WATER CONSERVATION AND WATER RESOURCE MANAGEMENT PLAN FOR THE CITY OF ALLEN, TEXAS

May 2014

CITY OF ALLEN

COMMUNITY SERVICES

305 CENTURY PARKWAY

ALLEN, TEXAS 75013

FORWARD

As of April 15, 2014 the City of Allen, Texas, under the direction of North Texas Municipal Water District (NTMWD), is at a modified version of Stage 3 of the May 2008 plan titled "Water Conservation and Drought Contingency and Emergency Response plan for the City of Allen, Texas". Because of this current drought condition, the new plan for 2014 titled "Water Conservation and Water Resource Management Plan for the City of Allen, Texas" cannot be implemented immediately. Once the current water emergency ceases to exist, the new 2014 plan may be implemented. The North Texas Municipal Water District (NTMWD), Texas Commission on Environmental Quality (TCEQ), and the Texas Water Development Board (TWDB) will be notified in writing of the effective date of this plan when this occurs.

This Water Conservation and Water Resource Management Plan (Plan) was prepared by Gail Donaldson, Water Conservation Manager for the City of Allen, pursuant to Texas Commission on Environmental Quality rules. Some material is based on the City of Allen (City) May 2008 plan. For the purposes of regional coordination, the drought contingency plans for the North Texas Municipal Water District, Tarrant Regional Water District and the City of Dallas were consulted.

Questions regarding this water conservation plan should be addressed to the following:

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This Plan is based on the Texas Administrative Code in effect on July 30, 2012.

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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 of North Central Texas have led to growing demands for water supplies. At the same time, local and less expensive sources of water supply are already largely developed. Additional supplies to meet future demands will be expensive and difficult to secure. 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 and drought contingency plans for wholesale water suppliers[1]. The City of Allen (City) has developed this Water Conservation and Water Resource Management Plan (Plan) pursuant to TCEQ guidelines and requirements.

The City is located in Collin County, and is bordered by the cities of McKinney and Fairview to the north, Lucas to the east, and Parker and Plano to the south. The land area of the City is 27.11 square miles. As of December 31, 2013 the City's current population is 90,052, with a total of 32,800 metered water utility connections. Of these connections, the percentage makeup is in the following categories: 81% Single-Family Residential, 13% Multi-Family Residential, and 7% Industrial/Commercial/Institutional. The City has no Agricultural metered connections. The average daily water use is 13.4 million gallons with a peak day use of 24.6 million gallons. This data is found in the Utility Profile in appendix G.

The City purchases treated water from the North Texas Municipal Water District (NTMWD). NTMWD is a regional wholesale supplier for 13 Member Cities and numerous other customers in Collin, Dallas, Denton, Rockwall, Kaufman, Hunt, Hopkins, Fannin, and Rains Counties in North Central Texas. The NTMWD currently provides water for over 1.55 million people. The City does not wholesale any of this purchased water from NTMWD to other customers. All of the City's waste water is treated by NTMWD at the Wilson Creek Wastewater Treatment Plant.

The main objective of this Plan is for a strategy or combination of strategies for reducing the consumption of water, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, or for increasing the recycling and reuse of water in the conservation portion and to have mechanisms in place to preserve supplies for essential uses under drought, water supply shortage, water emergency conditions, or other supply interruptions in the water resource management portion of this plan. This plan has been developed in concert with the Model Water Conservation and Model Water Resource and Emergency Management Plan for the NTMWD Member Cities and Customers[2].

[1] Superscripted numbers match references listed in Appendix A.

2. DEFINITIONS

1. AQUATIC LIFE means organisms dependent upon an aquatic environment to sustain its life[3].

2. ATHLETIC FIELD means a sports playing field, the essential feature of which is turf grass, used primarily for organized sports competition or exhibition events for schools, professional sports, or sanctioned league play[4].

3. CITY MANAGER means the City Manager of the City of Allen, Texas, or designee.

4. COMMERCIAL FACILITY means business or industrial buildings and the associated landscaping, but does not include the fairways, greens, or tees of a golf course[3].

5. COOL SEASON GRASSES are varieties of turf grass that grow best in cool climates primarily in northern and central regions of the U.S. Cool season grasses include perennial and annual rye grass, Kentucky blue grass and fescues and others[5].

6. COSMETIC POWER WASHING means treatment or cleaning of a surface with specialized equipment that uses a spray of or directed water for the cosmetic cleaning of buildings, vehicles or other mobile equipment, or outdoor surfaces. It does not include industrial cleaning, cleaning associated with manufacturing activities, hazardous or toxic waste cleaning, or cleaning necessary to remove graffiti[3].

7. DIRECTOR OF COMMUNITY SERVICES* means the Director of Community Services of the City of Allen, Texas, or designee.

8. DIRECTOR OF COMMUNITY DEVELOPMENT* means the Director of Planning and Development of the City of Allen, Texas, or designee.

9. DESIGNATED OUTDOOR WATER USE DAY means a day prescribed by rule on which a person is permitted to irrigate outdoors[3].

10. DRIP IRRIGATION sometimes known as trickle irrigation, or micro-irrigation, is a method of low volume, low pressure water application on the landscape from a series of valves, pipes, tubes and emitters delivering water at a rate of 0.16 up to 4 gallons per hour (GPH)[5].

11. DROUGHT, for the purposes of this report, means an extended period of time when an area receives insufficient amounts of rainfall to replenish the water supply, causing water supply sources (in this case reservoirs) to be depleted[5].

12. EVAPOTRANSPIRATION abbreviated as ET represents the amount of water lost from plant material and soils through transpiration and evaporation. The amount of ET can be estimated based on the temperature, wind, and relative humidity[5].

13. ET/SMART CONTROLLERS are irrigation controllers that adjust their schedule and run times based on weather (ET) data. These controllers are designed to replace the amount of water lost to evapotranspiration[5].

14. EXECUTIVE DIRECTOR means the Executive Director of the North Texas Municipal Water District and includes a person the Director has designated to administer or perform any task, duty, function, role, or action related to this plan or on behalf of the Executive Director[5].

15. FOUNDATION WATERING means an application of water to the soils directly abutting the foundation of a building or structure[3].

16. GOVERNMENT PROPERTY means a property owned or operated by a federal, state, or local governmental unit, entity, agency, or subdivision for public purpose[3].

17. HOSE-END SPRINKLER means an above-ground water distribution device that may be attached to a garden hose[3].

18. MULTI-FAMILY PROPERTY means a property containing five or more dwelling units[3].

19. NEW LANDSCAPE means living vegetation comprised of turfgrasses, trees, shrubs, groundcovers, and annual or perennial herbaceous plants used ornamentally. Does not include fruits or vegetables[5].

20. ORNAMENTAL FOUNTAIN means an artificially created structure from which a jet, stream, or flow of water emanates and is not generally utilized for the preservation of aquatic life[3].

21. PERMANANTLY INSTALLED IRRIGATION SYSTEM means a custom-made, site-specific system of delivering water generally for landscape irrigation via a system of pipes or other conduits, valves, heads, or other equipment installed below ground[5].

22. POND is a still body of water with a surface area of 500 square feet or more[5].

23. RAIN/FREEZE SENSOR means a device designed to stop the flow of water to an automatic irrigation system when rainfall or freeze event has been detected[4].

24. RECLAIMED WATER means reclaimed municipal wastewater that has been treated to a quality that meets or exceeds the minimum standards of the 30 Texas Administrative Code, Chapter 210 and is used for lawn irrigation, industry, or other non-potable purposes[3].

25. RESIDENTIAL FACILITY means a site with four or fewer dwelling units[3].

26. RESIDENTIAL GALLONS PER CAPITA PER DAY (Residential gpcd) the total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year[6].

27. SOAKER HOSE means a perforated or permeable garden-type hose or pipe that is laid above ground that provides irrigation at a slow and constant rate[3].

28. SWIMMING POOL means any structure, basin, chamber, or tank including hot tubs, containing an artificial body of water for swimming, diving, or recreational bathing, and having a depth of two (2) feet or more at any point[4].

29. TOTAL GALLONS PER CAPITA PER DAY (Total gpcd) the total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in TCA Chapter 288.1 shall be credited against total diversion volumes for the purposes of calculating gpcd for targets and goals[6]. (TAC Chapter 288.1)

30. VEGETABLE/COMMUNITY GARDEN means any non-commercial vegetable garden planted primarily for household use; "non-commercial" includes incidental direct selling of produce from such a vegetable garden to the public[4].

31. VEHICLE WASH FACILITY means a permanently-located business that washes vehicles or other mobile equipment with water or water-based products, including but not limited to self-service car washes, full service car washes, roll-over/in-bay style car washes, and facilities managing vehicle fleets or vehicle inventory[3].

32. WATER RESOURCE MANAGEMENT PLAN means a strategy or combination of strategies for temporary supply management and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies required by Texas Administrative Code Title 30, Chapter 288, Subchapter B. This is sometimes called a drought contingency and emergency response plan[3].

33. WATER SHORTAGE means a condition in which existing or projected water supply or delivery available to City customers is not anticipated to meet, or cannot meet, the ordinary water requirements of these customers.

***RESPONSIBILITIES:**

- **The Director of Community Services is responsible for:**
  - Advising the City Manager in issues related to water conservation and drought and water emergency issues.
  - Developing and maintaining the City Plan in consonance with the most current NTMWD Model Plan and TCEQ guidelines and policies.
  - Implementing programs to reduce and control water loss, calculating and reporting unaccounted for water, and keeping water loss under 12 percent. When water loss exceeds 12 percent, the City will intensify water loss control programs.
  - Supervision of developing and presenting water conservation educational and informational programs.
  - Developing water conservation promotional activities including a water conservation incentive (rebate) program.
  - Assuring that City ordinances and educational materials are maintained to continue to support future revisions to the NTMWD Model Plan, City Plan, TCEQ guidelines, and legislative mandate.
  - Preparing and submitting all the required reports, water utility profiles, and tabular materials related to water conservation in the formats and media as required by the City Plan and/or NTMWD, Region C Water Planning group, TCEQ, and/or TWDB.

- Continuing the City's Water and Sewer Fund financial programming to support a 10-year residential meter replacement cycle and conducting a regular large meter testing program on no less than a 5-year cycle.
- Supporting the City's goal of reducing gallons per capita per day (gpcd).
- Assuring the City continues its program of universal metering and billing.
- Assuring that the City water billing/records management system includes water usage classes and capabilities to sort/separate differing classes and categories of water usage as required by the NTMWD Model Plan and Texas Administrative Code (TAC) Title 30, Part I, Chapter 288, Subchapter A, Rule 288.2(a)(2)(b).
- Providing the City Plan to NTMWD for comment. Providing NTMWD and the Chair of the Region C water planning group the City's adopted ordinance.
- Tracking the submission and appropriateness of the periodic commercial irrigation audits required by the Allen Land Development Code (ALDC).
- Managing the administrative processing and follow-up associated with the requesting of variances from City customers.
- In coordination with the Director of Community Development, the administrative processing and follow-up associated with the enforcement of all of the water conservation and drought contingency and water emergency response provisions of this Ordinance.
- Managing the program that allows the pursuit of administrative remedies for violations of water conservation and drought water use restrictions.

- **The Director of Community Development is responsible for:**
  - Enforcing the provisions of this Water Conservation and Resource Management Plan through the Code Compliance Staff.
  - Enforcing the requirements of the International Plumbing Code (IPC) in residential and commercial facilities.
  - Enforcing the provisions of this Water Conservation and Resource Management Plan that are associated with environmental health as part of the regular inspection program.
  - As part of the building permit and building inspection programs, enforcing requirements of the ALDC that requires landscape irrigation system design in accordance with state design and installation requirements, and requirements of commercial irrigation system inspection and audit at installation. This requires irrigation system design submission by builders or licensed irrigators for review by the building official staff and inspection of the irrigation systems as part of the building inspection program, and gathering inspection reports from those commercial installations.

3. WATER CONSERVATION PLAN

3.1 INTRODUCTION

The Water Conservation Plan (Plan) must be updated every 5 years and should include a Utility Profile (appendix G). The purpose of a water conservation plan is to identify water conservation opportunities and set goals to be accomplished by water conservation measures. This Plan meets the requirements set forth by TWDB and the TCEQ rules governing development of water conservation plans for public water suppliers that are contained in TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2, 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 consumption of water, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, or for increasing the recycling and reuse of water." In addition to TCEQ rules regarding water conservation, this plan also incorporates elements of the Guidance and Methodology for Reporting on Water Conservation and Water Use developed by TWDB and TCEQ, in consultation with the Water Conservation Advisory Council (the "Guidance"). The Guidance was developed in response to a charge by the 82nd Texas Legislature to develop water use and calculation methodology and guidance for preparation of water use reports and water conservation plans in accordance with TCEQ rules. This Water Conservation and Water Resource Management Plan will replace the plan dated May 2008 titled "Water Conservation and Drought Contingency and Emergency Response plan for the City of Allen, Texas".

3.2 SPECIFICATION OF WATER CONSERVATION GOALS

TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. As part of plan adoption, the City must develop 5-year and 10-year goals for per capita municipal use. The goals for this City Plan include the following:

- Maintain the per capita municipal water use below the specified amount in gallons per capita per day in a normal climate year, as shown in the completed Table 3.1.
- Maintain the level of unaccounted water in the system below 12 percent annually in 2014 and subsequent years, as discussed in Section 3.7.
- Implement and maintain a program of universal metering and meter replacement and repair, as discussed in Section 3.5.

- Increase efficient water usage through water conservation measures with ordinance for enforcement, as discussed in Section 5 and 6.
- Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 5 and 6.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 4.
- Develop a system specific strategy to conserve water during peak demands, thereby reducing the peak use.

Table 3.1

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

Description	Historic 5yr Average (gpcd)	5-Year Goal for year 2019	10-Year Goal for year 2024
Total GPCD	165*	160	152
Residential GPCD	109*	109	100
Water Loss (GPCD)	17*	16	15.3
Water Loss (percentage)	10%	10%	10%

** Based on 2009-2013 consumption figures*

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

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

3.4 ACCURATE METERING OF TREATED WATER DELIVERIES FROM NTMWD

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

3.5 METERING OF CUSTOMER AND PUBLIC USES AND METER TESTING, REPAIR, AND REPLACEMENT

The provision of water to all customers, including private, public and governmental users, will continue to be metered in the City of Allen. The City of Allen will test and replace their residential customer meters on a regular basis. All residential customer meters will be budgeted to be replaced on a minimum of a 15-year cycle. Additionally, large meters will be regularly tested and either maintained or replaced when their test flow is more than a 3 percent difference from actual flow.

3.6 RECORD MANAGEMENT SYSTEM

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), the City of Allen will maintain a customer billing and record management system that 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 3.9. Should TCEQ, TWDB, or NTMWD require the inclusion of additional customer classes, the City will add the required classes to its billing and records management system.

3.7 DETERMINATION AND CONTROL OF UNACCOUNTED WATER

Unaccounted water is the difference between water delivered to the City of Allen from NTMWD and metered water sales to customers plus authorized but unmetered uses. (Authorized but unmetered

uses would include use for firefighting, releases for flushing of lines, uses associated with new construction, etc.). Unaccounted water can include several categories:

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

Measures to control unaccounted water will be part of the routine operations of the City of Allen. Maintenance crews and personnel will test for, observe for, and report evidence of leaks in the water distribution system. A leak detection and repair program is described in Section 3.8 below. Meter services technicians, building inspection staff, and all City crews will watch for and report signs of water loss and illegal connections, so they can be quickly addressed.

Unaccounted water should be calculated in accordance with the provisions of Appendix G. With the measures described in this City Plan, the City of Allen should maintain unaccounted water below 12 percent in 2014 and subsequent years. If unaccounted water exceeds this goal, the City of Allen will implement a more intensive audit to determine the source(s) of and reduce the unaccounted water. The annual conservation report described in section 3.9 (below) is the primary tool that should be used to monitor unaccounted water.

3.8 LEAK DETECTION AND REPAIR

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

3.9 MONITORING OF EFFECTIVENESS AND EFFICIENCY - ANNUAL WATER CONSERVATION REPORT

Appendix D is a form that should be used in the development of an annual water conservation report by the City of Allen and is a copy of the 2013 report. This form should be completed by March 31 of the following year and used to monitor the effectiveness and efficiency of the water conservation program and to plan conservation-related activities for the next year. The form records the water use by category, per capita municipal use, and unaccounted water for the current year and compares them to historical values. The annual water conservation report should be sent to NTMWD, which will monitor NTMWD Member Cities' and Customers' water conservation trends.

3.10 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 2014. 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.

4. PUBLIC INFORMATION AND EDUCATION CAMPAIGN

In the fall of 2005, the NTMWD began preparing a public education campaign. In June 2006, NTMWD initiated a major educational campaign using the "Water IQ – Know your water" message originally developed for the state's Water Conservation Implementation Task Force in 2004. This was the first major local campaign based on this message. NTMWD hired Enviromedia Social Marketing of Austin, Texas to assist in program implementation. NTMWD has invested $11.2 million since 2006 in this public education campaign. The campaign includes multiple methods to reach and educate the public:

- Television ads
- Radio ads
- Billboards
- Yard signs
- Newspaper and magazine ads
- Messages on gasoline pumps
- Movie theatre ads
- Mall ads
- Fact sheets
- Web site
- An on-going media relations campaign with print and electronic media
- Outreach programs (including a traveling exhibit for community events and breakfasts with irrigators, nurseries, and other industries with influence on water use).

The specifics of the public outreach and education campaign will vary depending on the circumstances of future droughts. The City of Allen resides within the media area where this campaign is focused from NTMWD. In addition to NTMWD campaign, the City of Allen employs the following public information strategies:

- Dedicated webpage to water conservation. (www.cityofallen.org/water-conservation)
- Periodic e-newsletter dedicated to water conservation.
- The City of Allen is an EPA WaterSense Partner and participates in their campaigns of "Fix a Leak Week", "Build a Better Bathroom", and "Sprinkler Spruce-Up".

- The City promotes "July is Smart Irrigation Month", an initiative by the Irrigation Association to promote efficient irrigation systems through both new design and retrofitting of inefficient systems.
- The City promotes *Texas Smartscape* website (txsmartscape.com) on conservation webpage.
- The City provides a "Sustainable Landscape Series"-A winter/spring educational series on best management practices for lawns, landscapes, and irrigation systems to conserve resources.
- Public outreach of K-12 level water conservation education to Allen Independent School District, home school groups, boys and girl scouts and environmental clubs.
- Public outreach to HOA's, Kiwanis, Rotary, Lion's Club, Garden Clubs and other speaking opportunities within the City and region.
- The City provides monthly water conservation messages on the utility bill.
- The City promotes water conservation messaging on their pop-up display Water Conservation Gazebo at public events, garden shows, City events, and more.

5. ENHANCED WATER CONSERVATION STRATEGIES

5.1 WATER RATE STRUCTURE

The City of Allen will continue to bill customers using an increasing block rate water structure that is intended to encourage water conservation and discourage excessive use and waste of water. An example water rate structure suggested by the NTMWD Model Plan is provided below. The current City of Allen rate structure, by customer classification, surpasses the minimum requirements suggested by the NTMWD. (Appendix H-2014 rates).

Residential Rates

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

Commercial/Industrial Rates

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

5.2 ORDINANCES, PLUMBING CODES, OR RULES ON WATER-CONSERVING FIXTURES.

The state has required water-conserving fixtures in new construction and renovations since 1992. The state standards call for flows of no more than 2.2 gallons per minute (gpm) for faucets and 2.5 gpm for showerheads, and 1.28 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. Rebate programs to encourage replacement of older fixtures with water conserving fixtures are discussed in section 5.4.

5.3 REUSE AND RECYCLING OF WASTEWATER

The City does not own and operate a wastewater treatment plant. All wastewater for the City is treated by NTMWD at the Wilson Creek Wastewater Treatment Plant. All effluent water from this treatment plant is released into Lavon Lake for reuse that is permitted for reuse for NTMWD by the state. In essence all waste water is reused through this process, and, therefore the City does not consider gray water initiatives or implementation of direct use of effluent on parks.

5.4 REBATES AND OTHER CONSERVATION INCENTIVES

The City of Allen has a comprehensive rebate program, the H_2OME IMPROVEMENT REBATE PROGRAM, with a separate webpage dedicated to advertise to the public. (www.cityofallen.org/water-conservation) Separate rebates for the following items:

- Whole house Pressure Reducing Valve installation.
- Low-flow Toilet Replacement. (linked to EPA WaterSense)
- Water-efficient Washing Machine purchase.
- Rain Barrel purchase/installation.
- Rain and Freeze Sensor retrofit and installation.
- SMART irrigation technology retrofit and installation*.

The City of Allen offers the following incentive to residential homes that have an installed lawn and landscape irrigation (sprinkler) system:

- Irrigation (sprinkler) system evaluation at no cost. This is outsourced by a licensed irrigation contractor to evaluate and make recommendations for water conserving improvements to the system. This evaluation is linked to the SMART irrigation technology rebate.

*** The SMART irrigation technology rebate includes retrofit of irrigation systems to more conserving devices such as drip irrigation, flow sensors, soil moisture sensors, high efficiency nozzles and controllers such as SMART/ET controllers for their water efficiency. However, having any of these devices will not exempt anyone from daytime watering or allowed water day restrictions in the conservation and water resource management plan.**

5.5 COMPULSORY LANDSCAPE WATER MANAGEMENT MEASURES

Landscape water management measures are strategies for reducing the consumption of water, reducing the loss or waste of water, or improving or maintaining the efficiency in the use of water. The measures include best management practices developed by the Board and the Commission in coordination with the Water Conservation Implementation Task Force and the Water Conservation Advisory Council.

The following landscape water management measures are required or recommended by the NTMWD for this plan. These measures represent minimum measures to be implemented and enforced in order to irrigate the landscape appropriately, and are to remain in effect on a permanent basis unless water resource management stages are declared. Most of these measures were developed specifically to address efficient use of water in the City of Allen:

- Prohibit water waste at all times. *Water runoff to streets, alleys, or storm drains OR failing to repair a controllable leak is considered water waste.*
- Limit landscape watering with sprinklers or irrigation systems at each service address to no more than two days per week on designated days year round, with education that less than twice per week is usually adequate. Exceptions:
    - Additional watering of lawn, landscape, or building foundations may be provided by hand-held hose, use of dedicated irrigation drip zones, and/or soaker hoses, provided no runoff occurs.
    - Golf courses may water greens and tee boxes without restrictions.
    - Public athletic fields used for competition may be watered without restrictions.
    - Locations using other sources of water supply only for irrigation may irrigate without day of the week restrictions provided proper signage is employed. However, irrigation using alternative sources of supply is subject all other restrictions applicable to these measures. If the alternative supply source is a well, proper proof of well registration with the North Texas Groundwater Conservation District is required. Other sources of water supply may not include imported water, whether treated (potable) or untreated.
- Prohibit lawn irrigation watering from 10 AM to 6 PM April 1-October 31 each year.

- Prohibit the use of irrigation systems that intentionally water impervious surfaces. (Wind driven water drift will be taken into consideration.)
- Prohibit of use of poorly maintained irrigation systems that waste water.
- Prohibit outdoor watering during precipitation or freeze events.
- Prohibit the use of potable 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.
- Require all new irrigation systems be in compliance with state design and installation regulations (TAC Title 30, Part 1, Chapter 344).
- Require rain and freeze sensors and/or ET or Smart controllers on all new irrigation systems. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly. ET or Smart controllers **ARE NOT** exempt from water restrictions in this plan.
- Require that irrigation systems be inspected at the same time as initial backflow preventer inspection.
- Require the playing surface on all new athletic fields be irrigated by a separate irrigation system from surrounding areas.
- Require all commercial irrigation accounts to be inspected with audit once every three years by guidelines set forth in the Allen Land Development Code.

ADDITIONAL REQUIRED WATER CONSERVATION MEASURES:

- Non-commercial car washing can be done only when using a water hose with a shut-off nozzle. This includes car washing performed as part of non-profit fundraising activities.
- Water will only be served in all restaurants and food service establishments upon customer request.
- Positive shut-off nozzles must be used in all restaurants and food service establishment kitchens to prevent wash and rinse water running continuously.
- Hotels and motels shall offer a linen reuse water conservation option to customers.

6. WATER RESOURCE MANAGEMENT PLAN

6.1 INTRODUCTION

The Water Resource Management Plan is often called Drought Contingency and Emergency Response Plan. The purpose of this Water Resource Management Plan is as follows:

- To conserve the available water supply in times of drought, water supply shortage, 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.

In the absence of drought response measures, demand tends to increase during a drought due to increased demand for lawn irrigation. The severity of a drought depends on the degree of depletion of supplies and on the relationship of demand to available supplies. The city receives all treated water from NTMWD. The NTMWD considers a drought to end when all of its supply reservoirs refill to the conservation storage pool.

It is important to note that a water supply shortage can be the result of drought or the result of conditions which may render all or some portion of the water supply unavailable. These conditions can include but are not limited to presence of invasive species, contamination of the water supply, or infrastructure failure.

6.2 PROVISIONS TO INFORM THE PUBLIC AND OPPORTUNITY FOR PUBLIC INPUT

The City of Allen provided opportunity for public input in the development of this water resource management plan by the following means:

- Providing written notice of the proposed plan and the opportunity to comment on the plan by newspaper and posted notice.

- Holding a public meeting regarding the water resource management plan at City Hall on March 17th and 22nd, 2014.

6.3 INITIATION AND TERMINATION OF WATER RESOURCE MANAGEMENT STAGES

The City of Allen will initiate and terminate stages of this plan on the basis of North Texas Municipal Water District (NTMWD) request when criteria they have set forth is determined by their Board of Directors, but may also initiate and terminate stages based on City-wide emergencies as outlined in the 5th bullet below. The first through fourth bullets are NTMWD criteria for initiation and termination of stages of the plan:

Initiation of a Water Resource Management Stages

The Executive Director with the consent of the NTMWD Board of Directors may order the implementation of a water resource management stage when one (or more) of the trigger conditions for that stage is met. The following actions will be taken when a drought stage is initiated:

- The public will be notified through local media.
- NTMWD Member Cities and Customers will be notified by e-mail with a follow-up letter or fax that provides details of the reasons for initiation of the water resource management stage.
- If any mandatory provisions of the Water Resource Management Plan are activated, NTMWD will notify the Executive Director of the TCEQ within 5 business days.
- The Executive Director may decide not to order the implementation of a water resource management stage even though one or more of the trigger criteria for the stage is met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, the anticipation of replenished water supplies, or the anticipation that additional facilities will become available to meet needs.
- In the event of a City-wide emergency, the order shall be made by public announcement in the City within twenty-four hours on implementation. In the event of an emergency of limited geographical extent, door-to-door notification shall be made by door hangers and/or in person, at which time the City Manager authorized state of emergency shall become immediately

effective. Once an emergency has been declared, the City Manager may utilize supplemental public notifications including notices posted at City Hall, Civic Centers, libraries, fire stations, post offices, major supermarkets, schools, major corporate centers, Chamber of Commerce, direct mail, television, radio, internet website announcement, ACTV news, newspaper, and other news media to notify the public.

Termination of a Water Resource Management Stage

The Executive Director may order the termination of a water resource management stage when the conditions for termination are met or at his/her discretion. The following actions will be taken when a water resource management stage is terminated:

- The public will be notified through local media.
- Member Cities and Customers will be notified by e-mail with a follow-up letter or fax.
- When any mandatory provisions of the Water Resource Management Plan that have been activated are terminated, NTMWD will notify the Executive Director of the TCEQ within 5 business days.
- The Executive Director may decide not to order the termination of a water resource management stage even though the conditions for termination of the stage are met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, or the anticipation of potential changed conditions that warrant the continuation of the water resource management stage.
- The City may order termination of a water resource management stage at their discretion when it is determined the emergency has ceased to exist.

6.4 WATER RESOURCE MANAGEMENT MEASURES STAGE ONE (1)

Initiation and Termination Conditions for Stage 1 as determined by NTMWD:

The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1.

- Water demand is projected to approach the limit of the permitted supply.

- The storage level in Lavon Lake is less than 55 percent of the total conservation pool capacity.
- NTMWD's storage in Jim Chapman Lake is less than 55 percent of the total conservation pool capacity.
- The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a mild drought.
- NTMWD has concern that Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source may be limited in availability within the next 6 months.
- Water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days.
- Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.
- Supply source is interrupted or unavailable due to invasive species.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.

In addition to NTMWD triggers, in the event of a City-wide emergency, the order shall be made by public announcement in the City within twenty-four hours on implementation. These triggers below are internal triggers which may cause the City to implement Stage 1 restrictions:

- The City's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days.
- The City's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate.
- The City's water supply source becomes contaminated.
- The City's water supply system is unable to deliver water due to the failure or damage of major water system components.

- The City is unable to recover water storage of 90 percent in all storage facilities within a twenty-four hour period.

Stage 1 may be terminated by same City Authority when the circumstances that caused the initiation of Stage 1 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 1

The goal for water use reduction under Stage 1 is a five percent (5%) reduction in the amount of water obtained from NTMWD. **If circumstances warrant or if required by NTMWD, the City Manager, Mayor, or official designee can set a goal for greater or lesser water use reduction in the City of Allen.** The City Manager, Mayor, or official designee may order the implementation of any/all of the actions listed below, as deemed necessary to achieve a five percent reduction. **The City must notify TCEQ and NTMWD within five business days if these measures are implemented:**

- Continue all actions in the water conservation plan.
- Further accelerate public education efforts on ways to reduce water use.
- Halt non-essential city government water use. (Examples include street cleaning, vehicle washing, operation of ornamental fountains, etc.)
- Encourage the public to wait until the current drought or emergency situation has passed before establishing new landscaping.
- Prohibit over-seeding, sodding, sprigging, broadcasting or plugging with cool season grasses or watering these, with exception of public athletic fields and golf courses.
- Limit landscape watering with sprinklers or irrigation systems at each service address to no more than two days per week on designated days between April 1 – October 31, and to one day per week on designated days between November 1 – March 31 each year. Exceptions are as follows:
    - New landscape associated with new construction may be watered as necessary for 30 days from the installation, with approved variance.

- Additional watering of the lawn, landscape, or building foundations may be provided by hand-held hose, use of dedicated irrigation drip zones, and/or soaker hoses, on any day, provided no runoff occurs.
- Golf courses may water greens and tee boxes without restrictions.
- Public athletic fields used for competition may be watered twice per week.
- Locations using other sources of water supply only for irrigation may irrigate without day of the week restrictions provided proper signage is employed. However, irrigation using alternative sources of supply is subject all other restrictions applicable to this stage with exception of cool season grass planting. If the alternative supply source is a well, proper proof of well registration with the North Texas Groundwater Conservation District is required. Other sources of water supply may not include imported water, whether treated (potable) or untreated.

- Initiate a rate surcharge as requested by NTMWD, or as deemed necessary by the Mayor, City Manager, or designated representative.

6.5 WATER RESOURCE MANAGEMENT MEASURES STAGE TWO (2)

Initiation and Termination Conditions for Stage 2 as Determined by NTMWD:

The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2.

- Water demand is projected to approach the limit of the permitted supply.
- The water storage in Lavon Lake is less than 45 percent of the total conservation pool capacity.
- NTMWD's storage in Jim Chapman Lake is less than 45 percent of NTMWD's conservation pool capacity.
- The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Moderate drought.
- NTMWD has concern that Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source may be limited in availability within the next 3 months.

- Water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days.
- Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.
- Supply source is interrupted or unavailable due to invasive species.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.

In addition to NTMWD triggers, in the event of a City-wide emergency, the order shall be made by public announcement in the City within twenty-four hours on implementation. These triggers below are internal triggers which may cause the City to implement Stage 2 restrictions:

- The City's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days.
- The City's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
- The City's water supply source becomes contaminated.
- The City's water supply system is unable to deliver water due to the failure or damage of major water system components.
- The City is unable to recover water storage of 75 percent in all storage facilities within a twenty-four hour period.

Stage 2 may be terminated by same City Authority when the circumstances that caused the initiation of Stage 2 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 2

The goal for water use reduction under Stage 2 is a reduction of ten percent (10%) in the amount of water obtained from NTMWD. **If circumstances warrant or if required by NTMWD, the City Manager, Mayor, or official designee can set a goal for greater or lesser water use reduction in the City of Allen.**

The City Manager, Mayor, or official designee may order the implementation of any/all of the actions listed below, as deemed necessary to achieve a ten percent reduction. **The City must notify TCEQ and NTMWD within five business days if these measures are implemented**:

- Continue or initiate any/all actions available under Conservation Plan and Stage 1.
- Limit landscape watering with sprinklers or irrigation systems at each service address to one day per week on designated days between April 1 – October 31, and to one day every two weeks on a designated day between November 1 – March 31 each year. Exceptions are as follows:
    - New landscape associated with new construction may be watered as necessary for 30 days from the date of the installation, with approved variance.
    - Trees, within a 10 foot radius of its trunk; shrubs; and/or building foundations may be watered up to two hours any day by hand-held hose, a dedicated irrigation drip zone, and/or a soaker hose provided no runoff occurs. *(Does not include lawn watering)*
    - Golf courses may water greens and tee boxes without restrictions.
    - Public athletic fields used for competition may be watered twice per week, however, they may follow an alternative schedule.
    - Locations using other sources of water supply only for irrigation may irrigate without day of the week restrictions provided proper signage is employed. However, irrigation using alternative sources of supply is subject all other restrictions applicable to this stage with exception of cool season grass planting. If the alternative supply source is a well, proper proof of well registration with the North Texas Groundwater Conservation District is required. Other sources of water supply may not include imported water, whether treated (potable) or untreated.
- Prohibit new sod, hydro seeding, hydro mulching, and sprigging. Exception for new building construction: may use new sod and may be watered as necessary for 30 days from the date of the installation, with approved variance.
- Prohibit the procurement of construction water (i.e. through fire hydrant meters) from the City of Allen water supply that will be used outside the corporate city limits of the City of Allen.
- Initiate a rate surcharge as requested by NTMWD, or as deemed necessary by the Mayor, City Manager, or designated representative.

6.6 WATER RESOURCE MANAGEMENT MEASURES STAGE THREE (3)

Initiation and Termination Conditions for Stage 3 as Determined by NTMWD:

The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3.

- Water demand is projected to approach or exceed the limit of the permitted supply.
- The storage in Lavon Lake is less than 35 percent of the total conservation pool capacity.
- NTMWD's storage in Jim Chapman Lake is less than 35 percent of NTMWD's total conservation pool capacity.
- The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a severe drought. (Measures required by SRA under a severe drought designation are similar to those under NTMWD's Stage 3.)
- The supply from Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source has become limited in availability.
- Water demand exceeds the amount that can be delivered to customers.
- Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.

In addition to NTMWD triggers, in the event of a City-wide emergency, the order shall be made by public announcement in the City within twenty-four hours on implementation. These triggers below are internal triggers which may cause the City to implement Stage 3 restrictions:

- The City's water demand exceeds the amount that can be delivered to customers.
- The City's water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate.

- The City's water supply source becomes contaminated.
- The City's water supply system is unable to deliver water due to the failure or damage of major water system components.
- The City is unable to recover water storage of 50 percent in all storage facilities within a twenty-four hour period.

Stage 3 may be terminated by same City Authority when the circumstances that caused the initiation of Stage 3 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 3

The goal for water use reduction under Stage 3 is a reduction of thirty three percent in the amount of water obtained from NTMWD. **If circumstances warrant or if required by NTMWD, the City Manager, Mayor, or official designee can set a goal for greater or lesser water use reduction in the city of Allen.** The City Manager, Mayor, or official designee may order the implementation of any/all of the actions listed below, as deemed necessary to achieve a thirty-three percent reduction. **The City must notify TCEQ and NTMWD within five business days if these measures are implemented**:

- Continue or initiate any actions available under Conservation Plan, Stages 1, and 2.
- Initiate mandatory water use restrictions as follows:
    - Prohibit hosing of paved areas, buildings, or windows. (Except for cosmetic pressure washing of impervious surfaces for human health and safety purposes.)
    - Prohibit operation of all ornamental fountains if they use potable water.
- Prohibit the installation of any new landscape plants.
- Prohibit all commercial and residential landscape/lawn watering, except:
    - Trees, within a 10 foot radius of its trunk; and/or building foundations may be watered up to two hours on a designated day by hand-held hose, a dedicated irrigation drip zone, and/or a soaker hose provided no runoff occurs.
    - Golf courses may water greens and tee boxes without restrictions, unless further water reductions become necessary.

- Public athletic fields used for competition may be watered twice per week, unless further water reductions become necessary.

- Locations using other sources of water supply only for irrigation may irrigate without day of the week restrictions provided proper signage is employed. However, irrigation using alternative sources of supply is subject all other restrictions applicable to this stage, with exception of cool season grass planting. If the alternative supply source is a well, proper proof of well registration with the North Texas Groundwater Conservation District is required. Other sources of water supply may not include imported water, whether treated (potable) or untreated.

- Prohibit washing of vehicles except at commercial "car wash" facilities whose wastewater goes into a sanitary sewer system.

- Prohibit the permitting of private pools. Pools already permitted may be completed and filled with water.

- Existing swimming pools may not be drained and refilled (except to replace normal water loss). Existing private and public pools may add water to maintain pool levels but may not be drained and refilled.

- Prohibit the operation of all spray ground water parks or other water spray recreation activities that do not treat and recirculate water. Public spray grounds that recirculate water are not restricted unless further reductions become necessary.

- Require all commercial water users to reduce water use by a percentage established by the City Manager, General Manager, Mayor, Chief Executive, or official designee.

- Initiate a rate surcharge as requested by NTMWD, or as deemed necessary by the Mayor, City Manager, or designated representative.

6.7 EMERGENCY WATER MANAGEMENT

In the event that initiation of Stage 3 measures do not provide sufficient conservation measures to maintain supplies for domestic water use, sanitation, and fire protection or protect and preserve health, welfare and safety, the City Manager, Mayor, or official designee may set forth additional measures

necessary including, but not limited to, temporary: prohibitions on certain aspects of new building and developments; water rationing; or locking of all irrigation systems to prevent use.

6.8 PROCEDURE FOR CURTAILMENT OF WATER SUPPLIES

Any mandatory reduction to deliveries from NTMWD to its Member Cities and Customers shall be distributed as required by Texas Water Code §11.039, which is attached as Appendix F. In addition, every wholesale water supply contract entered into or renewed after adoption of this plan, including contract extensions, shall include a provision that water will be distributed in accordance with Texas Water Code §11.039 in case of a water shortage resulting from drought or water emergency.

6.9 PROCEDURE FOR GRANTING VARIANCES TO THE PLAN

The City Manager, Mayor, or official designee may grant temporary variances for existing water uses otherwise prohibited under this Water Conservation and Water Resource Management Plan if the following conditions are met:

- Failure to grant such a variance would cause an emergency condition adversely affecting health, sanitation, or fire safety for the public or the person or entity requesting the variance.
- Variances shall be granted or denied at the discretion of the City Manager, Mayor, or official designee. All petitions for variances should be in writing and should include the following information:
    - Name and address of the petitioners
    - Purpose of water use
    - Specific provisions from which relief is requested
    - Detailed statement of the adverse effect of the provision from which relief is requested
    - Description of the relief requested
    - Period of time for which the variance is sought
    - Other pertinent information.

Variance requests may be delivered to City Hall or addressed to the Attention of the Director of Community Services, 305 Century Parkway, Allen Texas 75013. Variances are considered temporary and

must be submitted for reconsideration should the water resource management plan stage elevate from the stage in which the temporary variance was approved to any higher stage of response.

6.10 PROCEDURES FOR ENFORCING MANDATORY WATER USE RESTRICTIONS

Mandatory water use restrictions may be imposed in the Water Conservation Plan, Stage 1, Stage 2 and/or Stage 3 of the Water Resource Management Plan. The penalties associated with the mandatory water use restrictions are as follows:

Criminal Penalties: Any person, or customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a fine of up to two thousand dollars ($2,000). Each day a person or customer fails to comply with the Plan or is in violation of this Plan shall constitute an offense. The City's authority to seek injunctive or other civil relief available under the law is not limited by this section.

Beginning at Stage 2, the Director of Community Services, in coordination with the Director of Planning and Development, may enforce all of the water conservation and water resource management plan mandatory water restrictions. Prior to initiation of enforcement, the Community Services Director will designate City Staff and ensure training in proper court procedures and evidence requirements by the Allen Municipal Court. City Staff designated by the Director of Community Services will be restricted to enforce only the provisions of this Plan.

Once a citation has been issued for violation of this ordinance the violator must make contact with the Allen Municipal Court to pay the fine or request a court date at the Clerk's office located at 301 Century Parkway, Allen, Texas 75013. Failure to appear may result in an increase of fine, filing of additional charges or issuance of warrants. In lieu of pursuing criminal penalties, the City may elect to exercise administrative remedies as discussed in the next paragraph.

Administrative Remedies. The City may elect to exercise the following administrative remedies in lieu of pursuing criminal penalties against all water account holders. Once a violation of this Plan has been witnessed at any address by City Staff, a Notice of Violation may be left on the door, and followed by written notice. This written notice will be mailed to the billing address of the utility account that is listed in the utility billing system. The notice will be mailed via United States Postal Service. The fees associated with administrative resolution of violations are listed in section (1) below.

(1) Administrative Fees. For violations of this Plan the following administrative fees may be assessed and added to the customer's regular monthly City utility bill:

First Offense	$200
Second Offense	$400
Third Offense	$600
Fourth and Subsequent Offenses	$2,000

(2) Contesting Administrative Fees. A water customer may appeal the assessment of an administrative fee by requesting in writing a hearing before a hearing officer(s) appointed by the Director of Community Services within fifteen business days after the date on the Notice. The hearing officer(s) shall evaluate all information offered by the customer at the hearing. The customer shall bear the burden of proof to show why, by preponderance of the evidence, the administrative fee should not be assessed. The hearing officer(s) will render a decision in writing within three business days after the conclusion of the hearing and send written notice of the decision to the customer. A customer may appeal the decision of the hearing officer(s) to the Director of Community Services by written request submitted within three business days after receipt of the decision of the hearing officer. The decision of the Director of Community Services is final and binding.

(3) Paying Assessed Fees. If, after the expiration of the fifteen business days from the date on the Notice, the customer has not requested an administrative hearing to contest the assessment of an administrative fee or paid the administrative fee, the City shall apply and charge the assessed administrative fee to the customer's next City Utility Bill.

Unpaid assessed administrative fees related to violations of water use restrictions under the City Plan shall incur late payment penalties and may result in termination of water service.

6.11 COORDINATION WITH THE REGIONAL WATER PLANNING GROUPS

Appendix C includes copies of letters sent to the Chairs of the Region C and Region D water planning group with this water conservation and water resource management plan.

6.12 REVIEW AND UPDATE OF WATER CONSERVATION AND WATER RESOURCE MANAGEMENT PLAN

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

6.13 ADOPTION OF THE WATER CONSERVATION AND WATER RESOURCE MANAGEMENT PLAN

Appendix E contains a copy of the formal adoption of the Water Conservation and Water Resource Management Plan through Ordinance No. 3219-4-14, approved on April 22, 2014 by Allen City Council to be effective at a time specified therein.

APPENDIX A

List of References

1. Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter B, Rules 288.20 and 288.22, downloaded from http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288, July 2012

2. Freese and Nichols, Inc.: Model Water Conservation and Water Resource Management Plan for NTMWD Members Cities and Customers, prepared for the North Texas Municipal Water District, Fort Worth, February 2014.

3. Definitions from City of Austin Water Conservation and Drought Contingency Ordinance adopted August 16, 2012.

   http://www.austintexas.gov/sites/default/files/files/Water/Conservation/Planning_and_Policy/ProposedCodeRevision_DRAFT_with_watering_schedule-8-15-2012.pdf

4. Definition from City of San Antonio Water Conservation Ordinance adopted 2005.

   http://saws.org/conservation/ordinance/docs/Ch34_Ordinance_2009.pdf

5. Definition developed by Freese and Nichols, Inc. and/or Gail Donaldson.

6. Freese and Nichols, Inc.: Water Conservation and Drought Contingency and Water Emergency Response Plan, prepared for North Texas Municipal Water District, Fort Worth, March 2008.

7. Texas Water Development Board, Texas Commission on Environmental Quality, Water Conservation Advisory Council. "DRAFT Guidance and Methodology for Water Conservation Reporting."

8. Freese and Nichols, Inc. "2011 Region C Water Plan".

APPENDIX B

Texas Administrative Code

Next Rule>>

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.

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- Letter to Region C and D

Mr. Jim Parks
Chair, Region C Water Planning Group
North Texas Municipal Water District
P.O. Box 2408
Wylie, Texas 75098

Re: Water Conservation and Water Resource Management Plan for the City of Allen, Texas

Dear Mr. Parks:

Enclosed please find a copy of the Water Conservation and Water Resource Management Plan for the City of Allen, Texas (the "Plan").

I am submitting a copy of this Plan to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. Also enclosed are letters of notification to the Texas Commission on Environmental Quality, the Texas Water Development Board, and Region D Water Planning Group.

The City of Allen Council adopted this updated Plan through Ordinance No. 3219-4-14 on April 22, 2014. Should you have any questions, please direct them to Gail Donaldson, Water Conservation Manager, 214-509-4559.

Sincerely,

Gail Donaldson
Water Conservation Manager

Enclosures

cc: Resource Protection Team, TCEQ
Ethan Ham, TWDB
Jim Thompson, Chair, Region D Water Planning Group

APPENDIX D- Copy of NTMWD Member City and Customer Water Conservation Report

APPENDIX D

NTMWD MEMBER CITY AND CUSTOMER WATER CONSERVATION REPORT

Due: March 31 of every year

Entity Reporting:	**City of Allen**
Filled Out By:	**Jimmy Knipp**
Date Completed:	
Year Covered:	**2013**
# of Connections	**28704**

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	311.304	0.000	311.340	71.341	9.129	5.310	0.000	0.000	**397.120**
February	288.930	0.000	188.044	43.628	7.166	3.761	0.000	0.000	**242.599**
March	373.475	0.000	168.356	37.533	10.134	3.772	0.000	0.000	**219.795**
April	387.242	0.000	205.915	46.703	11.644	4.372	0.000	0.000	**268.634**
May	470.280	0.000	274.049	60.294	19.942	4.472	0.000	0.000	**358.757**
June	418.316	0.000	314.441	68.010	24.524	5.322	0.000	0.000	**412.297**
July	504.454	0.000	323.615	76.694	28.626	5.257	0.000	0.000	**434.192**
August	586.847	0.000	341.208	78.653	31.396	4.713	0.000	0.000	**455.970**
September	591.035	0.000	409.072	92.301	53.817	5.881	0.000	0.000	**561.071**
October	401.660	0.000	441.090	97.432	20.122	4.124	0.000	0.000	**562.768**
November	305.217	0.000	268.575	68.880	11.700	4.555	0.000	0.000	**353.710**
December	269.409	0.000	192.199	42.464	10.673	4.064	0.000	0.000	**249.400**
TOTAL	**4,908.169**	**0.000**	**3,437.904**	**783.933**	**238.873**	**55.603**	**0.000**	**0.000**	**4,516.313**

Peak Day Usage

Peak Day (MG)	24.658	Total peak day use (Peak day delivery from NTMWD + other supplies)
Average Day (MG)	13.447	Average day use (Annual deliveries from NTMWD + other supplies / 365 days)
Peak/Average Day Ratio	1.834	Total peak day use/average day use

Unaccounted Water (Million Gallons):

NTMWD Deliveries	4908.169	from Table above
Other Supplies	0	from Table above
Total Supplies	4908.169	from Table above
Total Sales	4516.313	from Table above
Estimated Fire Use	5	estimated from best available data
Estimated Line Flushing Use	51.259	estimated from best available data
Unaccounted Water	335.597	
% Unaccounted	7.00%	
Goal for % Unaccounted	12.00%	

Per Capita Use (Gallons per person per day)

Total Use (MG)	4,908.169	from Table above (NTMWD deliveries+ other supplies - wholesale)
Municipal Use (MG)	4,852.566	from Table above (NTMWD deliveries+ other supplies - industrial sales - municipal sales - wholesale - other sales)
Residential Use (MG)	3,829.760	from Table above (NTMWD deliveries+ other supplies - commercial sales - public/institutional sales - industrial sales - municipal sales - wholesale - other sales)
Estimated Population	90,052	Source: Allen Community Development estimate for Dec. 2013
Total Per Capita Use (gpcd)	149.33	
Municipal Per Capita Use (gpcd)	147.63	
Residential Per Capita Use (gpcd)	116.52	
5-year Per Capita Goal (___)	1% per Year	
10-year Per Capita Goal (___)	1% per Year	

Recorded Wholesale Sales by Month (in Million Gallons):

Month	Sales to ____	Sales to ____	Sales to ____	Sales to ____	Sales to ____	Sales to ____	Sales to ____	Total Wholesale Sales
January	NONE							0
February								0
March								0
April								0
May								0
June								0
July								0
August								0
September								0
October								0
November								0
December								0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Information on Wholesale Customers:

Customer	Estimated Population
NONE	

Unusual Circumstances (use additional sheets if necessary):

Stage 2 began June 2012 and continued through May 31, 2013. Stage 3 began June 1, 2013 and continued through December 31, 2013.

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

• Continue with monthly water conservation messages for utility bill back. • Continued implementation to response to drought stages by means employed previous: hotline, trained enforcement personnel, notice of violation processing, etc. Stage 2 began June 2012 and continued through May 31, 2013. Stage 3 began June 1, 2013 and continues today.

• Continued with the Commercial Irrigation Inspection/Audit program.

• Continuation of the Water Conservation Block Leader Program-currently has 29 block leaders with over 800 homes officially adopted.

• Contracted with Vepo, LLC to conduct the WISE guys to perform voluntary residential irrigation inspections, renewed in May for 2013.

• Prepared and administered EPA WaterSense "Fix a leak" curriculum to 16 schools of AISD 5th grades (a total of 1596 students).

• Revised and created new programs for the Sustainable Landscape Series 2013.

• Developed and implemented "Sprinkler Smarts"-a residential irrigation education event with Ewing Irrigation, Cities of McKinney and Frisco, and Dallas Irrigation Association, enlarged and presented again in May 2013 where cities of Dallas, Richardson, Mesquite, and Plano joined along.

• Promoted City of Allen Water Conservation program at Texas Water, April 2013, presenting "Sprinkler Smarts".

• Promoted City of Allen Water Conservation program in both a poster session, and presentation at WaterSmart Innovations conference in October 2013. "Sprinkler Smarts" Poster session, and "Commercial Success-the commercial irrigation inspection program"

• Promoted City of Allen Water Conservation at the Irrigation Association conference and trade show in November 2013. "Commercial Success-the commercial irrigation inspection program"

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

• Continue with residential irrigation inspection and audit program. • Continue with residential Block Leader program.

• Continue with Commercial Irrigation Inspection program.

• Continue with revision to water conservation curriculum for AISD.

• Continue with the residential irrigation education event and expand educational topics.

• Revise and update rebate program incentives, possibly add pool cover rebate.

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

Other (use additional sheets if necessary):

APPENDIX E- Copy of adopted ordinance.
Ordinance No. 3219-4-14

ORDINANCE NO. 3219-4-14

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ALLEN, COLLIN COUNTY, TEXAS, AMENDING THE CODE OF ORDINANCES BY AMENDING CHAPTER 14; BY ADOPTING THE MAY 2014 WATER CONSERVATION PLAN AND THE MAY 2014 WATER RESOURCE MANAGEMENT PLAN; PROVIDING FOR THE DELAYED EFFECTIVE DATE FOR THE MAY 2014 WATER CONSERVATION AND WATER RESOURCE MANAGEMENT PLANS; PROVIDING A REPEALING CLAUSE; PROVIDING A SEVERABILITY CLAUSE, PROVIDING A SAVINGS CLAUSE; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000); AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, recognizing the need for efficient use of existing water supplies, the Texas Commission on Environmental Quality (TCEQ) and Texas Water Development Board (TWDB) has developed guidelines and requirements governing the development of a Water Conservation Plan and a Water Resource Management Plan for wholesale water suppliers; and,

WHEREAS, the City of Allen has been an active participant in the regional planning process of compatible messaging of its Water Conservation Plan and Water Resource Management Plan; and,

WHEREAS, the City Council has reviewed the proposed City of Allen Water Conservation Plan and Water Resource Management Plan and finds it is in the best interest of the City to adopt the same.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ALLEN, COLLIN COUNTY, TEXAS, THAT:

SECTION 1. The May 2014 City of Allen Water Conservation Plan and Water Resource Management Plan attached as Exhibit "A" and incorporated herein by reference as if fully set forth in full, copy of which is on file in the office of the City Secretary, is hereby adopted; provided, however, the May 2014 City of Allen Water Conservation Plan and Water Resource Management Plan shall not become effective until the date the City Manager has ordered implementation of Stage 1 or Stage 2 under Chapter 14 of the Code of Ordinances as a result of a recommendation of the North Texas Municipal Water District.

SECTION 2. Effective on the date the City Manager has ordered implementation of Stage 1 or Stage 2 under Chapter 14 of the Code of Ordinances as a result of a recommendation of the North Texas Municipal Water District, Section 14-14.1 is amended to read as follows:

> **"Sec. 14-14.1. Adoption of Water Conservation and Water Resource Plans.**
>
> That the May 2014 City of Allen Water Conservation Plan and Water Resource Management Plan incorporated herein by reference as if fully set forth in full, copy of which is on file in the office of the City Secretary is hereby adopted."

SECTION 3. Section 14-14.2 of the Code of Ordinances is amended to read as follows:

> **"Sec. 14-14.2. Criminal penalties.**
>
> It is unlawful for any person, or customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, to violate or fail to comply with any of the provisions of the City Water Conservation and Water Resource Plan, and upon conviction shall be subject to a fine not to

exceed two thousand dollars ($2,000.00) for each offense. Each day a person or customer violates or fails to comply with the City Water Conservation and Water Resource Plan constitutes a separate violation. The city's authority to seek injunctive or other civil relief available under the law is not limited by this section."

SECTION 4. All ordinances of the City of Allen, Collin County, Texas, in conflict with the provisions of this ordinance be, and the same are hereby, repealed; provided, however that all other provisions of said ordinances not in conflict with the provisions of this ordinance shall remain in full force and effect.

SECTION 5. Should any word, sentence, paragraph, subdivision, clause, phrase or section of this ordinance, as amended hereby, be adjudged or held to be void or unconstitutional, the same shall not affect the validity of the remaining portions of said ordinance, or the Code of Ordinances, as amended hereby, which shall remain in full force and effect.

SECTION 6. 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 7. Any person, firm or corporation violating any of the provisions or terms of this ordinance shall be subject to the same penalty as provided for in the Code of Ordinances of the City of Allen, as previously amended, and upon conviction shall be punished by a fine not to exceed the sum of Two Thousand Dollars ($2,000.00) for each offense.

SECTION 8. This ordinance shall take effect immediately from and after its passage and publication in accordance with its provisions of the Charter of the City of Allen, and it is, accordingly, so ordained.

DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ALLEN, COLLIN COUNTY, TEXAS, ON THIS THE 22ND DAY OF APRIL, 2014.

APPROVED:

Stephen Terrell, MAYOR

APPROVED AS TO FORM:

Peter G. Smith, CITY ATTORNEY
(PGS:4-16-14:TM 65694)

ATTEST:

Shelley B. George, TRMC, CITY SECRETARY

APPENDIX F

WATER CODE
TITLE 2. WATER ADMINISTRATION
SUBTITLE B. WATER RIGHTS
CHAPTER 11. WATER RIGHTS

Sec. 11.039. DISTRIBUTION OF WATER DURING SHORTAGE. (a) If a shortage of water in a water supply not covered by a water conservation plan prepared in compliance with Texas Natural Resource Conservation Commission or Texas Water Development Board rules results from drought, accident, or other cause, the water to be distributed shall be divided among all customers pro rata, according to the amount each may be entitled to, so that preference is given to no one and everyone suffers alike.

(b) If a shortage of water in a water supply covered by a water conservation plan prepared in compliance with Texas Natural Resource Conservation Commission or Texas Water Development Board rules results from drought, accident, or other cause, the person, association of persons, or corporation owning or controlling the water shall divide the water to be distributed among all customers pro rata, according to:

(1) the amount of water to which each customer may be entitled; or

(2) the amount of water to which each customer may be entitled, less the amount of water the customer would have saved if the customer had operated its water system in compliance with the water conservation plan.

(c) Nothing in Subsection (a) or (b) precludes the person, association of persons, or corporation owning or controlling the water from supplying water to a person who has a prior vested right to the water under the laws of this state.

Amended by Acts 1977, 65th Leg., p. 2207, ch. 870, Sec. 1, eff. Sept. 1, 1977; Acts 2001, 77th Leg., ch. 1126, Sec. 1, eff. June 15, 2001.

APPENDIX G Texas Water Development Board Utility Profile

Texas Water Development Board

UTILITY PROFILE

Fill out this form as completely as possible.
If fields do not apply to your entity, leave them blank.

CONTACT INFORMATION

Name of Utility: City of Allen , Texas

Public Water Supply Identification Number (PWS ID): 0430025

CCN Number: 10163

Water Rights ID Number: NTMWD owns Water Rights

Wastewater ID Number: NTMWD own WWTP

Check all that apply:

- [x] Retail Water Supplier
- [ ] Wholesale Water Supplier
- [ ] Wastewater Treatment Utility

Address: 305 Century Parkway City: Allen Zip Code: 75013

Email: jknipp@cityofallen.org Telephone Number: 214.509.4502

Regional Water Planning Group: C Map

Groundwater Conservation District: 62 Map

Completed By: Jimmy Knipp Title: Asst. Dir. Community Serv.

Date: _____

Check all that apply:

- [ ] Received financial assistance of $500,000 or more from TWDB
- [x] Have 3,300 or more retail connections
- [ ] Have a water right with TCEQ

Section I: Utility Data

A. Population and Service Area Data

1. Current service area size in square miles: 27
(Attach or email a copy of the service area map.)

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	90,052		89,832
2012	88,541		88,321
2011	87,157		86,937
2010	85,443		85,443
2009	84,333		84,113

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	99,652		99,252
2030	107,000		106,600
2040	107,000		106,600
2050	107,000		106,600
2060	107,000		106,600

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

Data from the Community Development Department for the City of Allen based on latest land use assumptions in the City of Allen Comprehensive Plan

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
2013		4,908,079,000		4,908,079,000
2012		5,487,920,000		5,487,920,000
2011		6,097,992,000		6,097,992,000
2010		5,601,690,000		5,601,690,000
2009		4,955,933,000		4,955,933,000

C. Water Supply System (Attach description of water system)

1. Designed daily capacity of system 66,000,000 **gallons** per day
2. Storage Capacity:
   Elevated 9,000,000 **gallons**
   Ground 24,000,000 **gallons**

3. List all current water supply sources in gallons:

Water Supply Source	Source Type*	Total Gallons
NTMWD	Contract	6,097,992,000
	Select	
	Select	
	Select	
	Select	
	Select	

*Select one of the following source types: *Surface water, Groundwater, or Contract*

4. If surface water is a source type, do you recycle backwash to the head of the plant?
   ○ Yes _____ estimated **gallons** per day
   ○ No

D. 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	91,652	5,387,016,814
2015	93,252	5,431,478,294
2016	94,852	5,466,498,557
2017	96,452	5,501,387,914
2018	98,052	5,535,990,962
2019	99,652	5,562,569,318
2020	101,252	5,588,911,811
2021	102,852	5,615,027,868
2022	104,452	5,640,926,200
2023	106,052	5,675,900,000

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

Based on a Water and Wastewater Study complied by Economists.com completed December 2012. Study was based on land use projections and population growth from the City of Allen's Comprehensive Plan.

E. High Volume Customers

1. If applicable, list the annual water use 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
Okmetic	Industrial	24,430,000	Treated
Photoronics	Industrial	17,587,800	Treated
City of Allen, Celebration P	Institutional	13,223,200	Treated
Advanced Optical	Industrial	12,935,100	Treated
AT&T	Industrial	12,363,100	Select

*For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use.

2. If applicable, list the annual water use for the five highest volume **WHOLESALE customers**. Select one of the following water use categories to describe the customer; choose Municipal, Industrial, Commercial, Institutional, or Agricultural.

Wholesale Customer	Water Use Category*	Annual Water Use	Treated or Raw
NA	Select		Select
	Select		Select
	Select		Select
	Select		Select
	Select		Select

*For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use.

Section II: Retail System Data

If you do not provide retail water, go to Section III.

A. Retail Connections

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

Water Use Category*	Active Retail Connections		
	Metered	Unmetered	Total Connections
Residential - Single Family	26,522		26,522
Residential – Multi-family (units)	4,335		4,335
Industrial	9		9
Commercial	1,617		1,617
Institutional	317		317
Agricultural	0		0
TOTAL	32,800	0	32,800

*For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use.

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	658	372	420	509	501
Residential – Multi-family (units)	0	50	0	16	396
Industrial	0	1	0	0	0
Commercial	51	11	33	-24	-67
Institutional	5	6	10	15	-14
Agricultural					
TOTAL	714	440	463	516	816

*For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use.

B. Retail Water Accounting Data - Water Use Categories

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	3,182,026,800	3,240,724,300	3,829,060,20	3,277,500,700	2,921,273,90
Residential – Multi-family	255,876,000	254,876,400	295,647,600	271,480,500	248,765,100
Industrial	55,603,400	61,405,700	52,954,400	56,001,600	61,249,500
Commercial	783,933,600	782,924,100	1,011,753,20	894,975,100	830,177,900
Institutional	238,873,600	311,816,600	373,564,200	312,786,200	247,508,000
Agricultural					
TOTAL	4,516,313,400	4,651,747,100	5,562,979,60	4,812,744,100	4,308,974,40

*For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use.

C. Retail Water Accounting Data - Annual and Seasonal Use

For the previous five years, enter the number of gallons provided to RETAIL customers.

TREATED

	2013	2012	2011	2010	2009
January	397,120,200	203,213,400	268,989,100	221,145,500	261,851,600
February	242,599,300	218,718,500	269,869,400	216,073,100	235,136,400
March	219,794,400	201,133,800	214,092,400	187,039,500	235,975,800
April	268,634,300	226,763,400	347,284,300	234,177,500	310,195,000
May	358,757,000	244,609,500	398,129,200	314,413,100	310,232,300
June	412,296,700	381,828,200	405,122,600	455,025,100	332,448,500
July	434,191,500	502,289,900	665,443,900	636,591,700	531,444,000
August	455,969,600	571,024,100	749,655,000	541,672,600	576,962,900
September	561,071,400	667,299,000	857,635,800	689,882,600	571,715,100
October	562,767,900	601,612,400	706,276,400	596,091,100	449,454,300
November	353,711,000	444,820,500	424,879,600	417,849,300	258,221,000
December	249,400,100	388,434,400	255,601,900	302,783,000	235,337,500
TOTAL	4,516,313,400	4,651,747,100	5,562,979,600	4,812,744,100	4,308,974,400

RAW

	2013	2012	2011	2010	2009
January	0				
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL	0	0	0	0	0

RETAIL	2013	2012	2011	2010	2009	**Average in Gallons**
Summer Retail (Treated + Raw)	1,302,457,8	1,455,14	1,820,221,5	1,633,289,4	1,440,855,4	1,530,393,260 5yr Average
TOTAL Retail (Treated + Raw)	4,516,313,4	4,651,74	5,562,979,6	4,812,744,1	4,308,974,4	4,770,551,720 5yr Average

D. 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	391,767,000	12	8%
2012	836,177,000	26	15%
2011	535,019,000	17	9%
2010	788,949,000	26	14%
2009	646,961,000	21	13%
5-year average	639,774,600	20	12%

E. Peak Day Use

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

Year	Average Daily Use (gal)	Peak Day Use (gal)	Peak Factor
2013	13,446,792	24,658,000	1.83
2012	15,035,397	29,506,000	1.96
2011	16,706,827	40,016,000	2.40
2010	15,347,096	34,063,000	2.22
2009	13,577,899	26,495,000	1.95

Section III: Wholesale System Data

If you do not provide wholesale water, go to Section IV.

A. Wholesale Connections

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

Water Use Category*	Active Wholesale Connections		
	Metered	Unmetered	Total Connections
Municipal			0
Industrial			0
Commercial			0
Institutional			0
Agricultural			0
TOTAL	0	0	0

*For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use.

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

Water Use Category*	Net Number of New Wholesale Connections				
	2013	2012	2011	2010	2009
Municipal					
Industrial					
Commercial					
Institutional					
Agricultural					
TOTAL	0	0	0	0	0

*For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use.

B. Wholesale Water Accounting Data - Water Use Categories

For the previous five years, enter the number of gallons of WHOLESALE water exported (*sold or transferred*) to each major water use category.

Customer Category*	Total Gallons of Wholesale Water				
	2013	2012	2011	2010	2009
Municipal					
Industrial					
Commercial					
Institutional					
Agricultural					
TOTAL	0	0	0	0	0

*For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use.

C. Wholesale Water Accounting Data - Annual and Seasonal Use

For the previous five years, enter the number of gallons exported (*sold or transferred*) to WHOLESALE customers.

TREATED

	2013	2012	2011	2010	2009
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL	0	0	0	0	0

RAW

	2013	2012	2011	2010	2009
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL	0	0	0	0	0

WHOLESALE	2013	2012	2011	2010	2009	**Average in Gallons**
Summer Wholesale (Treated + Raw)	0	0	0	0	0	0 5yr Average
TOTAL Wholesale (Treated + Raw)	0	0	0	0	0	0 5yr Average

D. 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			0%
2012			0%
2011			0%
2010			0%
2009			0%
5-year average	0	0	0%

E. Peak Day Use

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

Year	Average Daily Use (gal)	Peak Day Use (gal)	Peak Factor
2013	13,446,792		0.00
2012	15,035,397		0.00
2011	16,706,827		0.00
2010	15,347,096		0.00
2009	13,577,899		0.00

Section IV: Wastewater System Data

If you do not provide wastewater system services then you have completed the Utility Profile. Save and Print this form to submit with your Plan. Continue with the Water Conservation Plan Checklist to complete your Water Conservation Plan.

Texas Water Development Board

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

1. Design capacity of wastewater treatment plant(s): _____ **gallons** per day.
2. Provide data on the types of recycling and reuse activities implemented during the current reporting period.

	Total Annual Volume (in gallons)
On-site irrigation	
Plant wash down	
Chlorination/de-chlorination	
Industrial	
Landscape irrigation (parks, golf courses)	
Agricultural	
Discharge to surface water	
Evaporation pond	0

3. Could treated wastewater be substituted for potable water?
   ○ Yes ○ No

B. Wastewater Data for Service Area

1. Percent of water service area served by wastewater system: 100%
2. Monthly treated wastewater volume in gallons, for the previous five years.

	2013	2012	2011	2010	2009
January	224,016,000	227,012,000	235,658,000	305,299,000	174,584,000
February	172,987,000	179,025,000	200,678,000	301,566,000	150,609,000
March	212,530,000	224,742,000	195,191,000	279,695,000	206,289,000
April	222,260,000	166,298,000	205,292,000	189,871,000	199,408,000
May	206,516,000	169,875,000	242,968,000	186,018,000	238,873,000
June	174,992,000	187,013,000	184,687,000	89,306,000	176,805,000
July	163,970,000	149,446,000	168,783,000	155,187,000	184,364,000
August	159,601,000	160,230,000	172,002,000	148,007,000	183,698,000
September	148,605,000	153,731,000	165,591,000	180,912,000	228,281,000
October	178,198,000	159,030,000	192,391,000	217,931,000	336,669,000
November	177,384,000	149,870,000	143,887,000	228,358,000	285,250,000
December	207,311,000	163,271,000	208,986,000	196,066,000	306,470,000
TOTAL	2,248,370,000	2,089,543,000	2,316,114,000	2,478,216,000	2,671,300,000

You have completed the Utility Profile. Save and Print this form to submit with your Plan.
Continue with the Water Conservation Plan Checklist to complete your Water Conservation Plan.

The City of Allen, Texas

Water and Wastewater System Information

Water System

The City's water system is comprised of two pump stations with max day total output of 66 mgd, 24 mg ground storage, and five elevated storage towers totaling 9 mg. The city purchases potable water from North Texas Municipal Water District utilizing a take or pay contract which is presently just over 6 billion gallons a year. The distribution system consists of 465 miles of water mains ranging from 42" to 4" and is looped to maintain redundancy in distribution of water during main break types of situations.

Wastewater System

The City's wastewater collection system is comprised of 350 miles of sewer mains ranging from 27" to 6" diameter piping. All the collection system drains into regional lines owned by the North Texas Municipal Water District and those lines carry the wastewater to their treatment facilities at the Wilson Creek Wastewater Treatment Plant. The City of Allen does not treat wastewater in any manner. The City also utilizes 6 lift stations to transfer through force mains to gravity flow lines to complete the flow to the NTMWD facilities.

APPENDIX H 2014 Water Utility Rates

RESOLUTION NO. 3206-1-14(R)

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ALLEN, COLLIN COUNTY, TEXAS, ESTABLISHING SANITARY SEWER CHARGES AND WATER SERVICE CHARGES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A REPEALING CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, due to the increased service costs for the purchase of water and treatment of wastewater from the North Texas Municipal Water District and increased operating expenses within the Water and Sewer Fund; the Allen City Staff finds it in the best interest of the City to recommend that the fees for sanitary sewer charges and water service charges be increased; and,

WHEREAS, the City Council further finds that the continuation of a tiered year-round water conservation rate structure for water will encourage water conservation; and,

WHEREAS, the City Council further finds that it is prudent to establish water rates to be implemented during periods of constrained water supply.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ALLEN, COLLIN COUNTY, TEXAS, THAT:

SECTION 1. The following Sanitary Sewer Charges are hereby established.

SANITARY SEWER CHARGES

(1) *Monthly minimum charge.* The following minimum charges are based on the first one thousand five hundred (1,500) gallons.

a) Twenty dollars and seventy-nine cents ($20.79) for all separately metered single-family dwelling units and other dwelling units separately metered for water.

b) Twenty-two dollars and fifty-six cents ($22.56) for schools and municipal customers.

c) Twenty-five dollars and eighty-one cents ($25.81) for other than residential customers, including mobile home parks and apartment complexes, commercial and industrial customers.

(2) *Volumetric charge.*

a) 1,500 – 10,000 gallons: Two dollars and thirty-three cents ($2.33) per one thousand (1,000) gallons for all separately metered single-family dwelling units and other dwelling units separately metered for water.

b) The maximum charge for single-family residential sewer service shall be forty dollars and sixty cents ($40.60) per month.

c) Over 1,500 gallons: Two dollars and seventy-one cents ($2.71) per thousand (1,000) gallons for schools and municipal customers.

d) Over 1,500 gallons: Three dollars and seven cents ($3.07) per thousand (1,000) gallons for other than residential customers, including mobile home parks and apartment complexes, commercial and industrial customers.

(3) *Charges for Outdoor Trash Enclosures With Sanitary Sewer Drains.*

a) Single Enclosure approximately ten (10) feet by ten (10) feet in size - Eleven dollars ($11.00) per month.

b) Double Enclosure approximately ten (10) feet by twenty (20) feet in size – Twenty-two dollars ($22.00) per month.

c) Enclosures of varying sizes charged at a rate of eleven cents ($0.11) per square foot of enclosure area per month.

d) The City Manager or their designated representative is authorized to subjectively reduce these charges by up to 50% for outdoor trash enclosures that are designed with roofs, sidewalls, and final surface grades that effectively reduce the introduction of storm water into the enclosures.

SECTION 2. The following Water Service Charges are hereby established.

WATER SERVICE CHARGES

(1) *Monthly minimum charge.* The following minimum monthly charges are based on the meter size and include the cost of one thousand five hundred (1,500) gallons of water usage:

For a 5/8 inch standard meter $9.80
For a 3/4 inch standard meter $16.35
For a 1 inch standard meter..... $26.15
For a 1-1/2 inch standard meter $32.68
For a 2 inch standard meter..... $65.37
For a 3 inch standard meter..... $98.06
For a 4 inch standard meter..... $130.73
For a 6 inch standard meter..... $326.84

(2) *Volumetric charge.* Water consumption in excess of one thousand five hundred (1,500) gallons shall be charged at the following rate per one thousand (1,000) gallons of water usage or fraction thereof:

Residential customer
0-1,500 .....Monthly minimum charge
1,501- 15,000 .....$3.18 per 1,000 gallons
15,001- 25,000 .....$3.98 per 1,000 gallons
25,001- 50,000 .....$4.97 per 1,000 gallons
50,001- 75,000 .....$7.47 per 1,000 gallons
Over 75,000.....$11.20 per 1,000 gallons

Non-Residential customers (commercial, industrial, municipal, apartment complexes, schools)
0-1,500 .....Monthly minimum charge
1,501- 4,000 .....$2.30 per 1,000 gallons
Over 4,000..... $2.86 per 1,000 gallons

Irrigation and Fire Protection
0-1,500 .....Monthly minimum charge
Over 1,500.....$5.33 per 1,000 gallons

Construction Fire Hydrant Meters – All 3" Meters
0-1,500 .....Monthly minimum charge
Over 1,500.....$3.74 per 1,000 gallons

SECTION 3. The following Volumetric Charges for periods of constrained water supply are hereby established.

VOLUMETRIC CHARGES FOR PERIODS OF CONSTRAINED WATER SUPPLY

(1) *Volumetric charges for periods of constrained water supply.* Water consumption in excess of one thousand five hundred (1,500) gallons shall be charged at the rate recommended or requested by NTMWD, or if no specific surcharge is recommended at the following rate per one thousand (1,000) gallons of water usage or fraction thereof commencing on billings mailed the first day of the month after the North Texas Municipal Water District

recommends or requests a rate surcharge be implemented. This rate surcharge will be withdrawn from billings mailed the first day of the month after the North Texas Municipal Water District recommends or requests a rate surcharge be removed

Drought and Emergency Water Rates per 1,000 Gallons

Residential customer:

Charge Increase Percentage	0%	25%	50%	75%	100%	125%	150%
0--1,500 gallons	Same monthly minimum charge						
1,501--15,000 gallons	$3.18	$3.18	$3.18	$3.18	$3.18	$3.18	$3.18
15,001--25,000 gallons	$3.98	$4.98	$5.97	$6.97	$7.96	$8.96	$9.95
25,001--50,000 gallons	$4.97	$6.21	$7.46	$8.70	$9.94	$11.18	$12.43
50,001--75,000 gallons	$7.47	$9.34	$11.21	$13.07	$14.94	$16.81	$18.68
Over 75,000	$11.20	$14.00	$16.80	$19.60	$22.40	$25.20	$28.00

Non-Residential customers (commercial, industrial, municipal, apartments, schools):

Charge Increase Percentage	0%	25%	50%	75%	100%	125%	150%
0--1,500 gallons	Same monthly minimum charge						
Over 1,501 gallons	$2.86	$2.86	$2.86	$2.86	$2.86	$2.86	$2.86

Irrigation and Fire Protection:

Charge Increase Percentage	0%	25%	50%	75%	100%	125%	150%
0--1,500 gallons	Same monthly minimum charge						
Over 1,500 gallons	$5.33	$6.66	$8.00	$9.33	$10.66	$11.99	$13.33

Construction Fire Hydrant Meters:

Charge Increase Percentage	0%	25%	50%	75%	100%	125%	150%
0--1,500 gallons	Same monthly minimum charge						
Over 1,500 gallons	$3.74	$4.68	$5.61	$6.55	$7.48	$8.42	$9.35

SECTION 4. Should any word, sentence, paragraph, subdivision, clause, phrase or section of this Resolution, be adjudged or held to be void or unconstitutional, the same shall not affect the validity of the remaining portions of said Resolution, which shall remain in full force and effect.

SECTION 5. All prior Resolutions of the City of Allen, Collin County, Texas, in conflict with the provisions of this Resolution, and the same are hereby repealed; provided, however, that all other provisions of said Resolutions not in conflict with the provisions of this Resolution shall remain in full force and effect.

SECTION 6. This Resolution shall take effect on February 1, 2014, by use of pro-rated monthly consumption, and it is accordingly so resolved.

DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ALLEN, COLLIN COUNTY, TEXAS, ON THIS THE 28TH DAY OF JANUARY, 2014.

APPROVED:

Stephen Terrell, MAYOR

ATTEST:

Shelley B. George, TRMC, CITY SECRETARY

APPENDIX I TCEQ Implementation Report

Texas Commission on Environmental Quality

Water Conservation Implementation Report
Public Water Supplier

This five year 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 Availability Division at (512) 239-4691.

CONTACT INFORMATION

Name of Entity: City of Allen

Public Water Supply Identification Number (PWS ID):0430025
CCN numbers: 10163
Water Right Permit numbers: NTMWD owns water rights
Wastewater ID numbers: NTMWD owns WWTP

Check all that apply:
- ☒ Retail Public Water Supplier
- ☐ Wholesale Public Water Supplier

Address: 305 Century Parkway City: Allen Zip Code: 75013

Email: jknipp@cityofallen.org Telephone Number: 214-509-4502

Regional Water Planning Group: CMap

Groundwater Conservation District: 62Map

Form Completed By: Jimmy Knipp Title: Asst. Director of Community Services

Signature: _____ Date: 2/28/2014

Contact information for the person or department responsible for implementing the water conservation plan:

Name: Jimmy Knipp Phone: 214-509-4502 Email: jknipp@cityofallen.org

Report Completed on Date: 2/28/2014

Reporting Period (**check only one**):
☐ Fiscal Period Begin:Click here to enter a date. Period End: Click here to enter a date.
☒ Calendar Period Begin:January 2009 Period End: December 2013

Please check all of the following that apply to your entity:

☐ A surface water right holder of 1,000 acre-feet/year or more for non-irrigation uses
☐ A surface water right holder of 10,000 acre-feet/year or more for irrigation uses

Important

If your entity meets the following description, please skip page 3 and go directly to page 4.

Your entity is a Wholesale Public Water Supplier that ONLY provides wholesale water services for public consumption. For example, you only provide wholesale water to other municipalities or water districts.

Water Use Accounting

Retail Water Sold: *All retail water sold for public use and human consumption.*

Helpful Hints: There are two options available for you to provide the requested information. Both options ask the same information; however, the level of detail and break down of information differs between the two options. Please select just one option that works best for your entity and fill in the fields as completely as possible.

Fields that are gray are entered by the user. Select fields that are white and press F9 to updated fields.

For the five-year reporting period, enter the gallons of **RETAIL water sold** in each major water use category. Use **only one** of the following options.

Option 1

Water Use Category*	Gallons Sold
Single Family Residential	16,450,585,900
Multi-Family Residential	1,326,645,600
TOTAL Residential Use[1]	17,777,231,500
Industrial	287,214,600
Commercial	4,303,763,900
Institutional	1,484,548,600
TOTAL Retail Water Sold[2]	**23,852,758,600**

1. [SF Res +MF Res = Residential Use]
2. [Res +Ind +Com +Ins = Retail Water Sold]

Option 2

Water Use Category *	Gallons Sold
Residential Select all of the sectors that your account for as "Residential". ☐Single Family ☐ Multi-Family	
Commercial Please select all of the sectors that your account for as "Commercial". ☐ Commercial ☐ Multi-Family ☐ Industrial ☐ Institutional	
Industrial Please select all of the sectors that your account for as "Industrial". ☐Industrial ☐ Commercial ☐ Institutional	
Other Please select all of the sectors that your account for as "Other". ☐Commercial ☐Multi-Family ☐ Industrial ☐ Institutional	
TOTAL Retail Water Sold[1]	0.00

1. [Res +Com +Ind + Other = Retail Water Sold]

Wholesale Water Exported: *Wholesale water sold or transferred out of the distribution system.*

For the five-year reporting period, enter the gallons of **WHOLESALE water exported** to each major water use category.

Water Use Category*	**Gallons of Exported Wholesale Water**
Municipal Customers	
Agricultural Customers	
Industrial Customers	
Commercial Customers	
Institutional Customers	
TOTAL Wholesale Water Exported [1]	**0.00**

1. [Mun +Agr +Ind +Com +Ins = Wholesale Water Exported]

System Data

Fields that are gray are entered by the user. Select fields that are white and hit F9 to updated fields.

	Total Gallons During the Five-Year Reporting Period
Water Produced: Volume produced from own sources	0
Wholesale Water Imported : Purchased wholesale water imported from other sources into the distribution system	27,051,614,000
Wholesale Water Exported: Wholesale water sold or transferred out of the distribution system (Insert Total Volume calculated on Page 4)	0
TOTAL System Input : Total water supplied to the infrastructure	27,051,614,000.00 [Produced + Imported – Exported = System Input]
Retail Water Sold : All retail water sold for public use and human consumption (Insert Total Residential Use from Option 1 or Option 2 calculated on Page 3)	23,852,758,600
Other Consumption Authorized for Use but not Sold: - back flushing water - line flushing - storage tank cleaning - golf courses - fire department use - parks - municipal government offices	396,000,000
TOTAL Authorized Water Use: All water that has been authorized for use or consumption.	24,248,758,600.00 [Retail Water Sold + Other Consumption = Total Authorized]
Apparent Losses – Water that has been consumed but not properly measured (Includes customer meter accuracy, systematic data discrepancy, un- authorized consumption such as theft)	273,750,000
Real Losses – Physical losses from the distribution system prior to reaching the customer destination (Includes physical losses from system or mains, reported breaks and leaks, storage overflow)	1,122,867,000
Unidentified Water Losses	1,406,238,400.00 [System Input- Total Authorized - Apparent Losses - Real Losses = Unidentified Water Losses]
TOTAL Water Loss	2,802,855,400.00 [Apparent + Real + Unidentified = Total Water Loss]

Targets and Goals,

In the table below, please provide the **specific and quantified five and ten-year targets for water savings** listed in your water conservation plan.

Fields that are gray are entered by the user. Select fields that are white and hit F9 to update fields.

Date	Target for: Total GPCD	Target for: Water Loss (expressed in GPCD)	Target for: Water Loss Percentage (expressed in Percentage)
Five-year target date: 5/1/2014	168	17	10%
Ten-year target date: 5/1/2019	168	17	10%

Are targets in the water conservation plan being met? Yes ☒ No ☐

If these targets are not being met, provide an explanation as to why, including any progress on these targets: Click here to enter text.

Gallons per Capita per Day (GPCD) and Water Loss

Compare your current gpcd and water loss to the above targets and goals set in your previous water conservation plan.

Total System Input in Gallons	Permanent Population	Current GPCD
27,051,614,000 [Produced + Imported – Exported = System Input]	90052	164.60 [(System Input ÷ Permanent Population) /5/ 365]

Permanent Population is the total permanent population of the service area. This includes single family, multi-family, and group quarter populations.

Total Residential Use	Permanent Population	Residential GPCD
17,777,231,500	90052	108.17 [(Residential Use ÷ Residential Population) / 5/ 365]

Residential Population is the total residential population of the service area including single & multi-family population.

Total Water Loss	Total System Input in Gallons	Permanent Population	Water Loss calculated in	
			GPCD [1]	Percent [2]
2,802,855,400 [Apparent + Real + Unidentified = Total Water Loss]	27,051,614,000 [Water Produced + Wholesale Imported - Wholesale Exported]	90052	17.05	10

1. [Total Water Loss ÷ Permanent Population] / 5/ 365 = Water Loss GPCD]
2. [Total Water Loss ÷ Total System Input] x 100 = Water Loss Percentage]

Water Conservation Programs and Activities

As you complete this section, please review your water conservation plan to see if you are making progress towards meeting your stated goals.

Fields that are gray are entered by the user. Select fields that are white and hit F9 to updated fields.

1. Water Conservation Plan

What year did your entity adopt, or revise, their most recent water conservation plan: 2008

Does the plan incorporate Best Management Practices? Yes ☒ No ☐

2. Water Conservation Programs

For the reporting period, please select the types of activities and programs that have been actively administered, and estimate the expense and savings that incurred in implementing the conservation activities and programs for the past five years. Leave the field blank if unknown:

Program or Activity	Estimated Expenses	Estimated Gallons Saved
Conservation Analysis & Planning		
☒ Conservation Coordinator		
☐ Water Survey for Single-Family and Multi-Family Customers		
Financial		
☐ Wholesale Agency Assistance Programs		
☐ Water Conservation Pricing/ Rate Structures		
System Operations		
☒ Water Loss Audits		
☒ Leak Detection		
☒ Universal Metering and Metering Repair		
Landscaping		
☒ Landscape Irrigation Conservation and Incentives		

☐ Athletic Fields Conservation		
☐ Golf Course Conservation		
☐ Park Conservation		
Education & Public Awareness		
☒ School Education		
☒ Public Information		
Rebate, Retrofit, and Incentive Programs		
☐ Conservation Programs for ICI Accounts		
☒ Residential Clothes Washer Incentive Program		
☐ Water Wise Landscape Design and Conversion Programs		
☐ Showerhead, Aerator, and Toilet Flapper Retrofit		
☒ Residential Toilet Replacement Programs		
☐ Rainwater Harvesting Incentive Program		
☐ ICI Incentive Programs		
Conservation Technology		
☐ Recycling and Reuse Programs (Water or Wastewater Effluent)		
☐ Rainwater Harvesting and Condensate Reuse Programs		
Regulatory and Enforcement		
☒ Prohibition on Wasting Water		
TOTAL	$ 0.00	0

3. Reuse (Water or Wastewater Effluent)

For the reporting period, please provide the following data regarding the types of direct and indirect reuse activities that were administered for the past five years:

Reuse Activity	Estimated Volume (in gallons)
On-site irrigation	
Plant wash down	
Chlorination/de-chlorination	
Industrial	
Landscape irrigation (parks, golf courses)	
Agricultural	
Other, please describe:	
Estimated Volume of Recycled or Reuse	0

4. Water Savings

For the five-year reporting period, estimate the total savings that resulted from your overall water conservation activities and programs?

Estimated Gallons Saved (Total from Conservation Programs Table)	**Estimated Gallons Recycled or Reused** (Total from Reuse Table)	**Total Volume of Water Saved** [1]	**Dollar Value of Water Saved** [2]
		0	

1. [Estimated Gallons Saved + Estimated Gallons Recycled or Reused = Total Volume Saved]
2. Estimate this value by taking into account water savings, the cost of treatment or purchase of your water, and any deferred capital costs due to conservation.

5. Conservation Pricing / Conservation Rate Structures

During the five-year reporting period, have your rates or rate structure changed? Yes ☒ No ☐

Please indicate the type of rate pricing structures that you use:

☐ Uniform rates	☐ Water Budget Based rates	☐ Surcharge - seasonal
☐ Flat rates	☐ Excess Use Rates	☒ Surcharge - drought
☒ Inclining/ Inverted Block	☐ Drought Demand rates	☐ Surcharge - usage demand
☐ Declining Block rates	☐ Tailored rates	
☐ Seasonal rates		

6. Public Awareness and Education Program

For the five-year reporting period, please check the appropriate boxes regarding any public awareness and educational activities that your entity has provided:

	Implemented	**Number/Unit**
Example: Brochures Distributed	☐	*10,000/year*
Example: Educational School Programs	☐	*50 students/month*
Brochures Distributed	☒	1500
Messages Provided on Utility Bills	☒	12-one/month
Press Releases	☐	
TV Public Service Announcements	☐	
Radio Public Service Announcements	☐	
Educational School Programs	☒	1500 students
Displays, Exhibits, and Presentations	☒	150
Community Events	☒	30

Social Media campaigns	☐	
Facility Tours	☐	
Other :	☐	

7. Leak Detection

During the five-year reporting period, how many leaks were repaired in the system or at service connections: 740

Please check the appropriate boxes regarding the main cause of water loss in your system during the reporting period:

- ☒ Leaks and breaks
- ☐ Un-metered utility or city uses
- ☐ Master meter problems
- ☐ Customer meter problems
- ☐ Record and data problems
- ☐ Other: Click here to enter text
- ☐ Other: Click here to enter text.

8. Universal Metering and Meter Repair

For the five-year reporting period, please provide the following information regarding meter repair:

	Total Number	Total Tested	Total Repaired
Production Meters	2	2	0
Meters larger than 1 ½"	901	545	281
Meters 1 ½ or smaller	27,867	1670	11,394

Does your system have automated meter reading? Yes ☒ No ☐

9. Conservation Communication Effectiveness

In your opinion, how would you rank the effectiveness of your conservation activities in reaching the following types of customers for the past five years?

	Do not have activities or programs that target this type customer.	Less Than Effective	Somewhat Effective	Highly Effective
Residential Customers	☐	☐	☐	☒
Industrial Customers	☒	☐	☐	☐
Institutional Customers	☒	☐	☐	☐
Commercial Customers	☐	☐	☐	☒
Agricultural Customers	☒	☐	☐	☐

10. Drought Contingency and Emergency Water Demand Management

During the five-year reporting period, did you implement your Drought Contingency Plan?

Yes ☒ No ☐

If yes, indicate the number of days that your water use restrictions were in effect: 888 days.

If yes, please check all the appropriate reasons for your drought contingency efforts going into effect.

☒ Water Supply Shortage	☐ Equipment Failure
☒ High Seasonal Demand	☐ Impaired Infrastructure
☐ Capacity Issues	☐ Other:

If you have any questions on how to fill out this form or about the Water Conservation program, please contact us 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.