \$3.75/ 1000 gals

10,001 – 15,000 gals = \$4.25/1000 gals

15,001 – 20,000 gals = \$4.75/1000 gals

20,001 – 25,000 gals = \$5.00/1000 gals

25,001 – and up = \$6.00/1000 gals

Wholesale Rates

Wholesale rates are calculated each year after the Districts' audit by dividing total water produced by total budget year expenditures times 85%.

8. OTHER WATER CONSERVATION MEASURES

8.1 DISTRIBUTION MONITORING

The District’s personnel monitor the distribution system 24 hours a day through a SCADA system. Any drop in pressure or change in the distribution system causes personnel to be dispatched.

8.2 Water Accounting

The District performs weekly water audits comparing the amount of water pumped from NTMWD and the Districts’ water treatment plant through the different pressure plains and onto the customers’ metered sales.

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

The State of Texas 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.

8.4 Considerations for Landscape Water Management Regulations

The following landscape water management measures are required by the District 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 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.

- Prohibition of watering areas that have been over-seeded with cool season grasses (such as rye grass or other similar grasses), except for golf courses and public athletic fields.
- During times of drought and or increased water usage the District provides its' customers with watering calendars to use for outdoor, landscape watering.

8.5 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 and drought contingency plan will include a requirement that the wholesale customer and any wholesale customers of that wholesale customer develop and implement a water conservation plan meeting the requirements of Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code. The requirement will also extend to each successive wholesale customer in the resale of the water.

8.6 Coordination with Regional Water Planning Group and NTMWD

Appendix F includes a letter sent to the Chair of the Region C and Region D water planning group with this water conservation plan.

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 this 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 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.

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.
- (33) Cash Special Utility District Conservation Plan 2004

APPENDIX B

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES
ON WATER CONSERVATION**

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, evapotranspirations 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

TITLE 30

ENVIRONMENTAL QUALITY

PART 1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CHAPTER 288

WATER CONSERVATION PLANS, DROUGHT
CONTINGENCY PLANS, GUIDELINES AND
REQUIREMENTS

SUBCHAPTER A

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

<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 B</u>	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
WATER UTILITY PROFILE

APPENDIX C
Water Utility Profile Based on TCEQ Format

Name of Utility: Cash Special Utility District
Address & Zip: P.O. Box 8129 Greenville, Texas 75404-8129
Telephone Number: 903-883-2695
Fax Number: 903-883-4045
Form Completed by: Clay Hodges
Title: General Manager
Signature: _____
Date: _____ Apr-09

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

Name: Clay Hodges
Phone Number: 903-883-2695

I. CUSTOMER DATA

A. Population and Service Area Data

1. Please attach a copy of your Certificate of Convenience and Necessity (CCN) from the TCEQ, and a service-area map.
2. Service area size (square miles): 250
3. Current population of service area: 15,910 as of year 2008
4. Current population served by utility:
water: 19,186
wastewater: 0
5. Miles of Water Distribution Pipeline: 591

6. Population served by utility for the previous five years. (Please list by year in ascending order.):

Year	Population
2004	14,793
2005	15,114
2006	15,582
2007	15,711
2008	15,910

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

Year	Population
2010	16,878
2020	20,084
2030	23,899
2040	28,439
2050	33,842
2060	40,271

8. List source(s)/method(s) for the calculation of current and projected population:

Cash is the source. Over the past two decades the District has grown by 19% per decade

Population projects are the number of connections times 2.8 persons.

B. Active Connections

1. Current number of active connections by user type:

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

Current year is: 2008

Treated Water Users	Metered	Non-Metered	Total
Residential	5,492	0	5,492
Commercial	170	0	170
Industrial	12	0	12
Public	1	0	1
Other	7	0	7
Total	5,682	0	5,682

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

Year	2006	2007	2008
Residential	160	114	87
Commercial	0	0	0
Industrial	0	0	0
Public	0	0	0
Other	0	0	0
Total	160	114	87

C. High Volume Customers

List annual water use for the five highest volume retail and wholesale customers.
 (Please indicate if treated or raw water delivery.):

Customer	Use (1,000 gal/yr)	Treated/ Raw Water
City of Quinlan	70,748	Treated
City of Lone Oak	20,556	Treated
Aqua Source	14,289	Treated
Boles Home	5,435	Treated
Lone Oak ISD	4,719	Treated

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 X (supplied from SRA)
 Treated Water X (supplied from NTMWD)

Year	2004	2005	2006	2007	2008
January	46,442	42,759	55,351	47,933	52,871
February	45,030	36,533	44,399	44,386	46,400
March	43,521	39,206	44,665	47,788	45,796
April	43,229	42,499	51,023	43,829	43,301
May	53,174	60,640	64,620	50,346	51,732
June	53,379	74,262	88,386	49,005	63,134
July	67,466	78,423	95,492	56,194	83,005
August	67,081	91,354	91,461	71,010	75,046
September	64,508	80,495	62,157	57,784	57,662
October	46,708	71,624	57,284	79,999	54,856
November	43,752	61,736	53,046	44,230	49,436
December	42,453	61,193	57,664	47,144	45,533
Total	616,743	740,724	765,548	639,648	668,772

The above figures were determined from a master meter located at the point where raw water enters the treatment plant, and from our metering station from NTMWD

2. Metered amount of water (in 1,000 gallons) delivered (sold) as recorded by the following account types (See #1, Appendix C1) for the past five years.:

Year	Residential	Commercial	Industrial	Wholesale	Other	Total Sold
2004	387,552	0	0	109,576		497,128
2005	473,374	0	0	124,851		598,225
2006	483,680	0	0	116,765		600,445
2007	363,108	0	0	104,737		467,845
2008	416,810	0	0	118,222		535,032

3. List previous five years records for unaccounted-for water use in million gallons (See #2, Appendix C1) Data is calculated in Appendix D.

Unaccounted Water	Year				
	2004	2005	2006	2007	2008
NTMWD Deliveries	254075000	288295000	292974000	246094000	256637000
Supplied by Cash TP	362668000	412584000	423676000	358279000	392774000
Total Sales	497128000	598225000	600445000	467845000	535032000
Fire Use	80000	177000	180000	144000	160000
Est. flushing, identified losses	40000000	40000000	40000000	40000000	40000000
Unaccounted Water	79535000	62477000	76025000	96384000	74219000
% Unaccounted	12.90	8.91	10.61	15.95	11.43
Goal for % Unaccounted	12.00%	12.00%	12.00%	12.00%	12.00%

4. List previous five years records for annual peak-to-average daily use ratio (See #3, Appendix C1):

Year	Average MGD	Peak MGD	Ratio
2004	2	2	<u>1.00</u>
2005	2	3	<u>1.50</u>
2006	2	4	<u>2.00</u>
2007	2	2	<u>1.00</u>
2008	2	3	<u>1.50</u>

5. Municipal per capita water use for previous five years (See #4, Appendix C1):

Year	Population	Total Diverted (or Treated) (1,000 gal)	Industrial Sales (1,000 gal)	Wholesale Sales (1,000 gal)	In-City Municipal Use (1,000 gal)	Municipal per Capita Use (gpcd)
2004	14,793	616,743	0	109,576		94
2005	15,114	740,724	0	124,851		112
2006	15,582	765,548	0	116,765		114
2007	15,711	639,648	0	104,737		93
2008	15,910	668,772	0	118,222		95

Year	Single Family Use (1,000 gal)	Multi-Family Use (1,000 gal)	Residential Use (1,000 gal)	Residential per Capita Use (gpcd)
2004			497,128	92
2005			598,225	108
2006			600,445	106
2007			467,845	82
2008			535,032	92

6. Seasonal water use for the previous five years (in gallons/person/day) (See #5, Appendix C1)

Note: The December value must be entered into #5 Appendix C1 to calculate the base per capita correctly for the first year entry.

Year	Population	Base per Capita Use (gpcd)	Summer per Capita Use (gpcd)	Seasonal Use (gpcd)	Portion of Average Annual Use Attributed to Seasonal Use (GPCD)
2004	14,793	106	141	35	9
2005	15,114	90	179	90	23
2006	15,582	115	196	82	21
2007	15,711	106	125	19	5
2008	15,910	102	154	52	13

Note: Seasonal per capita use is calculated by subtracting the base per capita use from the summer per capita use.

B. Projected Water Demands

Provide estimates for total water demands for the planning horizon of the utility. Indicate sources of data and how projected water demands were determined.

Year	Projected Demand (Ac Ft)	Source of data	Explanation of the Methodology Used to Develop Projection
2010	2,215	Cash SUD CIP	# of connections times 2.8 population
2020	2,927		times 112 gpcd times 365 divided by
2030	3,657		330,000gals
2040	4,569		
2050	5,712		
2060	6,748		

III. WATER SUPPLY SYSTEM

A. Water Supply Sources

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

Type	Source	Amount Available (MGD)
Surface water	Sabine River Authority	5.2
Groundwater		
Contracts	North Texas Municipal Water District	2.2
Other		

B. Treatment and Distribution System

- Design daily capacity of system:
- Storage capacity:
 - Elevated 1.55 MG
 - Ground 2.2 MG
- If surface water, do you recycle filter backwash to the head of the plant?
 Yes X No . If yes, approximately 0.2 MGD.
- Please describe the water system. Include the number of treatment plants, wells, and storage tanks. If possible, include a sketch of the system layout.
 See Vicinity map attached

IV. WASTEWATER UTILITY SYSTEM

A. Wastewater System Data

- Design capacity of wastewater treatment plant(s): _____ MGD
- Is treated effluent used for irrigation on-site _____, off-site _____, plant washdown _____, or chlorination/dechlorination _____? If yes, approximately _____ gallons per month. Could this be substituted for potable water now being used in these areas _____?
- Briefly describe the wastewater system(s) of the area services 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 discharge or disposal sites.:

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	2006	2007	2008
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Total	0	0	0

V. UTILITY OPERATING DATA

- A. List (or attach) water and wastewater rates, and rate structures for all classes.

Monthly Residential Rate	Base	\$23.00
	0-10K	3.25/1000gals
	10K-15K	3.50/1000gals
	15K-20K	4.00/1000gals
	20K-25K	4.50/1000gals
	25K - UP	5.50/1000gals

Wholesale Rate \$4.54/1000gals

- B. Other relevant data: Please indicate other data or information that is relevant to both the applicant's water management operations and design of a water conservation plan.

VI. CONSERVATION GOALS

Please use the data provided in this survey to establish conservation goals (additional data may be used).

- A. Water conservation goals for municipal utilities are generally established to maintain or reduce consumption, as measured in:

1. gallons per capita per day used;
2. unaccounted-for water uses;
3. peak-day to average-day ratio; and/or
4. an increase in reuse of recycling or water.

B. TCEQ/TWDB conservation staff assess the reasonableness of water conservation goals based on whether the applicant addresses the following steps:

1. identification of a water or wastewater problem;
2. completion of the utility profile;
3. selection of goals based on the technical potential to save water as identified in the utility profile;
and
4. performance of a cost-benefit analysis of conservation strategies.

If at least the first three steps have been completed and are summarized in the water conservation plan, then staff can conclude that there is substantiated basis for the goals, and that the water conservation plan is integrated into water management. Therefore, the established conservation goals can be deemed reasonable.

C. Complete the following in gallons per capita per day (gpcd) to quantify the water conservation goals for the utility's service area:

1. Estimation of the technical potential for reducing per capita water use (See Appendix C2).

Method	Most Likely Savings 5-Year (gpcd)	Most Likely Savings 10-Year (gpcd)
Reduction in unaccounted-for uses (Appendix C2, Section 4)	0.0	0.0
Reduction in indoor water use due to water-conserving plumbing fixtures (Table C-1)	0.0	0.0
Reduction in seasonal use (Appendix C2, Section 4)	1.6	4.6
Reduction in water use due to public education and rate programs (Appendix C2, Section 4)	2.0	5.1
Total Technical Potential for Reducing per Capita Water Use	3.6	9.7

* Subtract these totals from the dry-year per capita use to calculate the long-run planning goal.

2. Planning Goal

The planning goal equals the dry-year per capita water use minus the total technical potentials calculated in number one above.

	5-Year	10-Year
Planning goal (in gpcd):	<u>91.18</u>	<u>85.16</u>
Goal to be achieved by year:	<u>2015</u>	<u>2020</u>

3. Needed reduction in per capita use to meet planning goal (gpcd)

	5-Year	10-Year
Dry-year per capita use:	<u>95</u>	<u>95</u>
Planning goal (from #2 above):	<u>91.18</u>	<u>85.16</u>
Difference between current use and goal:	<u>3.63</u>	<u>9.65</u>

(Represents needed reduction in per capita use to meet goal.)

APPENDIX C1
Definitions of Utility Profile Terms

1. **Residential** sales should include residential sales to residential class customers only.
Industrial sales should include manufacturing and other heavy industry.
Commercial sales should include all retail businesses, offices, hospitals, etc.
Wholesale sales should include water sold to another utility for a resale to the public for human consumption.

2. **Unaccounted-for water** is the difference between water diverted or treated (as reported in Section IIIA1) and water delivered (sold) as reported in Section IIA2). Unaccounted-for water 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.

3. The **peak-day to average day ratio** is calculated by dividing the maximum daily pumpage (in million gallons per day) by the average daily pumpage. Average daily pumpage is the total pumpage for the year (as reported in Section IIA1) divided by 365 and expressed in million gallons per day.

4. **Municipal per capita use** is defined as total annual municipal water use divided by the population and 365 days. Total municipal water use is calculated by subtracting the **industrial sales** and **wholesale sales** from the total water diverted or treated (as reported in Section IIA1)

Total municipal water use = total water diverted or treated - industrial sales - wholesale sales
Municipal per capita use (gpcd) = total municipal water use/population/365

Note: The AWWA considers the municipal per capita use as the most representative figure to use in long-range water supply and conservation planning.

5. **Seasonal water use** is the difference between base (winter) daily per capita use and summer daily per capita use. To calculate the **base daily per capita use**, average the monthly diversions for December, January, and February, and divide this average by 30. Then divide this figure by the population. To calculate the **summer daily per capita use**, average the months of June, July, and August, and divide the average by 31. Then divide the summer value by the population.

APPENDIX C2
Estimating the Technical Potential for Reducing Per Capita Water Use

The technical potential for reducing per capita water use is the range in potential water savings that can be achieved by implementing specific water conservation measures. The lower end of the range represents the potential savings under a "most likely," or real-world conservation scenario. The top of the range represents the potential savings under an "advanced" conservation scenario. The conservation measures include:

- reducing unaccounted-for water uses;
- reducing indoor water use due to water-conserving plumbing fixtures;
- reducing seasonal water use; and
- reducing water use through public education programs.

Guidelines and examples for calculating the technical potential water savings for each of these conservation measures are given below.

I. Reducing Unaccounted-For Water Uses

The TCEQ considers unaccounted-for water uses of 15% or less as acceptable for communities serving more than 5,000 people. Smaller, older systems or systems that have a larger service area may legitimately experience larger losses. Losses above 15% may be an area of concern, and provide a conservation potential.

The bottom of the range for technical potential savings for unaccounted-for uses is zero. To calculate the top of the range, see the following example:

Example:

Unaccounted-for uses =	19.50% (App C, II.A.3)	
Dry-year per capita water use =	250 gpcd	(App C, II.A.5)
<u>Potential for reduction in unaccounted-for use</u>		
=	(250 gpcd x 19.5%) - (250 gpcd x 15%)	
=	48.75 gpcd - 37.5 gpcd	
=	11.25 gpcd	
Technical Potential Savings Range = 0 to 11.25 gpcd		

Computation for ___ CASH SUD

Unaccounted-for uses =	11% (App C, II.A.3)	
Dry-year per capita water use =	95 gpcd	(App C, II.A.5)
<u>Potential for reduction in unaccounted-for use</u>		
=	0	
Technical Potential Savings Range = 0 to 0 gpcd		

II. Reducing Indoor Water Use due to Water-Conserving Plumbing Fixtures

The Texas Water Development Board (TWDB) recently completed a water conservation study that estimated that the average savings of replacing higher water-use fixtures with more efficient fixtures mandated by state and federal laws would be 16 gallons per person per day (10.5 gpcd for toilets and 5.5 gpcd for showerheads). The TWDB used 1995 as their benchmark for determining the potential average per-capita water savings of an entity. The 1995 population was assumed to have less-efficient water fixtures. No additional water savings can be expected in the basis of fixture replacement for the population growth after 1995. By 1995, retailers were assumed to have sold off their remaining stock of high water use plumbing fixtures. The annual rate of replacement was estimated to be 2% of the 1995 population.

The TWDB estimated the water savings due to low-flow plumbing fixture replacements as follows:

$$PCS2000 = (((POP1995 \times 10\%) + G1995-00) / POP2000) \times 16 \text{ gpcd}$$

where:

GPCD2000	Per person, per day in the Year 2000 (gpcd)
G1995-00	Population growth between 1995 and 2000
PCS2000	The entity's average gpcd savings due to plumbing code changes (fixture replacement) between 1995 and 2000
PCS2010	The entity's average gpcd savings in 2010 due to plumbing code changes (fixture replacement) in the previous 10 years
POP1995	July 1995 population estimate
POP2000	Census 2000 population (cities) or Year 2000 population estimate
POP2010 - POP2060	Population projections for the entity in the decades 2010 through 2060

The additional savings by decade can be calculated as follows:

$$PCS2010 = [((POP1995 \times 30\%) + (POP2010 - POP1995)) / POP2010 \times 16 \text{ gpcd}] - PCS2000$$

$$GPCD2010 = GPCD2000 - PCS2010$$

Notes: The 30% represents 2% x the number of years (2010-1995). These formulas work through 2040. By 2050, all of the fixture replacements would have taken place and no additional savings would occur.

The TWDB reductions are included in Table C-1.

III. Reducing Seasonal Water Use

The Texas Water development Board (TWDB) has calculated seasonal use as a percentage of average annual per capita use for East Texas (20%), West Texas (25%), and a statewide average of 22.5%. Seasonal water use is calculated by multiplying the average annual per capita use in gpcd by the appropriate percentage.

Based on the TWDB methodology, the technical potential for reduction in seasonal use is then calculated by multiplying the seasonal use by 7% for the "most likely" conservation scenario, and by 20% for the "advanced" scenario. Below is an example calculation:

Example:

Average annual per capita use =	185 gpcd	
Geographical location =	West Texas	
Seasonal use =	(185 gpcd x 25%) =	46.25 gpcd
Potential reduction in seasonal use (Most Likely scenario) =	(46.25 x 7%) =	3.24 gpcd
Potential reduction in seasonal use (Advanced scenario) =	(46.25 x 20%) =	9.25 gpcd
Technical Potential Savings Range = 3.24 to 9.25 gpcd		

Computation for Cash SUD:

Average annual per capita use =	102 gpcd	
Geographical location =	North Texas	
Seasonal use =	22.85 gpcd	
Potential reduction in seasonal use (Most Likely scenario) =		1.60 gpcd
Potential reduction in seasonal use (Advanced scenario) =		4.57 gpcd
Technical Potential Savings Range = 1.6 to 4.57 gpcd		

IV. Reducing Water Use through Public Education and Water Rates Programs

The technical potential for water conservation from public education and wate rates programs is estimated to be from 2% of the average annual per capita use for the "most likely" conservation scenario to 5% for the "advanced" scenario, according to the "Water Conservation Guidebook," published in 1993 by the American Water Works Association. Below is an example calculation:

Example:

Average annual per capita use =	185 gpcd	
Potential reduction in water use (Most Likely scenario) =	(185 x 2%) =	3.70 gpcd
Potential reduction in water use (Advanced scenario) =	(185 x 5%) =	9.25 gpcd
Technical Potential Savings Range = 3.7 to 9.25 gpcd		

Computation for ___ Cash SUD

Average annual per capita use =	101.55 gpcd	
Potential reduction in water use (Most Likely scenario) =	(185 x 2%) =	2.03 gpcd
Potential reduction in water use (Advanced scenario) =	(185 x 5%) =	5.08 gpcd
Technical Potential Savings Range = 2.03 to 5.08 gpcd		

To calculate the total technical potential for reducing municipal per capita water use, simply add the individual technical potential amounts calculated in items I-IV above. In this case the total technical potential range equals 6.94 gpcd to 29.75 gpcd

Example Summary of Technical Potential Calculations

Conservation Measure	Calculation Procedure	Example Result
Reducing unaccounted-for uses	(Dry year demand) x (Unacc.-for percentage if more than 15%, minus 15%)	0 to 11.25 gpcd
Reducing indoor water use due to water-efficient plumbing fixtures	Reduction expected according to TWDB	Included in Table C-1 separately.
Reducing seasonal water use	Seasonal use (Avg. use x 22.5%) x 7% and 20%	3.24 to 9.25 gpcd
Reducing water use through public education and water rates programs	Average use x 2% and 5%	3.7 to 9.25 gpcd
	Total Technical Potential Savings	6.94 to 29.75 gpcd

Summary of Technical Potential Calculations for _____

Conservation Measure	Calculation Procedure	Result
Reducing unaccounted-for uses	(Dry year demand) x (Unacc.-for percentage if more than 15%, minus 15%)	0 to 0
Reducing indoor water use due to water-efficient plumbing fixtures	Reduction expected according to TWDB	Included in Table C-1 separately.
Reducing seasonal water use	Seasonal use (Avg. use x 22.5%) x 7% and 20%	1.6 to 4.57
Reducing water use through public education and water rates programs	Average use x 2% and 5%	2.03 to 5.08
	Total Technical Potential Savings	13.63 to 26.65

To calculate the long-run planning goal, subtract these totals from the dry-year water demand.

Example:

Long-run planning goal = (dry year water demand with low-flow fixtures) minus (total technical potential)
 = 250 gpcd - 6.94 gpcd = 243 gpcd ("most likely" scenario)
 = 250 gpcd - 29.75 gpcd = 220 gpcd ("advanced" scenario)
Long-run planning goal for municipal water use = 243 gpcd to 220 gpcd

Computation for _____ CASH SUD

Long-run planning goal = (dry year water demand with low-flow fixtures) minus (total technical potential)
 5-year: 81 ("most likely" scenario) 10-year: 71 ("most likely" scenario)
 68 ("advanced" scenario) 58 ("advanced" scenario)

APPENDIX D
WATER CONSERVATION REPORT

**APPENDIX D
WATER CONSERVATION REPORT**

Due: March 31 of every year

Entity Reporting: Cash Special Utility District
 Filled Out By: Clay Hodges
 Date Completed: 14-Jan-10
 Year Covered: 2009
 # of Connections 5729

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	16.364	29.218	29.628		0	0	9.57		39.198
February	18.992	25.855	26.502		0	0	7.736		34.238
March	16.896	31.308	26.569		0	0	7.937		34.506
April	18.462	27.064	28.834		0	0	7.877		36.711
May	16.262	28.42	27.471		0	0	8.406		35.877
June	27.194	48.382	37.734		0	0	10.518		48.252
July	27.74	45.555	57.741		0	0	12.596		70.337
August	26.155	43.645	46.901		0	0	9.991		56.892
September	21.006	36.585	45.22		0	0	9.023		54.243
October	18.595	33.253	31.701		0	0	8.576		40.277
November	15.262	33.568	26.119		0	0	7.272		33.391
December	16.148	32.818	28.002		0	0	8.657		36.659
TOTAL	239.076	415.671	412.422	0	0	0	108.159	0	520.581

Unaccounted Water (Million Gallons):

NTMWD Deliveries 239.076 from Table above
 Other Supplies 415.671 from Table above
 Total Supplies 654.747 from Table above
 Total Sales 520.581 from Table above
 Fire Use 0.201 data from VFD reported on weekly water audit
 Line Flushing Use 49.6902 data from weekly water audit, work orders, and construction reports
 Unaccounted Water 84.2748
 % Unaccounted 12.87%
 Goal for % Unaccounted 12.00%

Per Capita Municipal Use (Gallons per person per day)

Municipal Use (MG)	546.588 from Table above (NTMWD deliveries+ other supplies - industrial sales - municipal sales - other sales)
Estimated Population	16,041 Source: taps times 2.8
Per Capita Use (gpcd)	93
5-year Per Capita Goal (92)	92
10-year Per Capita Goal (92)	92

Recorded Wholesale Sales by Month (in Million Gallons):

Month	Sales to AquaTexas	Sales to Quinlan	Sales to Lone Oak	Sales to L.O. ISD	Sales to Boles Home	Sales to Boles ISD	Sales to SRA	Total Wholesale Sales
January	1.32	6.226	1.353	0.153	0.432	0.08	0.006	9.57
February	1.106	4.51	1.344	0.179	0.509	0.08	0.0085	7.7365
March	1.066	4.872	1.308	0.184	0.356	0.093	0.058	7.937
April	1.208	4.673	1.277	0.162	0.42	0.072	0.065	7.877
May	1.211	5.001	1.363	0.156	0.446	0.09	0.139	8.406
June	1.666	6.118	1.695	0.237	0.462	0.25	0.09	10.518
July	1.838	6.766	2.171	0.62	0.641	0.388	0.172	12.596
August	1.288	5.333	1.98	0.559	0.456	0.327	0.048	9.991
September	1.211	5.127	1.585	0.391	0.471	0.187	0.051	9.023
October	1.102	5.225	1.46	0.236	0.433	0.085	0.035	8.576
November	0.881	4.342	1.206	0.289	0.418	0.101	0.035	7.272
December	1.198	5.154	1.64	0.142	0.45	0.059	0.014	8.657
TOTAL	15.095	63.347	18.382	3.308	5.494	1.812	0.7215	108.1595

Information on Wholesale Customers:

Customer	Estimated Population
AquaTexas	476
Quinlan	1680
Lone Oak	517
L.O. ISD	0
Boles Home	75
Boles ISD	0
SRA	25

Unusual Circumstances (use additional sheets if necessary):

Growth slowed to less than 80 new connections during the year. Wettest year on record. Over 65 inches of rain fall

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

Hard to tell if conservation is working very wet year.

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

Adding three new School Districts to "Major Rivers" program.

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

--

Other (use additional sheets if necessary):

--

Historical Water Use Data for Cash SUD

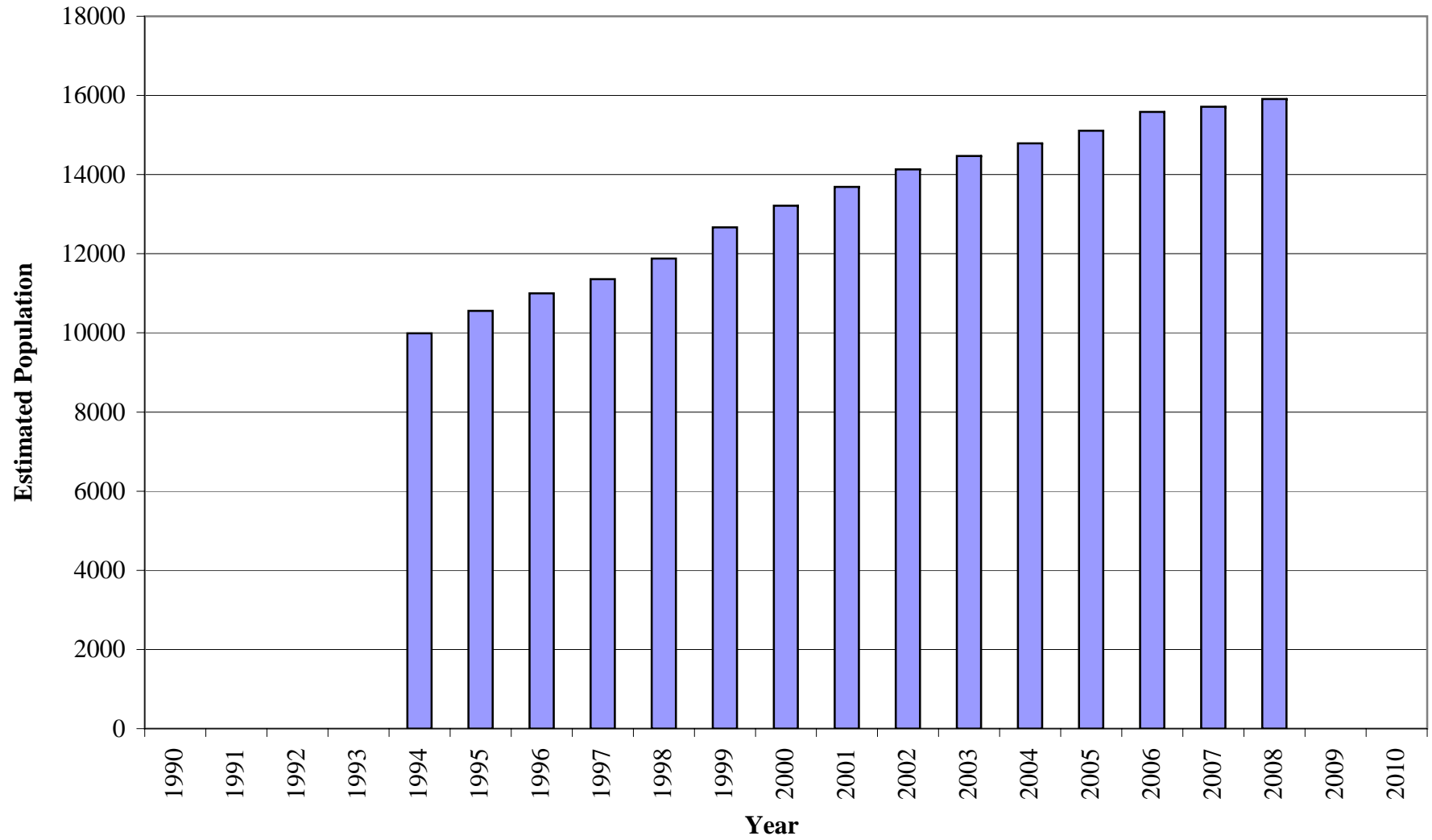
Year	Connections	Estimated Population	Deliveries from NTMWD (MG)	Other Supplies (MG)	Metered Sales by Category (Million Gallons)						Total
					Residential	Commercial	Public/ Institutional	Industrial	Wholesale	Other	
1990											0
1991											0
1992											0
1993											0
1994	3576	9988	158.982	243.1	231.56	0	0	0	92.372		323.932
1995	3770	10556	157.487	245.1	267.413	0	0	0	68.692		336.105
1996	3928	10998	140.502	268.1	285.695	0	0	0	75.77		361.465
1997	4056	11357	166.272	252.1	287.815	0	0	0	85.868		373.683
1998	4243	11880	209.695	298.1	348.911	0	0	0	112.668		461.579
1999	4524	12667	217.694	340.1	353.482	0	0	0	120.018		473.5
2000	4720	13216	234.197	350.1	375.192	0	0	0	124.979		500.171
2001	4889	13689	224.372	321.1	365.81	0	0	0	107.563		473.373
2002	5047	14132	206.743	301.1	346.265	0	0	0	105.754		452.019
2003	5167	14468	244.514	331.1	390.518	0	0	0	106.098		496.616
2004	5283	14792	254.075	326.1	370.184	0	0	0	113.904		484.088
2005	5397	15111	288.295	412.584	473.374	0	0	0	124.851		598.225
2006	5565	15582	292.974	423.676	481.5077	0	0.2088	2.1724	114.4973	0	598.3862
2007	5611	15711	246.094	358.279	362.5023	0	0.3592	1.6489	104.1865	0	468.6969
2008	5682	15910	256.637	392.774	416.8097	0	0	0	117.8245		534.6342
2009											0
2010											0

Historical Per Capita Use Data and Unaccounted Water for Cash SUD

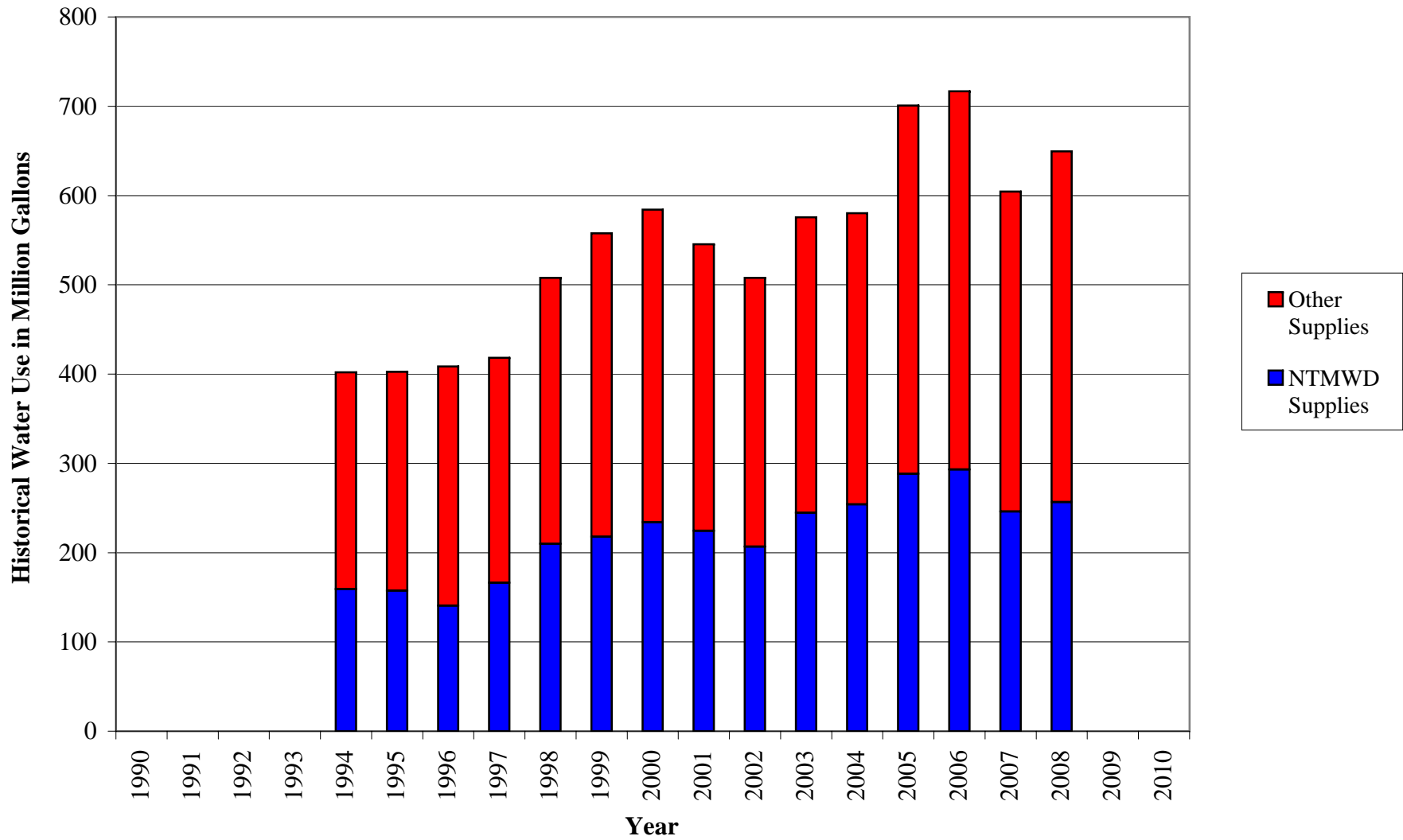
Year	Estimated Population	In-City Municipal Use* (MG)	Per Capita Municipal Use (gpcd)	Deliveries from NTMWD (MG)	Other Supplies (MG)	Total Metered Sales (MG)	Estimated Fire Use (MG)	Estimated Line Flushing (MG)	Unaccounted Water (MG)	% Unaccounted
1990	0	0	#DIV/0!	0	0	0			0	#DIV/0!
1991	0	0	#DIV/0!	0	0	0			0	#DIV/0!
1992	0	0	#DIV/0!	0	0	0			0	#DIV/0!
1993	0	0	#DIV/0!	0	0	0			0	#DIV/0!
1994	9988	309.71	85	158.982	243.1	323.932			78.15	19.44%
1995	10556	333.895	87	157.487	245.1	336.105			66.482	16.51%
1996	10998	332.832	83	140.502	268.1	361.465			47.137	11.54%
1997	11357	332.504	80	166.272	252.1	373.683			44.689	10.68%
1998	11880	395.127	91	209.695	298.1	461.579			46.216	9.10%
1999	12667	437.776	95	217.694	340.1	473.5			84.294	15.11%
2000	13216	459.318	95	234.197	350.1	500.171			84.126	14.40%
2001	13689	437.909	88	224.372	321.1	473.373			72.099	13.22%
2002	14132	402.089	78	206.743	301.1	452.019			55.824	10.99%
2003	14468	469.516	89	244.514	331.1	496.616			78.998	13.72%
2004	14792	466.271	86	254.075	326.1	484.088			96.087	16.56%
2005	15111	576.028	104	288.295	412.584	598.225			102.654	14.65%
2006	15582	599.98027	105	292.974	423.676	598.38623	0.1	12.86	105.30377	14.69%
2007	15711	498.5376	87	246.094	358.279	468.6969	0.1	12.86	122.7161	20.30%
2008	15910	531.5865	91	256.637	392.774	534.6342	0.16	32.4694	82.1474	12.65%
2009	0	0	#DIV/0!	0	0	0			0	#DIV/0!
2010	0	0	#DIV/0!	0	0	0			0	#DIV/0!

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

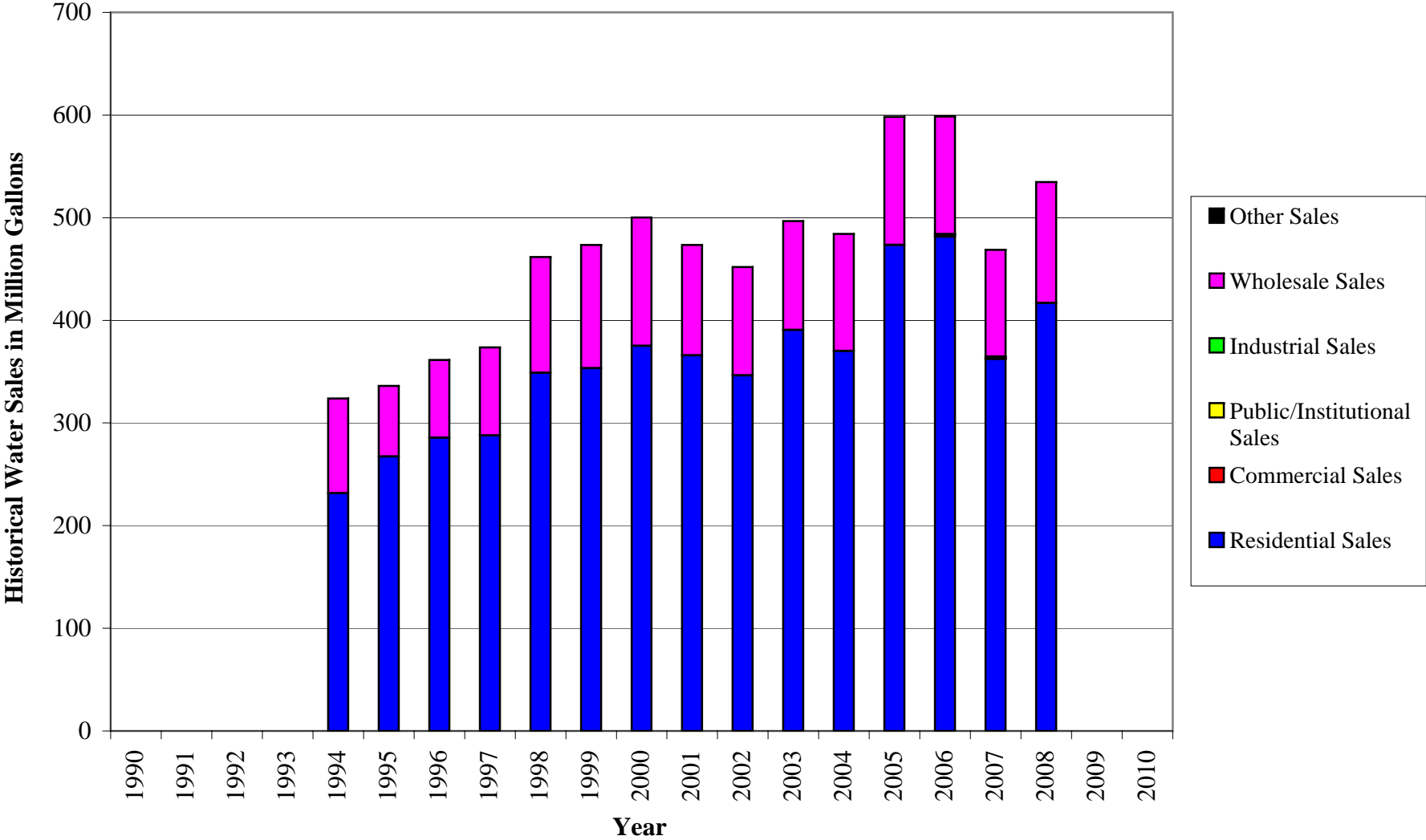
Estimated Historical Population



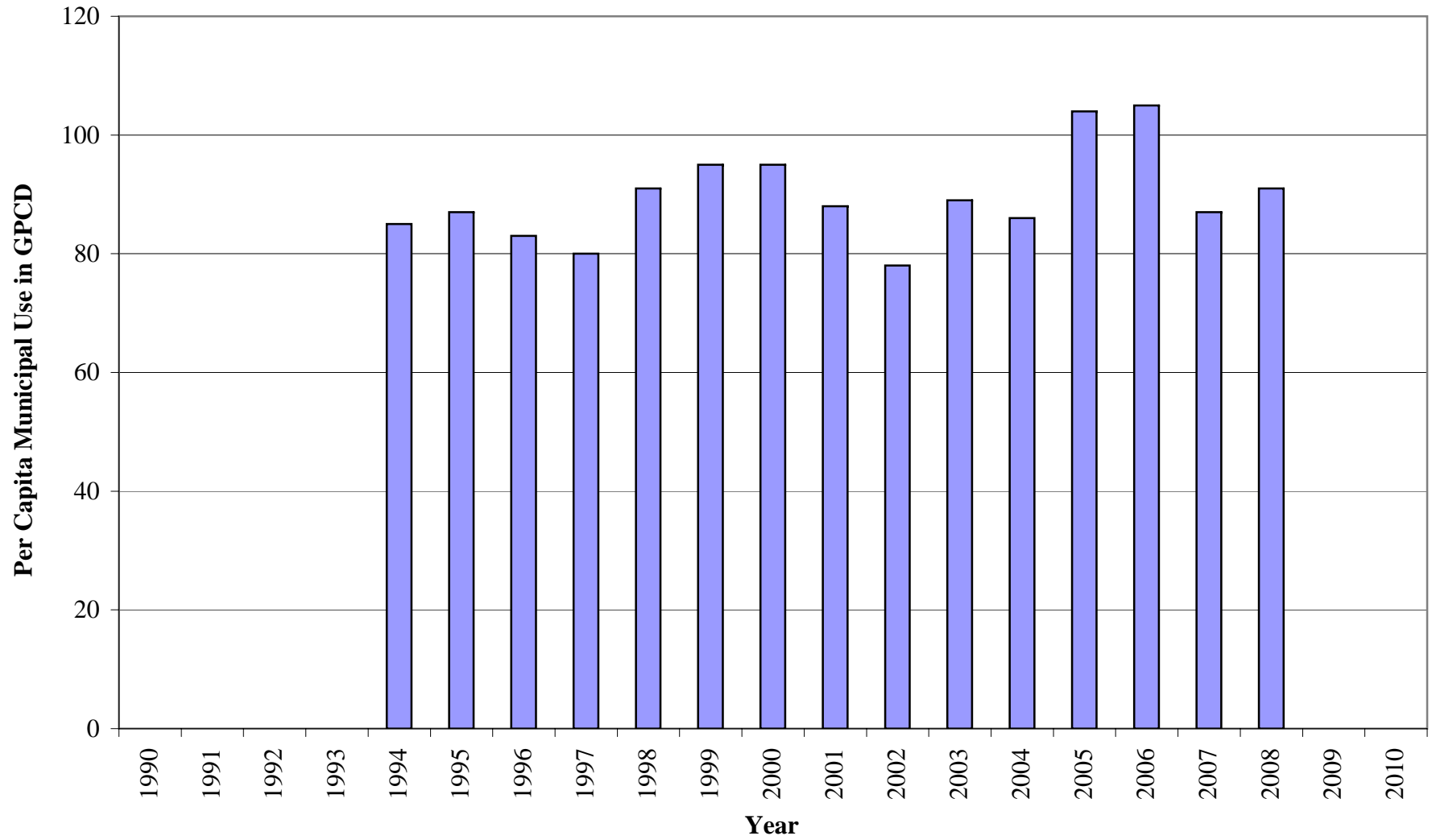
Historical Water Use



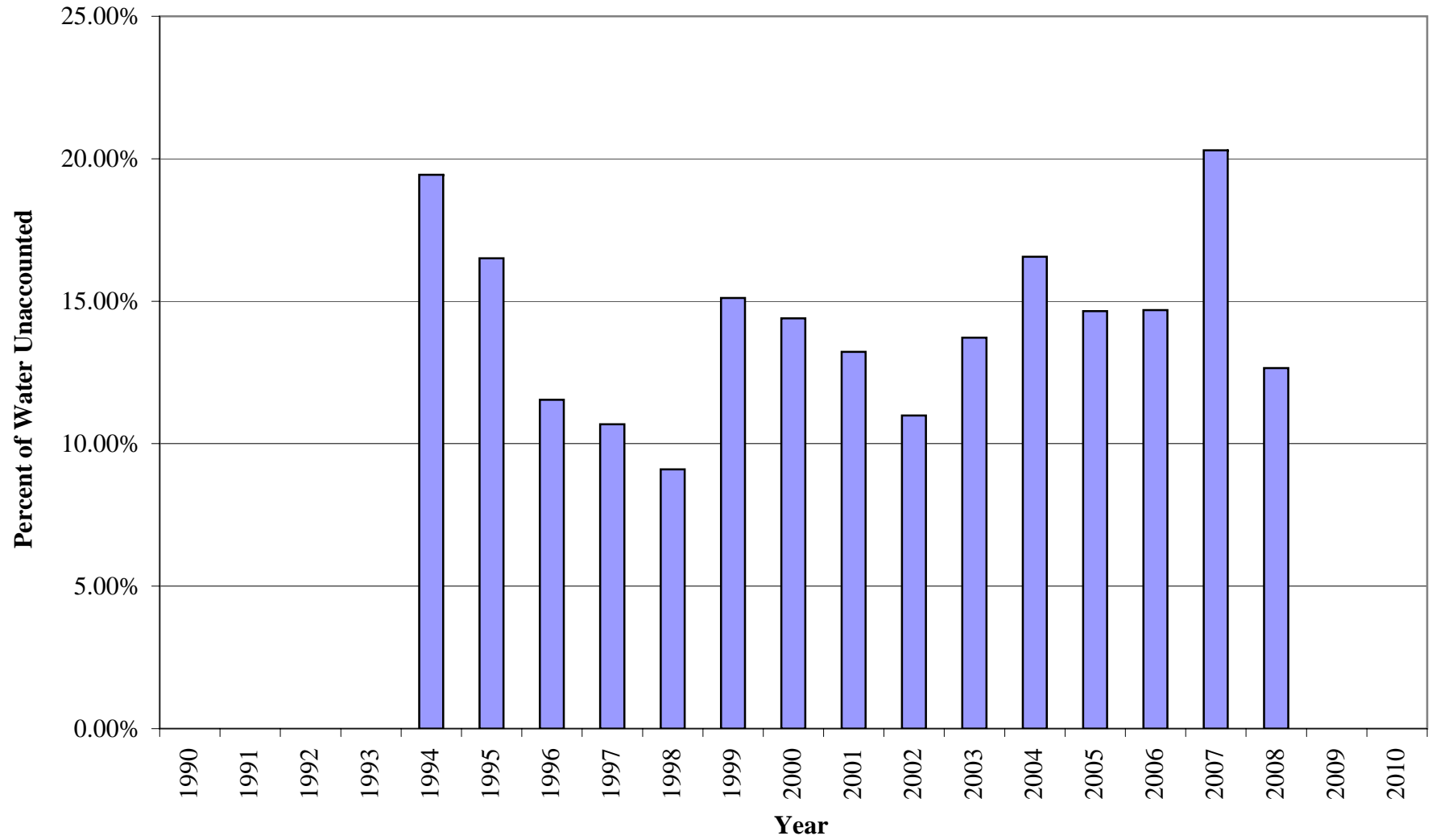
Historical Water Sales by Classification



Historical Per Capita Municipal Use



Historical Percent Unaccounted Water



APPENDIX E

**CONSIDERATIONS FOR LANDSCAPE
WATER MANAGEMENT REGULATIONS
(OPTIONAL)**

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**

Date April 1, 2009

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 Water Conservation and Plan for the Customers of the Cash Special Utility 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 Cash Special Utility District adopted the updated model plan on March 23, 2009.

Sincerely,

Clay Hodges, General Manager
Cash Special Utility District

Date April 1, 2009

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 Water Conservation Plan for the Customers of the Cash Special Utility 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 Cash Special Utility District adopted the updated model plan on March 23, 2009.

Sincerely,

Clay Hodges, General Manager
Cash Special Utility District

APPENDIX G
ADOPTION OF WATER CONSERVATION PLAN

**Cash Special Utility District Order
Adopting Water Conservation Plan**

Order No. 3232009A

AN ORDER ADOPTING A WATER CONSERVATION PLAN FOR THE CASH 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 PLAN.

WHEREAS, the Cash 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 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 incorporate and to adopt the North Texas Municipal Water District (the “NTMWD”) Water Conservation Plan as official District policy for the conservation of water.

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

Section 1. The Board of Directors hereby approves and adopts this Water Conservation Plan (the “Plan”), attached hereto as Addendum A, as recited 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.

Approved and adopted by the Board of Directors on this 23nd day of March, 2009.

President, Board of Directors

Attest:

Seal:

Secretary

APPENDIX H
ILLEGAL WATER CONNECTIONS AND THEFT OF WATER

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

Order No. 3232009B

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

WHEREAS, the Cash 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 CASH 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.

Approved and adopted by the Board of Directors on this 23rd day of March, 2009.

President, Board of Directors

Attest:

Seal:

Secretary

APPENDIX I

**TCEQ WATER CONSERVATION
IMPLEMENTATION REPORT**

APPENDIX I
TCEQ Water Conservation Implementation Report



Texas Commission on Environmental Quality

Water Conservation Implementation Report

This report must be completed by entities that are required to submit a water conservation plan to the TCEQ in accordance with Title 30 Texas Administrative Code, Chapter 288. Please complete this report and submit it to the TCEQ. If you need assistance in completing this form, please contact the Resource Protection Team in the Water Supply Division at (512) 239-4691.

Name:	Cash Special Utility District	
Address:	P.O. Box 8129 Greenville, TX 75404-8129	
Telephone Number:	(903) 883-2695	Fax: (903) 883-4045
Form Completed By:	Clay Hodges	Title: General Manager
Signature:		Date: April 2009

I. WATER USES

Indicate the type(s) of water uses (example: municipal, industrial, or agricultural).

Municipal Use

II. WATER CONSERVATION MEASURES IMPLEMENTED

Provide the water conservation measures and the dates the measures were implemented.

Description of Water Conservation Measure: Outdoor watering calendar mailed to each customer and wholesaler May through August each year.

Date Implemented: 1999

Description of Water Conservation Measure: Conservation tip added to website along with links to other sites.

Date Implemented: 2004

Description of Water Conservation Measure: Newsletters and CCR with conservation information mailed to each customer.

Date Implemented: 2003

Description of Water Conservation Measure: Distribution of “Major Rivers” program to school district within the District.

Date Implemented: 2008

Description of Water Conservation Measure: Billing cycle water audits (4 per month).

Date Implemented: 2003

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: 92 gpcd

Date to achieve target: 2010

10-Year Specific/Quantified Target: 82 gpcd

Date to achieve target: 2020

- B. State if these targets in the water conservation plan are being met. No.

- C. List the **actual amount of water saved.** None

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

Goals are not being met because previous planning period data contained 4 wet years making the target goal to low, 92 gpcd.

The last five years of data contain two years of extreme drought, 2005, 2006. Target goal has increased to 95 gpcd for the planning period.

We feel our conservation measures are working. The problem lays in the difference between the wet and dry years. Seasonal usage has varied between 60%-80% in dry years as compared to wet.

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.