

AN ORDINANCE OF THE CITY OF COPPELL, TEXAS

ORDINANCE NO. 2014-1376

AN ORDINANCE OF THE CITY OF COPPELL, TEXAS, AMENDING CHAPTER 3, SECTION 3-1-12 OF THE CODE OF ORDINANCES BY AMENDING THE DAILY WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN; PROVIDING A REPEALING CLAUSE; PROVIDING A SAVINGS CLAUSE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO HUNDRED DOLLARS (\$200.00) FOR EACH OFFENSE; AND PROVIDING AN EFFECTIVE DATE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF COPPELL, TEXAS:

SECTION 1. That Chapter 3, Section 3-1-12 of the Code of Ordinances of the City of Coppel, Texas, be, and the same is hereby amended by the approval and adoption of the City's Water Conservation and Drought Contingency Plan attached hereto and to be included in full as a part of this ordinance as if recited verbatim herein:

SECTION 2. That Ordinance No. 2009-1229 approved on May 12, 2009 is hereby repealed and any other provisions of the Code of Ordinances of the City of Coppel, Texas, in conflict with the provisions of this ordinance be, and the same are hereby, repealed, and all other provisions not in conflict with the provisions of this ordinance shall remain in full force and effect.

SECTION 3. That should any word, phrase, paragraph, section or phrase of this ordinance or of the Code of Ordinances, as amended hereby, be held to be unconstitutional, illegal or invalid, the same shall not affect the validity of this ordinance as a whole, or any part or provision thereof other than the part so decided to be unconstitutional, illegal or invalid, and shall not affect the validity of the Code of Ordinances as a whole.

SECTION 4. An offense committed before the effective date of this ordinance is governed by prior law and the provisions of the Code of Ordinances, as amended, in effect when the offense was committed and the former law is continued in effect for this purpose.

SECTION 5. Any person, firm or corporation violating any of the provisions of Section 3-1-12 of the Code of Ordinances as amended herein, shall be deemed guilty of a misdemeanor and, upon the first conviction, shall be punished by a fine not to exceed twenty-five (\$25.00) dollars, upon second conviction be punished by a penalty of fine not to exceed fifty (\$50.00) dollars for each offense, and upon the third and subsequent conviction shall be punished by a penalty of fine not less than fifty (\$50.00) dollars, nor more than two hundred (\$200.00) dollars for each offense, and each and every day such offense is continued, shall constitute a new separate offense.

SECTION 6. That this ordinance shall take effect immediately from and after its passage and the publication of the caption, as the law and charter in such cases provide.

DULY PASSED by the City Council of the City of Coppell, Texas, this the _____ day of _____, 2014

APPROVED:

KAREN SELBO HUNT, MAYOR

ATTEST:

CHRISTEL PETTINOS, CITY SECRETARY

APPROVED AS TO FORM:

CITY ATTORNEY



CITY OF COPPELL
WATER CONSERVATION AND DROUGHT
CONTINGENCY PLAN

Section 3-1-12
CODE OF ORDINANCES

APRIL 2014

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**Water Conservation
and
Drought Contingency Plan**

1. INTRODUCTION AND OBJECTIVES

Water supply has always been a key issue in the development of Texas. In recent years, the increasing population and economic development in Region C have led to growing demands for water. Additional supplies to meet higher demands will be expensive and difficult to develop. Therefore, it is important that we make efficient use of 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 and drought contingency plans for public water suppliers. The City of Coppell has adopted this water conservation and drought contingency plan pursuant to TCEQ guidelines and requirements.

The objectives of the water conservation plan are:

- To reduce water consumption.
- To reduce the loss and waste of water.
- To identify the level of water reuse.
- To improve efficiency in the use of water.
- To extend the life of current water supplies by reducing the rate of growth in demand.

The objectives of the drought contingency plan are:

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

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

2.1 Conservation Plans

The TCEQ Rules governing development of water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a water conservation plan is defined as:

“A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document.”

According to TCEQ rules, water conservation plans for public water suppliers must have a certain minimum content (Section 3), must have additional content for public water suppliers that are projected to supply 5,000 or more people in the next ten years (Section 4), and may have additional optional content (Section 5).

2.2. Drought Contingency Plans

The TCEQ Rules governing development of drought contingency plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.20 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a drought contingency plan is defined as:

“A strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies. A drought contingency plan may be a separate document identified as such or may be contained within another water management document.”

The drought contingency plan for the City of Coppell is contained in Section 6 of this water conservation and drought contingency plan.

3. MINIMUM REQUIRED WATER CONSERVATION PLAN CONTENT

The minimum requirements in the Texas Administrative Code for water conservation plans for public drinking water suppliers covered in this report are as follows:

- §288.2(a)(1)(A) - Utility Profile – Section 3.1 and Appendix C
- §288.2(a)(1)(B) –Record Management System – Section 3.1 and Appendix C
- §288.2(a)(1)(C) - Specification of Five and Ten Year Goals – Section 3.2
- §288.2(a)(1)(D) - Accurate Metering - Sections 3.3 and 3.4
- §288.2(a)(1)(E) - Universal Metering - Section 3.4
- §288.2(a)(1)(F) - Determination and Control of unaccounted Water – Section 3.5
- §288.2(a)(1)(G) - Public Education and Information Program – Section 3.6
- §288.2(a)(1)(H) - Non-Promotional Water Rate Structure – Section 3.7
- §288.2(a)(1)(I) - Reservoir System Operation Plan – Section 3.8
- §288.2(a)(1)(J) - Means of Implementation and Enforcement – Section 3.9. Appendix D, and Appendix E
- §288.2(a)(1)(K) - Coordination with Regional Water Planning Group – Section 3.10 and Appendix F
- §288.2(a)(2) - A program of leak detection, repair and water loss accounting- Section 3.5
- §288.2(a)(3) – Additional Conservation Strategies- Section 3.5

3.1. Utility Profile

Appendix C to this water conservation plan is a water utility profile for the City of Coppell, based on the format recommended by the TCEQ. Table 3.1 summarizes key facts from the Water Utility Profile.

Table 3.1 Summary of Water Utility Profile for the City of Coppell

Water Service Area = 14.7 square miles

Miles of Distribution Pipe = 194 miles

Population:

Current Population = 39,380 in January 2014

2000 Population = 35,950

Projected 2060 Population = 40,000

Connections:

Current Connections = 12,467 in 2013

Total Increase in Connections in Last 3 Years = 190

Information on Water Use for the Last Five Years:

| Year | Use Million Gallons | Estimated Population* | Municipal Per Capita (per Year) Million Gallons | Unaccounted Water Million Gallons | Peak Day to Average Day |
|------|---------------------------|--------------------------|---|--|----------------------------------|
| 2009 | 2908 | 39,655 | .0733 | 148 | 2.17 |
| 2010 | 3496 | 38,800 | .0901 | 50 | 2.02 |
| 2011 | 3537 | 38,659 | .0915 | 214 | 1.90 |
| 2012 | 3496 | 39,150 | .0893 | 321 | 1.99 |
| 2013 | 3259 | 39,090 | .0834 | 18 | 1.84 |

***Source of population estimate is City of Coppell**

Water Supply Source(s) = Dallas Water Utilities

Treatment and Distribution System :

Treatment Plan Capacity = N/A million gallons per day

Elevated storage = 3.5 million gallons

Ground storage = 10 million gallons

Current Total Annual Wastewater Flow = 1,272 million gallons in 2013.

3.2 Specification of Water Conservation Goals

Table 3.2 shows projected per capita municipal uses obtained from the Texas Water Development Board (TWDB) and interpolated to match the appropriate years for the 5-year and 10-year goals. The TWDB projections are applicable for a dry year, in which outdoor water use would be high. Per capita municipal water use in a year with normal or high precipitation during the summer should be less than projected here.

Table 3.2 2011 Regional Water Plan City Water Demand Projections 2000-2060

| COPPELL | D2010 | D2020 | D2030 | D2040 | D2050 | D2060 |
|----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| AcFt | 11,544 | 11,500 | 11,447 | 11,434 | 11,417 | 11,440 |
| 1000 Gals | 3,761,624 | 3,747,287 | 3,730,316 | 3,725,780 | 3,720,241 | 3,727,735 |

Table 3.3 shows historical and projected per capita municipal water use for the City of Coppell. Water use is shown in units of gallons per capita per day (gpcd). Municipal water use is total use less wholesale sales to other municipal suppliers less sales to industrial users. Per capita municipal water use is municipal water use divided by population. The per capita municipal water use does not include industrial use.

The TWDB projections include the impact of low-flow plumbing fixtures and water conservation measures that have been in effect since at least 2000 but do not include the effect of water conservation measures recommended in this plan. Table 3.3 shows the projected per capita water use after implementation of this water conservation and drought contingency plan.

**Table 3.3
Projected Per Capita Use Without Implementation of Water Conservation
Measures Beyond Those in Effect in 2000 and Water Conservation Goals**

| Description | Highest Historical | | Five-Year Goal | Ten-Year Goal |
|---|-------------------------------|-------------|---------------------------|--------------------------|
| | Year | GPCD | GPCD | GPCD |
| Historical Per Capita Municipal Use | 2011 | 251 | - | - |
| Projected Per Capita Municipal Use Without Low-Flow Plumbing Fixtures from TWDB | - | - | 229 | 229 |
| Projected Reduction Due to Low-Flow Plumbing Fixtures | - | - | 3 | 4 |
| Projected Per Capita Municipal Use With Low-Flow Plumbing Fixtures | - | - | 226 | 225 |
| Projected Reduction Due to Water Conservation Measures in this Plan | - | - | 14 | 15 |
| Projected Per Capita Water Use Goals | - | - | 212 | 210 |

The City's water conservation goals include the following:

- Achieve year 2020 per capita municipal water use of 212 gpcd or less, as shown in Table 3.3. This represents a reduction of 22 gpcd from the TWDB's projected per capita municipal water use without low-flow plumbing fixtures and other conservation measures in place since 2000.

- Achieve year 2025 per capita municipal water use of 210 gpcd or less, as shown in Table 3.3. This represents a reduction of 22 gpcd from the TWDB's projected per capita municipal water use without low-flow plumbing fixtures and other conservation measures in place since 2000.
- Implement and maintain a meter replacement program (Section 3.4).
- Keep the level of unaccounted water in the system less than 6 percent in 2015 and subsequent years (Section 3.5).
- Raise public awareness of water conservation and encourage responsible public behavior through a public education and information program (Section 3.6).
- Decrease outdoor water use by implementing the following program:
Drought resistant landscaping in the medians of City streets.

3.3 Accurate Metering of Treated Water Deliveries

All treated water is metered through the City of Dallas' Rate of Flow Controller at 1101 Village Parkway. This device is tested every two months by the City of Dallas and has an accuracy of $\pm 0.3\%$ average. The City of Coppell meters all water leaving our pump station through a transient time meter which is tested twice a year and has an accuracy of $\pm 1\%$.

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

Water usage for all customers of the City of Coppell, including public and governmental users, is metered.

As part of this water conservation plan, the City of Coppell will continue to implement a meter replacement program that will replace every residential meter on a 10-year cycle. Initial efforts will focus on the oldest meters in the system. The City currently replaces about 1100 meters every year.

In addition, all meter replacements will require an AMR meter with the capability of providing water use data at a minimum of every 15 minutes. These meters will provide the City the ability to better detect leaks and provide the citizens a better record of their daily water use. These meters will also help to eliminate meter read errors.

All meters registering any unusual or questionable readings will be replaced when the irregularity is noticed, regardless of age.

3.5 Determination and Control of Unaccounted Water

Unaccounted water is the difference between treated water obtained from Dallas and metered sales by Coppell to our customers. 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);
- Losses due to water main breaks and leaks in the water distribution system.;
- Losses due to flushing of lines;
- Losses due to illegal connections;
- Losses due to fire-fighting efforts; and
- Other.

Apparent water losses include water that was actually used but not accounted for, such as customer meter errors or theft. Accounting for apparent losses increases the city's utility revenue but does not reduce water usage. Real losses include leakage and overflows at the water facilities. Identifying and preventing real losses decreases a utility's costs and decreases water usage.

Strategies to address apparent water loss:

- § Meter replacement as noted in Section 3.4;
- § Meter all flushing of water lines;
- § Monitor construction activity to ensure meters are used, especially when new lines are being flushed prior to being placed in service; and
- § Work closely with Fire Department to estimate water used in fire-fighting activities.

Strategies to address real water loss:

- § Respond to all identified water leaks within two hours and make repairs within 24 hours after utility locates, and estimate total unaccounted for water for tracking purposes;
- § Replace one segment of the water system yearly that has experienced two or more leaks.

As shown in Appendix C, unaccounted water for the City of Coppell has varied from 1 percent to 9 percent in the last five years. With the measures described in this plan, the City of Coppell intends to maintain the unaccounted water below 6 percent in 2015 and subsequent years. If unaccounted water exceeds this goal, the City of Coppell will implement a more intensive audit to determine the source(s) of water loss and reduce the unaccounted water.

3.6 Continuing Public Education and Information Campaign

The continuing public education and information campaign on water conservation for the City of Coppell includes the following elements:

- Include inserts on water conservation with water bills at least twice per year. Inserts will include material developed by City of Coppell 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.

- Make the *Texas Smartscape* CD, water conservation brochures, and other water conservation materials available to the public at the City of Coppell Utility Department and other public places.
 - Make information on water conservation available online at www.coppelltx.gov and include links to the *Texas Smartscape* web site and to information on water conservation on the TWDB and TCEQ web sites.
- § Provide information on water conservation on the City's cable access channel.

3.7 **Non-Promotional Water Rate Structure**

With the intent of encouraging water conservation and discouraging waste and excessive use of water, the City of Coppell has adopted an increasing block rate water structure where the unit price of water increases with increasing water use. Current water rates are shown in Tables 3.4 and 3.5.

Table 3.4 Monthly Meter Base Rate:

| Meter Size (in) | Total Charge | Meter Size (in) | Total Charge |
|------------------------|---------------------|------------------------|---------------------|
| 5/8 | \$12.00 | 3 | \$48.40 |
| 1 | \$16.20 | 4 | \$64.60 |
| 1 ½ | \$24.25 | 6 | \$96.75 |
| 2 | \$32.25 | 8 | \$129.00 |

Table 3.5 Volume Unit Charges:

| Water User | Type/Volume | Volume Unit Charge (\$/1,000 gal) |
|-------------------|----------------------|--|
| Residential | 0-1,000 gal | \$12.00 |
| | 1,001-25,000 gal | \$2.60 |
| | More than 25,000 gal | \$3.25 |
| Commercial | 0+ | \$2.60 |

3.8 Reservoir System Operation Plan

N/A

3.9 Implementation and Enforcement of the Water Conservation Plan

This plan is part of an ordinance approved by City of Coppell City Council. The ordinance designates responsible officials to implement and enforce Water Conservation and Drought Contingency Plan.

3.10 Coordination with Regional Water Planning Group

Appendix D includes a copy of a letter sent to the Chair of the Region C Water Planning Group with this Water Conservation and Drought Contingency Plan.

4. ADDITIONAL REQUIRED WATER CONSERVATION PLAN CONTENT

The Texas Administrative Code also includes additional requirements for water conservation plans for public drinking water suppliers that serve a population of 5,000 people or more and/or a projected population of 5,000 people or more within the next ten years:

- §288.2(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Sections 3.5, 4.1, and 5.5
- §288.2(a)(2)(B) – Record Management System – Section 4.2
- §288.2(a)(2)(C) – Requirement for Water Conservation Plans by Wholesale Customers – Section 4.3

4.1 Leak Detection and Repair; Pressure Control

Measures to control unaccounted water are part of the routine operations of the City of Coppell. Meter readers watch for and report signs of illegal connections so they can be addressed quickly. Crews and personnel look for and report evidence of leaks in the water distribution system. Maintenance crews respond quickly to repair leaks reported by the public and city personnel. The City of Coppell spends \$550,000 per year to maintain and make repairs to the water distribution system. The City has 2 (6 full time employees) distribution line maintenance crews. Areas of the water distribution system in which numerous leaks and line breaks occur are targeted for replacement as funds are available. In fiscal year 2012-13, the City expended over \$500,000 to replace water lines.

To reduce real water losses, the City of Coppell will maintain a proactive water loss program. As part of this program, the City will implement the following actions:

- Respond to leaks within two hours and repair within 24 hours after utility locates;
- Replace residential meters showing irregular readings within five working days;
- Control pressure to above the minimum standard-of-service level including fire requirements; and
- Limit surges in pressure.

4.2 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 for the City of Coppell records water pumped, water delivered, and water sold; estimates water losses; and allows for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories.

4.3 Requirement for Water Conservation Plans by Wholesale Customers

At this time, the City of Coppell is not a wholesale water provider. After adoption of this plan, any contract for the wholesale sale of water by the City of Coppell will include a requirement that the wholesale customer develop and implement a water conservation plan meeting the requirements of Title30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code. This requirement will also extend to each successive wholesale customer in the resale of the water.

5. Optional Water Conservation Plan Content

N/A

6. DROUGHT CONTINGENCY PLAN

6.1 Declaration of Policy, Purpose, and Intent

In order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the City of Coppell hereby adopts the following regulations and restrictions on the delivery and consumption of water.

Water uses regulated or prohibited under this Daily Water Conservation and Drought Contingency Plan (the Plan) are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to penalties as defined in Section H of this Plan.

6.2 Public Education

The City of Coppell will periodically provide the public with information about the Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. The City may provide public education concerning the provisions of the water conservation to include, but not limited to, the following:

- Webpage
- Water bill inserts
- Direct mail-outs
- Publication in the official City newspaper
- Press releases to local and area media
- City's cable access channel
- Periodic status reports to the City Council on drought response programs, water emergencies and their results.

6.3 Coordination with Regional Water Planning Groups

The City of Coppell purchases treated water through a wholesale water supply contract with the City of Dallas. If there is a shortage in the water supplied to the City from any cause, Dallas Water Utilities (DWU) or other supplier may reduce the volume of treated water that is supplied. The reduction in the water distributed to the City is on a pro rata basis among all of the wholesale customers of the water supplier. If DWU or other water supplier imposes a curtailment on water delivered, the City is required to cooperate by imposing conservation measures.

DWU, the current supplier, or other water supplier has implemented a Drought Contingency Plan that includes water use restrictions that are applicable to the City of Coppell. The proposed stages and initiation conditions in this Plan are in accordance with the provisions established by DWU or other water supplier.

The service area of the City of Coppell is located within the Region C Regional Water Planning Group.

6.4 Application

The provisions of this Plan shall apply to all persons using water for watering for residential or non-residential customers of the City's water service whether or not such persons are located within the City limits. The term's "person" and "customer" as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities.

6.5 Definitions

For the purposes of this Plan, the following definitions shall apply:

1. *City* shall mean the City of Coppell, Texas.
2. *School* shall mean the Coppell Independent School District, the Carrollton Farmers Branch Independent School District, and Lewisville Independent School District.
3. *Homeowners Association or Commercial Property Owners Association (HOA's /POA 's)* shall mean a formal nonprofit organization operating under recorded land agreements through which (a) each lot and/or homeowner in a specific area is automatically a member and (b) each lot or property interest is automatically subject to a charge for a proportionate share of the expense for the organization's activities, such as the maintenance of common property, and (c) the charge if unpaid, becomes a lien against the nonpaying member' s property.
4. *Common Property* is real property including but not limited to: parks, lakes, open space; trails and/or floodplain management areas. Common property is either owned in fee, controlled as an easement or is property leased by a Homeowners Association or Commercial Property Owners Association for the common use, enjoyment and benefit of the members of the Homeowners Association or Commercial Property Owners Association. All common property shall be maintained by the members of the Homeowners Association or Commercial Property Owners Association, not the City.
5. *Hand watering* shall mean watering or applying water to a lawn, garden, or landscaping while holding the discharge end of a water hose.
6. *Non-spray irrigation system* shall mean use of soaker hoses, drip or bubble irrigation systems, or other means of applying water to an area without spraying the water into the air.
7. *Irrigation* shall mean watering or applying water to a lawn, garden, or landscaping through the use of underground systems with pop-up heads, sprinklers attached to water hoses, unattended water hoses or any other means of applying water to a lawn, garden, or landscaping which does not fit the definition of a non-spray irrigation system.
8. *City Manager* shall mean the chief executive officer of the City of Coppell under the Home Rule Charter or his designee.
9. *Residential* shall include the following districts: SF-ED, SF- 18, SF- 12, SF-9, SF-7, SF-0, 2F-9, TH-1, TH-2, MF-1, MF-2, and MH as defined by the Comprehensive Zoning Ordinance.

10. *Non-residential* shall include all districts not defined as residential districts by the Comprehensive Zoning Ordinance and all common property maintained by a Homeowners Association or Commercial Property Owners Association.
11. *Watering* shall mean watering or applying water on the lawn, trees, landscaping, flower beds, fields, playground areas, gardens, common property, City maintained property, School maintained property or other non-permeable surfaces in any zoning district by hand watering, non-spray irrigation systems, irrigation systems or any other means.

6.6 Criteria for Initiation Rescinding of Drought Response Stages, and Drought Response Stages

The City Manager or his/her designee shall monitor water supply and/or demand conditions on a daily basis and shall determine when conditions warrant initiation or termination of each stage of the Plan. Stage 1 of the plan will remain in effect on a year-round basis. The City Manager, upon notification to the City Council, is authorized to move from Stage to Stage within the Plan when requirements for initiation or rescinding are met. The City Manager, upon notification to the City Council, may also make minor changes to the Plan that are not detrimental to the effectiveness of the overall Plan.

The following procedures are required to initiate or rescind each stage of the Plan:

- Notification must be made by public announcement.
- The order becomes effective immediately upon public announcement.
- Notification will be provided for publication in the City's official newspaper after public announcement. The newspaper is published each Friday of the month. Additional notification will be provided by information posted on the City's webpage and cable access channel.

The initiation conditions described herein for each response stage are based on historical analysis and recognized vulnerability of the water supply source and water distribution system during high water use demands and drought conditions.

1. Stage 1 - Water Awareness State

a) Initiation Conditions:

Stage 1 of the Plan shall remain in effect on a year-round basis.

b) Goals:

1) Achieve a voluntary reduction in water use.

c) Demand Management Measures:

- 1) No outside watering between the hours of 10a.m. and 6 p.m., except for the use of non-spray irrigation systems and hand watering. The use of non-spray irrigation systems and hand watering will be allowed at all times in stage 1.
- 2) City will encourage water conservation by increasing awareness of Water Conservation techniques through the use of various available means including but not limited to: web page, direct mail-outs, water bill inserts, cable access channel, press releases or other means available to advise the public of the requirements of this ordinance.

d) Rescinding Conditions:

1) Stage 1 of the Plan shall remain in effect on a year-round basis.

Stage 2 - Water Watch State

a) Initiation Conditions:

Stage 2 of the Plan shall be implemented when one or more of the following conditions occur:

- 1) Notification is received from DWU requiring implementation of like procedures by wholesale customers.
- 2) Water demands exceed ninety percent (90%) of the current maximum flow rate contracted with DWU for five (5) consecutive days.
- 3) Ground Storage Reservoir levels do not recover for two (2) consecutive days.
- 4) Short-term deficiencies in the City's distribution system limit supply capabilities.

b) Goals:

- 1) Reduce the average daily water demand below 90% of the current maximum flow rate contracted from DWU.

c) Demand Management Measures:

- 1) Residential water customers south of Sandy Lake Road must conduct all watering on Sundays, Tuesdays and Thursdays.
- 2) Residential water customers north of Sandy Lake Road must conduct all watering on Saturdays, Tuesdays and Thursdays.
- 3) Non-residential water customers must conduct all watering on Mondays, Wednesdays, and Fridays.
- 4) The City must conduct all watering of center medians of streets, street rights-of-way, parks, City facilities and other areas maintained by the City on Mondays, Wednesdays and Fridays.
- 5) Schools must conduct all watering of School sites, School facilities and other areas maintained by the Schools on Mondays, Wednesdays, and Fridays.
- 6) Homeowners Associations or Commercial Property Owners Associations must conduct all watering of common property on Mondays, Wednesdays, and Fridays.
- 7) No watering, other than by non-residential users, the City, Schools, and/or HOA' s/POA's will be allowed on Mondays, Wednesdays and Fridays without an approved variance.
- 8) Nursery (garden and landscape) businesses are not restricted when watering business inventory; however, they must comply with watering requirements for the landscaping associated with the building.
- 9) No outside watering will be allowed between the hours of 10:00 a.m. and 6:00 p.m. with the exception of the use of non-automatic spray irrigation system and hand watering which will be allowed all days, at all times. Use of non-spray irrigation systems and hand watering will be allowed all days.

d) Rescinding Conditions:

- 1) Stage 2 of the Plan shall be rescinded when all of the initiating conditions have ceased to exist for a period of five (5) consecutive

days. Upon termination of Stage 2, Stage 1 - Water Awareness State becomes operative unless also rescinded.

3. Stage 3 - Water Warning State

a) Initiation Conditions:

Stage 3 of the Plan shall be implemented when one or more of the following conditions occur:

- 1) Notification is received from DWU requiring water demand reductions in accordance with contract obligations for wholesale customers.
- 2) Water demands exceed ninety-five percent (95%) of the current maximum flow rate contracted with DWU for five (5) consecutive days.
 - 1) Short-term deficiencies in the City's distribution system, such as system outage due to the failure or damage of major water system components, limit supply capabilities.
 - 2) Ground Storage Reservoir levels do not recover for three (3) consecutive days.

b) Goals:

- 1) Reduce the average daily water demand below 95% of the current maximum flow rate contracted from DWU.

c) Demand Management Measures:

- 1) Residential water customers south of Sandy Lake Road must conduct all watering on Sundays and Thursdays.
- 2) Residential water customers north of Sandy Lake Road must conduct all watering on Saturdays and Tuesdays.
- 3) Non-residential water customers must conduct all watering on Mondays and Fridays.
- 4) The City must conduct all watering of center medians of streets, street rights-of-way, parks, City facilities and other areas maintained by the City on Mondays and Fridays.
- 5) Schools must conduct all watering of School sites, School facilities and other areas maintained by the Schools on Mondays and Fridays.

- 6) Homeowners Associations or Commercial Property Owners Associations must conduct all watering of common property on Mondays and Fridays.
- 7) No watering, other than by non-residential users, the City, Schools, and/or HOA's/POA's will be allowed on Mondays and Fridays without an approved variance.
- 8) No watering will be allowed on Wednesdays, with the exception of non-spray irrigation systems, which will be allowed all days. Hand watering is restricted to the two allowed days.
- 9) Nursery (garden and landscape) businesses are not restricted when watering business inventory; however, they must comply with watering requirements for the landscaping associated with the building.
- 10) In a Stage 3 Water Warning State, persons should contact the City Engineer's office prior to installing new landscaping to determine if a variance will be considered. As a general rule, no variance will be allowed during a Stage 3 Water Warning State. The City Engineer or designee, in a Stage 3 Water Warning State may revoke approved variances, if deemed necessary to preserve the City's ability to supply essential water demands and fire protection.
- 11) No outside watering will be allowed between the hours of 10:00 a.m. and 6:00 p.m. with the exception of the use of non-automatic spray irrigation system which will be allowed all days, at all times. Hand watering will be restricted to the two allowed days.

d) Rescinding Conditions:

- 1) Stage 3 of the Plan shall be rescinded when all of the initiation conditions have ceased to exist for a period of five (5) consecutive days. Upon termination of Stage 3, Stage 2 - Water Watch State becomes operative unless also rescinded.

4. Stage 4 - Water Emergency

a) Initiation Conditions

Stage 4 of the Plan shall be implemented when one or more of the following conditions occur:

- 1) Notification is received from DWU requiring water demand reductions in accordance with contract obligations for wholesale customers.
- 2) Water demands exceed 100 percent (100%) of the current maximum flow rate contracted with DWU for two (2) consecutive days.
- 3) Short term deficiencies in the City's distribution system, such as system outage due to the failure or damage of major water system components, limit supply capabilities.
- 4) Ground Storage reservoir levels do not recover for four (4) consecutive days.

b) Goals:

- 1) Reduce the average daily water demand below 95% of the current maximum flow rate contracted from DWU.

c) Demand Management Measures:

- 1) Residential water customers south of Sandy Lake Road must conduct all watering on Sundays.
- 2) Residential water customers north of Sandy Lake Road must conduct all watering on Saturdays.
- 3) Non-residential water customers must conduct all watering on Wednesdays.
- 4) The City must conduct all watering of center medians of streets, street rights-of-way, parks, City facilities and other areas maintained by the City on Wednesdays.
- 5) Schools must conduct all watering of School sites, School facilities and other areas maintained by the Schools on Wednesdays.
- 6) Homeowners Associations or Commercial Property Owners Associations must conduct all watering of common property on Wednesdays.
- 7) No watering, other than by non-residential users, the City, Schools, and/or HOA's/POA's will be allowed on Wednesdays.

- 8) No watering will be allowed on Mondays, Tuesdays, Thursdays and Fridays, with the exception of non-spray irrigation systems, which will be allowed all days. No outside watering will be allowed between the hours of 10:00 a.m. and 6:00 p.m. with the exception of the use of non-automatic spray irrigation system which will be allowed all days, at all times. Hand watering is restricted to the one allowed day.
- 9) Nursery (garden and landscape) businesses are not restricted when watering business inventory; however, they must comply with watering requirements for the landscaping associated with the building.
- 10) In a Stage 4 Water Emergency State, persons should refrain from installing new landscaping. No variance for watering more than one day per week will be allowed during a Stage 4 Water Emergency State. The City Engineer or designee, in a Stage 4 Water Emergency State will revoke any variances approved during the Stage 3 Water Warning State.

d) Rescinding Conditions:

- 1) Stage 4 of the Plan shall be rescinded when all of the initiation conditions have ceased to exist for a period of five (5) consecutive days. Upon termination of Stage 4, Stage 3 - Water Warning State becomes operative unless also rescinded.

5. Stage 5 - Emergency Water Shortage

a) Initiation Conditions:

Stage 5 of the Plan shall be implemented when the City Manager determines that a water supply emergency exists based on one or more of the following conditions:

- 1) Any major water system component failure that causes the unprecedented loss of capability to provide water service.
- 2) Natural or man-made contamination of the water supply source(s).

b) Goals:

- 1) Restrict all watering to allow the water system to recover from the emergency condition.

c) Demand Management Measures:

- 1) No outdoor watering will be allowed.
- 2) Door hangers will be placed on all houses in the affected area providing information about the situation.

d) Rescinding Conditions

- 1) Stage 5 of the Plan shall be rescinded when all of the initiation conditions have ceased to exist. The City Manager will then determine what stage of the Plan should be implemented and the specific water use restrictions required to preserve the City's ability to meet essential water demand and fire protection.

6.7 Variances

1. The City Manager, or his/her designee, may, in writing, grant variances for water uses to establish new lawns or landscaping otherwise prohibited under this Plan under Stage 1 or 2, as provided herein.

Persons requesting a variance from the provisions of this Plan shall file a request with the City of Coppell to be reviewed by the City Manager, or his/her designee, and shall include the following:

- a) Name and address of the petitioner(s).
- b) Purpose of water use (only consideration will be for new lawns or landscaping).
- c) Detailed statement as to how the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Ordinance.
- d) Period of time for which the variance is sought.
- e) Other pertinent information.

Variance may be granted to persons under conditions criteria established herein while on vacation in the event that power failures or other acts beyond their control cause irrigation systems to malfunction and water on the wrong day. A vacation variance shall meet the following:

- a) A maximum two week period.
 - b) Request considered only during Stage 1, 2 or 3.
3. Variances granted by the City of Coppell shall be subject to the following conditions, unless waived or modified by the City Manager or his/her designee:
 - a) Variances granted shall include a timetable for compliance.
 - b) Variances will only be considered if the City is in Stage 1 or 2 (or Stage 3 for a vacation variance).
 - c) All variance forms shall be prominently displayed near the front door.
 - d) Any variance may be revoked if conditions worsen.
 - e) No variance shall be retroactive or otherwise justify any violation of this Plan occurring prior to the issuance of the variance.

6.8 Enforcement

No person shall knowingly or intentionally allow the use of water from the City of Coppell for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this Plan, or in an amount in excess of that permitted by the Stage in effect at the time pursuant to action taken by the City Manager, or his/her designee, in accordance with provisions of this Plan.

A person who violates this Plan is guilty of a separate offense for each day or portion of a day during which the violation continues.

APPENDIX A
List of References

Appendix A

List of References

1. City of Dallas Water Utilities Department: “City of Dallas Water Conservation Plan,” adopted by Texas Commission on Environmental Quality:
2. “Water Conservation Plans for Municipal Uses by Public Water Suppliers,” *Texas Administrative Code* Title 30 Part I Subchapter A §288.2, effective December 6, 2012.
3. Texas Water Development Board: “Water Demand Projections, 2011 Regional Water Plan Data,” can be accessed online at
<http://www.twdb.texas.gov/waterplanning/data/projections/2012/doc/Demand/5CityDemands.pdf>
April 2011.
4. Texas Water Development Board “Best Management Practices for Municipal Water Users” November 2013, It can be accessed online at
<http://www.twdb.texas.gov/conservation/BMPs/Mun/doc/MunMiniGuide.pdf>
5. Texas Commission on Environmental Quality: “Guidance and Methodology for Reporting on Water Conservation and Water Use,” accessed online at
http://www.tceq.texas.gov/assets/public/permitting/watersupply/conservation/sb181_guidance.pdf

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 §288.2 | Water Conservation Plans for Municipal Uses by Public Water Suppliers |

(a) A water conservation plan for municipal water use by public water suppliers must 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 water suppliers must include the following elements:

(A) a utility profile in accordance with the Texas Water Use Methodology, including, but not limited to, information regarding population and customer data, water use data (including total gallons per capita per day (GPCD) and residential GPCD), water supply system data, and wastewater system data;

(B) a record management system which allows for the classification of water sales and uses into the most detailed level of water use data currently available to it, including, if possible, the sectors listed in clauses (i) - (vi) of this subparagraph. Any new billing system purchased by a public water supplier must be capable of reporting detailed water use data as described in clauses (i) - (vi) of this subparagraph:

(i) residential;

(I) single family;

(II) multi-family;

(ii) commercial;

(iii) institutional;

(iv) industrial;

(v) agricultural; and,

(vi) wholesale.

(C) specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in total GPCD and residential GPCD. 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 water loss (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;

(B) 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, 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) 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 every five years 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; amended to be effective December 6, 2012, 37 TexReg 9515

Texas Administrative Code

TITLE 30 ENVIRONMENTAL QUALITY

PART 1 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CHAPTER 288 WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS

SUBCHAPTER B DROUGHT CONTINGENCY PLANS

RULE §288.20 Drought Contingency Plans for Municipal Uses by Public Water Suppliers

(a) A drought contingency plan for a retail public water supplier, where applicable, must include the following minimum elements.

(1) Minimum requirements. Drought contingency plans must include the following minimum elements.

(A) Preparation of the plan shall include provisions to actively inform the public and affirmatively provide opportunity for public input. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the public and providing written notice to the public concerning the proposed plan and meeting.

(B) Provisions shall be made for a program of continuing public education and information regarding the drought contingency plan.

(C) The drought contingency plan must document coordination with the regional water planning groups for the service area of the retail public water supplier to ensure consistency with the appropriate approved regional water plans.

(D) The drought contingency plan must include a description of the information to be monitored by the water supplier, and specific criteria for the initiation and termination of drought response stages, accompanied by an explanation of the rationale or basis for such triggering criteria.

(E) The drought contingency plan must include drought or emergency response stages providing for the implementation of measures in response to at least the following situations:

(i) reduction in available water supply up to a repeat of the drought of record;

(ii) water production or distribution system limitations;

(iii) supply source contamination; or

(iv) system outage due to the failure or damage of major water system components (e.g., pumps).

(F) The drought contingency plan must include 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 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.
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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

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

Name of Utility: City of Coppel

Public Water Supply Identification Number (PWS ID): 0570040

Completed By: Glenn D. Hollowell, P.E.

Title: Public Works Manager

Regional Water Planning Group: C

Section I: Utility Data

Population and Service Area Data

1. *Current service area size in square miles: 14.7*
2. *Provide historical service area population for the previous five years, starting with the most current year.*

| Year | Historical Population Served By Retail Water Service | Historical Population Served By Wholesale Water Service | Historical Population Served By Wastewater Service |
|------|--|---|--|
| 2013 | 39,090 | 0 | 39,090 |
| 2012 | 39,150 | 0 | 39,150 |
| 2011 | 38,659 | 0 | 38,659 |
| 2010 | 38,800 | 0 | 38,800 |
| 2009 | 39,655 | 0 | 39,655 |

3. *Provide the projected service area population for the following decades.*

| Year | Projected Population Served By Retail Water Service | Projected Population Served By Wholesale Water Service | Projected Population Served By Wastewater Service |
|------|---|--|---|
| 2020 | 43,750 | 0 | 43,750 |
| 2030 | 48,875 | 0 | 48,875 |
| 2040 | 54,000 | 0 | 54,000 |
| 2050 | 54,000 | 0 | 54,000 |
| 2060 | 54,000 | 0 | 54,000 |

4. *Describe the source(s)/method(s) for estimating current and projected populations.*

Population projections provided by City of Coppel Planning Department, Current populations provided by City of Coppel Finance Department

B. System Input

Provide system input data for the previous five years.

Total System Input = Self-supplied + Imported – Exported

| Year | Self-supplied Water in Gallons | Purchased/Imported Water in Gallons | Exported Water in Gallons | Total System Input | Total GPCD |
|--------------------------------|--------------------------------|-------------------------------------|---------------------------|--------------------|------------|
| 2013 | 0 | 3,259,610,000 | 0 | 3,259,610,000 | 228 |
| 2012 | 0 | 3,496,389,000 | 0 | 3,496,389,000 | 245 |
| 2011 | 0 | 3,537,393,000 | 0 | 3,537,393,000 | 251 |
| 2010 | 0 | 3,121,896,000 | 0 | 3,121,896,000 | 220 |
| 2009 | 0 | 2,908,365,000 | 0 | 2,908,365,000 | 201 |
| Historic 5-year Average | 0 | 3,264,730,600 | 0 | 3,264,730,600 | 229 |

1. *List all current water supply sources in gallons.*

| Water Supply Source | Source Type | Total Gallons |
|------------------------|-------------|---------------|
| Dallas Water Utilities | Contract | 18,000,000 |

2. Designed Daily Capacity of the System is 29 MGD (million gallons per day)
3. Storage Capacity: 3.5 MG Elevated, 10 MG Ground

C. Projected Demands

1. *Estimate the water supply requirements for the next ten years using population trends, historical water use, economic growth, etc.*

| Year | Population | Water Demands (gallons) |
|------|------------|-------------------------|
| 2014 | 39,250 | 3,381,000,000 |
| 2015 | 40,000 | 3,446,000,000 |
| 2016 | 40,750 | 3,510,000,000 |
| 2017 | 41,500 | 3,575,000,000 |
| 2018 | 42,250 | 3,639,000,000 |
| 2019 | 43,000 | 3,704,000,000 |
| 2020 | 43,750 | 3,769,000,000 |
| 2021 | 44,260 | 3,813,000,000 |
| 2022 | 44,770 | 3,857,000,000 |
| 2023 | 45,280 | 3,900,000,000 |

2. *Describe sources of data and how projected water demands were determined. Attach additional sheets if necessary.*

*Population estimates were obtained through the City of Coppell Planning Department. Water demand was calculated by multiplying the population x GPCD x 365 days/year and rounded to the nearest MG.

D. High Volume Customers

1. List the annual water use, in gallons, for the five highest volume **RETAIL** customers. Select one of the following water use categories to describe the customer; choose Residential, Industrial, Commercial, Institutional, or Agricultural.

| Retail Customer | Water Use Category | Annual Water Use | Treated or Raw |
|--------------------------|--------------------|------------------|----------------|
| HCA NORTH TEXAS DIVISION | Commercial | 26,286,000 | Treated |
| AP WP LAKE REIT, LLC | Residential | 23,754,000 | Treated |
| G & K | Commercial | 23,118,000 | Treated |
| OAKS RIVERCHASE APTS | Residential | 10,771,000 | Treated |
| LINEAGE LOGISTICS | Commercial | 9,727,400 | Treated |

Section II: System Data

A. Retail Connections

1. List the active retail connections by major water use category.

| Water Use Category* | Active Retail Connections | | | |
|------------------------------------|---------------------------|-----------|-------------------|------------------------------|
| | Metered | Unmetered | Total Connections | Percent of Total Connections |
| Residential – Single Family | 11,123 | 0 | 11,123 | 73% |
| Residential – Multi-family (units) | 2,872 | 0 | 2,872 | 19% |
| Industrial | 0 | 0 | 0 | 0% |
| Commercial | 1,024 | 0 | 1,024 | 7% |
| Institutional | 266 | 0 | 266 | 2% |
| Agricultural | 0 | 0 | 0 | 0% |
| TOTAL | 15,285 | 0 | 15,285 | |

2. List the net number of new retail connections by water use category for the previous five years.

| Water Use Category* | Net Number of New Retail Connections | | | | |
|------------------------------------|--------------------------------------|------|------|------|------|
| | 2013 | 2012 | 2011 | 2010 | 2009 |
| Residential – Single Family | 78 | 63 | 35 | 90 | 49 |
| Residential – Multi-family (units) | 0 | 0 | 0 | 41 | 0 |
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Commercial | -38 | 47 | 14 | -1 | -28 |
| Institutional | 1 | 265 | 0 | 0 | 0 |
| Agricultural | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 41 | 375 | 49 | 130 | 21 |

B. Accounting Data

For the previous five years, enter the number of gallons of **RETAIL** water provided in each major water use category.

| Water Use Category* | Total Gallons of Retail Water | | | | |
|-----------------------------|-------------------------------|----------------------|----------------------|----------------------|----------------------|
| | 2013 | 2012 | 2011 | 2010 | 2009 |
| Residential - Single Family | 1,759,883,800 | 1,934,470,600 | 2,019,495,100 | 1,789,157,500 | 1,622,672,200 |
| Residential – Multi-family | 123,570,010 | 96,189,800 | 152,273,000 | 131,024,800 | 130,438,100 |
| Industrial | | | | | |
| Commercial | 1,094,304,290 | 1,042,366,600 | 1,117,367,900 | 1,046,357,700 | 940,189,700 |
| Institutional | 67,477,900 | 92,477,000 | | | |
| Agricultural | | | | | |
| TOTAL | 3,045,236,000 | 3,165,504,000 | 3,289,136,000 | 2,966,540,000 | 2,693,300,000 |

C. Residential Water Use

For the previous five years, enter the residential GPCD for single family and multi-family units.

| Water Use Category* | Residential GPCD | | | | |
|-----------------------------|------------------|------|------|------|------|
| | 2013 | 2012 | 2011 | 2010 | 2009 |
| Residential - Single Family | 132 | 141 | 154 | 136 | 121 |
| Residential – Multi-family | | | | | |
| | | | | | |

D. Annual and Seasonal Water Use

1. *For the previous five years, enter the gallons of treated water provided to RETAIL customers.*

| Month | Total Gallons of Treated Retail Water | | | | |
|--------------|---------------------------------------|----------------------|----------------------|----------------------|----------------------|
| | 2013 | 2012 | 2011 | 2010 | 2009 |
| January | 164,621,000 | 157,277,000 | 132,165,000 | 135,784,000 | 165,576,000 |
| February | 160,336,000 | 139,324,000 | 122,775,000 | 122,299,000 | 183,302,000 |
| March | 207,039,000 | 154,786,000 | 221,797,000 | 126,674,000 | 183,196,000 |
| April | 216,548,000 | 209,147,000 | 232,233,000 | 197,987,000 | 204,472,000 |
| May | 274,162,000 | 340,605,000 | 245,126,000 | 313,136,000 | 192,143,000 |
| June | 309,278,000 | 341,972,000 | 389,556,000 | 369,434,000 | 328,464,000 |
| July | 413,925,000 | 481,544,000 | 489,548,000 | 332,213,000 | 455,842,000 |
| August | 423,325,000 | 444,854,000 | 535,371,000 | 509,654,000 | 383,351,000 |
| September | 460,270,000 | 452,328,000 | 486,948,000 | 344,513,000 | 329,674,000 |
| October | 267,184,000 | 269,004,000 | 285,041,000 | 303,229,000 | 165,816,000 |
| November | 194,416,000 | 300,659,000 | 251,356,000 | 234,808,000 | 187,905,000 |
| December | 168,506,000 | 204,889,000 | 145,441,000 | 132,165,000 | 128,624,000 |
| TOTAL | 3,259,610,000 | 3,496,389,000 | 3,537,357,000 | 3,121,896,000 | 2,908,365,000 |

2. *Summary of seasonal and annual water use.*

| Water Use | Seasonal and Annual Water Use | | | | | Average in Gallons |
|----------------------------------|-------------------------------|---------------|---------------|---------------|---------------|------------------------------|
| | 2013 | 2012 | 2011 | 2010 | 2009 | |
| Summer Retail (Treated + Raw) | 1,146,528,000 | 1,268,370,000 | 1,414,475,000 | 1,211,301,000 | 1,167,657,000 | 1,241,666,200 5yr Average |
| TOTAL Retail (Treated + Raw) | 3,259,610,000 | 3,496,389,000 | 3,537,357,000 | 3,121,896,000 | 2,908,365,000 | 3,264,723,400 5yr Average |

E. Water Loss

Provide Water Loss data for the previous five years.

Water Loss GPCD = [Total Water Loss in Gallons ÷ Permanent Population Served] ÷ 365

Water Loss Percentage = [Total Water Loss ÷ Total System Input] x 100

| Year | Total Water Loss in Gallons | Water Loss in GPCD | Water Loss as a Percentage |
|----------------|--------------------------------|-----------------------|-------------------------------|
| 2013 | 18,057,179 | 1 | 1% |
| 2012 | 321,000,000 | 22 | 9% |
| 2011 | 214,731,929 | 15 | 6% |
| 2010 | 49,980,000 | 4 | 2% |
| 2009 | 147,834,688 | 10 | 5% |
| 5-year average | 150,320,759 | 10 | 4% |

F. Peak Water Use

Provide the Average Daily Water Use and Peak Day Water Use for the previous five years.

| Year | Average Daily Use (gal) | Peak Day Use (gal) | Ratio (peak/avg) |
|------|-------------------------|--------------------|------------------|
| 2013 | | 16,390,000 | 1.84 |
| 2012 | | 19,080,000 | 1.99 |
| 2011 | | 18,400,000 | 1.90 |
| 2010 | | 17,290,000 | 2.02 |
| 2009 | | 17,315,000 | 2.17 |

G. Summary of Historic Water Use

| Water Use Category | Historic 5-year Average | Percent of Connections | Percent of Water Use |
|--------------------|-------------------------|------------------------|----------------------|
| Residential SF | 1,825,135,840 | 73% | 55.9% |
| Residential MF | 126,699,142 | 19% | 3.9% |
| Industrial | 0 | 0% | 0% |
| Commercial | 1,048,117,238 | 7% | 32.1% |
| Institutional | 31,990,980 | 2% | 0.98% |
| Agricultural | 0 | 0% | 0% |

H. System Data Comment Section

Provide additional comments about system data below.

- *Residential Single Family GPCD and Residential Multi Family GPCD are combined into just Residential GPCD in "C. Residential Water Use".*
- *In "B. Accounting Data", Commercial and Institutional uses were combined until 2012.*
- *We do not have any Raw Water customers.*

Section III: Wastewater System Data

A. Wastewater System Data (Attach a description of your wastewater system.)

162,000,000

1. *Design capacity of wastewater treatment plant(s): _____
gallons per day.*
2. *List the active wastewater connections by major water use category.*

| Water Use Category* | Active Wastewater Connections | | | |
|---------------------|-------------------------------|-----------|-------------------|------------------------------|
| | Metered | Unmetered | Total Connections | Percent of Total Connections |
| Municipal | | | 0 | 0% |
| Industrial | | | 0 | 0% |
| Commercial | | | 0 | 0% |
| Institutional | | | 0 | 0% |
| Agricultural | | | 0 | 0% |
| TOTAL | 0 | 0 | 0 | |

2. *What percent of water is serviced by the wastewater system? 37%*

3. *For the previous five years, enter the number of gallons of wastewater that was treated by the utility.*

| Month | Total Gallons of Treated Wastewater | | | | |
|--------------|-------------------------------------|---------------|---------------|---------------|---------------|
| | 2013 | 2012 | 2011 | 2010 | 2009 |
| January | 107,977,000 | 113,404,000 | 103,656,000 | 109,428,000 | 101,103,000 |
| February | 94,282,000 | 99,686,000 | 94,411,000 | 110,927,000 | 92,514,000 |
| March | 105,776,000 | 114,442,000 | 100,342,000 | 106,284,000 | 103,268,000 |
| April | 102,019,000 | 100,794,000 | 105,449,000 | 106,284,000 | 102,314,000 |
| May | 105,639,000 | 91,141,000 | 114,975,000 | 110,140,000 | 110,993,000 |
| June | 99,892,000 | 93,208,000 | 100,750,000 | 100,858,000 | 107,866,000 |
| July | 103,173,000 | 90,996,000 | 96,603,000 | 109,805,000 | 94,344,000 |
| August | 99,690,000 | 97,420,000 | 99,235,000 | 100,117,000 | 94,866,000 |
| September | 95,092,000 | 89,814,000 | 93,017,000 | 110,350,000 | 101,437,000 |
| October | 98,894,000 | 92,990,000 | 97,622,000 | 101,622,000 | 127,958,000 |
| November | 96,219,000 | 92,012,000 | 95,132,000 | 96,138,000 | 116,000,000 |
| December | 108,004,000 | 96,608,000 | 105,326,000 | 97,279,000 | 107,484,000 |
| TOTAL | 1,216,657,000 | 1,172,515,000 | 1,206,518,000 | 1,259,232,000 | 1,260,147,000 |

4. Can treated wastewater be substituted for potable water? No

B. Wastewater System Data Comment

Provide additional comments about wastewater system data below.

- *We do not do any wastewater treatment. All of our wastewater is treated by Trinity River Authority.*
- *We do not meter our wastewater flows by customer.*

APPENDIX C1

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 as fire-fighting, 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 municipal water use dividing by the population and the 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**, use the months of June, July and August.

APPENDIX C2

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 bottom 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% |
| Dry-year per capita water use = | 250 gpcd (App C, VI.C.3) |
| Potential for reduction in unaccounted-for use | |
| = (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 Coppell with goal of 8% unaccounted water loss:

| | |
|--|-----|
| Unaccounted-for uses = | 9% |
| Dry-year per capita water use = | 245 |
| Potential for reduction in unaccounted-for use | |
| $(245 \times 9\%) - (245 \times 4\%) = 12.25$ gpcd | |
| Technical Potential Savings Range = 0 to 12.25 gpcd | |

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

The Texas Water Development Board (TWDB) 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 post-1995 population. 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:

$$PCS_{2010} = (((POP_{1995} \times 10\%) + G_{1995-10}) / POP_{2010}) \times 16 \text{ gpcd}$$

$$PCS_{2010} = (((26600 \times 10\%) + 9350 / 38750) \times 16 \text{ gpcd} + 4.96$$

$$GPCD_{1995} = PCS_{2010} + GPCD_{2010}$$

$$224.96 = 4.96 + 220$$

Where:

| | | |
|-----------------------------|---|--------|
| GPCD ₂₀₁₀ | Per person, per day in the Year 2010 (gpcd) | 220 |
| G ₁₉₉₅₋₁₀ | Population growth between 1995 and 2010 | 12,150 |
| PCS ₂₀₁₀ | The entity's average gpcd savings due to plumbing code changes (fixture replacement) between 1995 and 2010 | 4.96 |
| PCS ₂₀₁₀ | The entity's average gpcd savings in 2010 due to plumbing code changes (fixture replacement) in the previous 10 years | |
| POP ₁₉₉₅ | July 1995 population estimate | 26,600 |
| POP ₂₀₁₀ | Census 2010 population (cities) or Year 2010 population estimate | 38,750 |
| 0902010-POP ₂₀₆₀ | Population projections for the entity in the decades 2010 through 2060 | |

The remaining savings was calculated as follows:

$$\text{PCS2010} = [((\text{POP1995} \times 30\%) + (\text{POP2010} - \text{POP1995})) / \text{POP2010} \times 16 \text{ gpcd}] - \text{PCSD2000}$$

$$\text{GPCD2010} = \text{GPCD2000} - \text{PCS2010}$$

$$(26600 \times 30\%) + (38800 - 26600) / 38800 \times 16 - 4.96 = 3.36$$

$$225 - 3.36 = 221.64$$

Note: These formulas work through 2040. By 2050, all of the fixture replacements would have taken place and no additional savings would occur.

$$(26600 \times .35) + (54000 - 26600) / 54000 \times 16 - 4.96 = 5.92$$

$$225 - 6 = 219$$

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.

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 dry-year 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 Coppell :

| | |
|--|-------------------------|
| Average annual dry-year per capita use = | 229 gpcd |
| Geographical location = | North Texas |
| Seasonal use = $229 \times .225 =$ | 51.3 gpcd |
| Potential reduction in seasonal use (Most Likely scenario) = | 3.6 gpcd |
| Potential reduction in seasonal use (Advanced scenario) = | 10.3 gpcd |
| Technical Potential Savings Range = | 3.6 to 10.3 gpcd |

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

The technical potential for water conservation from public education and water 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) = $(185 \times 2\%) =$ | 3.70 gpcd |
| Potential reduction in water use (Advanced scenario) = $(185 \times 5\%) =$ | 9.25 gpcd |
| Technical Potential Savings Range = | 3.7 to 9.25 gpcd |

Computation for Coppell :

| | |
|--|-------------------------|
| Average annual per capita use = | 229 gpcd |
| Potential reduction in water use (Most Likely scenario) = $(229 \times 2\%) =$ | 4.6 gpcd |
| Potential reduction in water use (Advanced scenario) = $(185 \times 5\%) =$ | 11.5 gpcd |
| Technical Potential Savings Range = | 4.6 to 11.5 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 8.2 gpcd to 37.73 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) | 0 to 11.25 gpcd |
| Reducing indoor water use due to water-efficient plumbing | Reduction expected according to TWDB | Included in Table 4.1 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 | | 3.7 to 9.25 gpcd |
| | Total Technical Potential Savings | 6.94 to 29.75 gpcd |

Summary of Technical Potential Calculations for Coppell:

| Conservation Measure | Calculation Procedure | Result |
|--|---|-------------------|
| Reducing unaccounted-for uses | (Dry year demand) x (Unacc.-for percentage if more than 15%, minus) | 0 to 12.25 gpcd |
| Reducing indoor water use due to water-efficient plumbing | Reduction expected according to TWDB | 3.4 to 6 gpcd |
| 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 | | 4.6 to 11.5 gpcd |
| | Total Technical Potential Savings | 11.2 to 39.0 gpcd |

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 Coppell :

| |
|--|
| Long-run planning goal = (dry year water demand with low-flow fixtures) minus total technical potential) |
| 5-year 218 (“most likely” scenario) |
| 190 (“advanced” scenario) |

APPENDIX D

Letter to Region C Water Planning Group



_____ 2014

Mr. Kevin Patteson
Texas Water Development Board
Stephen F. Austin Bldg.
P.O. Box 13231
Austin, Texas 78711-3231

Dear Mr. Patteson:

Enclosed please find a copy of the 2014 Update of the Water Conservation and Drought Contingency Plan for the City of Coppell. This plan is an updated version of the plan submitted in May of 2005. A copy of this plan will be provided to the Region C Water Planning Group of the North Texas Municipal Water District in Wylie Texas. The City Council of the City of Coppell adopted this plan on April 22, 2014.

Sincerely,

Kenneth M. Griffin, P.E.
Director of Engineering/Public Works
City of Coppell