## Bear Creek Special Utility District

# 2024 Water Conservation and Water Resource and Emergency Management Plan

*Adopted on April 22, 2024*

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## DEFINITIONS

**AQUATIC LIFE** means a vertebrate organism dependent upon an aquatic environment to sustain its life.

**ATHLETIC FIELD** means a public sports competition field, the essential feature of which is turf grass, used primarily for organized sports practice, competition or exhibition events for schools, professional sports and league play sanctioned by the utility providing retail water supply.

**BEST MANAGEMENT PRACTICES (BMPs)** are voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.

**COMMERCIAL 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.

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

**CONSERVATION** includes those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.

**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 but are not limited to perennial and annual rye grass, Kentucky blue grass and fescues.

**CUSTOMERS** include those entities to whom NTMWD provides wholesale water that are not member cities of NTMWD.

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

**DRIP IRRIGATION** is a type of micro-irrigation system that operates at low pressure and delivers water in slow, small drips to individual plants or groups of plants through a network of plastic conduits and emitters; also called trickle irrigation.

**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.

**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.

**EVAPOTRANSPIRATION (ET)** represents the amount of water lost from plant material to evaporation and transpiration. The amount of ET can be estimated based on the temperature, wind, and relative humidity.

**EXECUTIVE DIRECTOR** means the Executive Director of NTMWD and includes a person the Executive 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.

**FOUNDATION WATERING** means an application of water to the soils directly abutting (within 2 feet of) the foundation of a building or structure.

**INTERACTIVE WATER FEATURES** means water sprays, dancing water jets, waterfalls, dumping buckets, shooting water cannons, inflatable pools, temporary splash toys or pools, slip-n-slides, or splash pads that are maintained for recreation.

**IRRIGATION SYSTEM** means a permanently installed, custom-made, site-specific system of delivering water generally for landscape irrigation via a system of pipes or other conduits installed below ground.

**LANDSCAPE** means any plant material on a property, including any tree, shrub, vine, herb, flower, succulent, ground cover, grass or turf species, that is growing or has been planted out of doors.

**MEMBER CITIES** include the cities of Allen, Farmersville, Forney, Frisco, Garland, McKinney, Mesquite, Plano, Princeton, Richardson, Rockwall, Royse City, and Wylie, Texas, which are members of NTMWD.

**MUNICIPAL USE** means the use of potable water provided by a public water supplier as well as the use of treated wastewater effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.

**NEW LANDSCAPE** means: (a) vegetation installed at the time of the construction of a residential or commercial facility; (b) installed as part of a governmental entity's capital improvement project; or (c) installed to stabilize an area disturbed by construction.

**ORNAMENTAL FOUNTAIN** means an artificially created structure from which a jet, stream, or flow of treated water emanates and is not typically utilized for the preservation of aquatic life.

**POND** is considered to be a still body of water with a surface area of 500 square feet or more. This does not include recreational swimming pools.

**PUBLIC WATER SUPPLIER** is an individual or entity that supplies water to the public for human consumption.

**REGIONAL WATER PLANNING GROUP** is a group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code §16.053.

**REGULATED IRRIGATION PROPERTY** means any property of a designated customer class (i.e., commercial) that uses one million gallons of water or more for irrigation purposes in a single calendar year or is greater than one acre in size.

**RESIDENTIAL GALLONS PER CAPITA PER DAY (RESIDENTIAL GPCD)** means the total gallons sold for retail residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.

**RETAIL CUSTOMERS** include those customers to whom the utility provides retail water from a water meter.

**REUSE** is the authorized use for one or more beneficial purposes of use of water that remains unconsumed after the water is used for the original purpose of use and before that water is either disposed of or discharged or otherwise allowed to flow into a watercourse, lake, or other body of state-owned water.

**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.

**SPRINKLER/SPRAY IRRIGATION** is the method of applying water in a controlled manner that is similar to rainfall. The water is distributed through a network that may consist of pumps, valves, pipes, and sprinklers.

**SPRINKLER** means an above-ground water distribution device that may be attached to a garden hose.

**RECREATIONAL/SWIMMING POOL** is defined as a body of water that involves contact recreation. This includes activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, etc.)

**TOTAL GALLONS PER CAPITA PER DAY (TOTAL GPCD)** means the total amount of water diverted and/or pumped for potable use less wholesale sales divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in TAC §288.1 shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

**WATER CONSERVATION COORDINATOR** is the person designated by a retail public water supplier that is responsible for implementing a water conservation plan.

**WATER CONSERVATION PLAN** means the Member City or Customer water conservation plan approved and adopted by the utility.

**WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN** means a plan 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 plan.

# ABBREVIATIONS

| | |
|---|---|
| Ac-Ft/Yr | Acre-Feet per Year |
| BMP | Best Management Practices |
| CDC | Centers for Disease Control and Prevention |
| DWU | Dallas Water Utilities |
| E&O | Education and Outreach |
| ED | Executive Director |
| EPA | Environmental Protection Agency |
| ET | Evapotranspiration |
| FNI | Freese and Nichols, Inc. |
| gpf | Gallons per Flush |
| gpm | Gallons per Minute |
| LAMP | Linear Asset Management Plan |
| LRWSP | Long Range Water Supply Plan |
| FWSD | Fresh Water Supply District |
| GPCD | Gallons per Capita per Day |
| ICIM | Industrial, Commercial, Institutional and Multifamily |
| MGD | Million Gallons per Day |
| MUD | Municipal Utility District |
| NCTCOG | North Central Texas Council of Governments |
| NTMWD | North Texas Municipal Water District |
| SUD | Special Utility District |
| TCEQ | Texas Commission on Environmental Quality |
| TRWD | Tarrant Regional Water District |
| TWDB | Texas Water Development Board |
| UTRWD | Upper Trinity Regional Water District |
| UD | Utility District |
| WCAC | Water Conservation Advisory Council |
| WCP | Water Conservation Plan |
| WREMP | Water Resource and Emergency Management Plan |
| WSC | Water Supply Corporation |
| WENNT | Water Efficiency Network of North Texas |
| WTP | Water Treatment Plant |
| WWTP | Wastewater Treatment Plant |

# 2024 Water Conservation Plan

*This Water Conservation Plan has been developed in accordance with the requirements of 30 Texas Administrative Code (TAC) Chapter 288. A copy of the version of 30 TAC Chapter 288 in place at the time of this Plan preparation is included in Appendix B.*

# 1.00 INTRODUCTION

Bear Creek Special Utility District is a Customer of the North Texas Municipal Water District (NTMWD). This Plan was developed following TCEQ guidelines and requirements governing the development of water conservation plans.

**The goal of the Water Conservation Plan is to serve as good stewards of water resources by preserving water supplies for essential uses and the protection of public health. The objectives to achieve this goal are as follows:**

- To reduce the loss and waste of water.
- To improve efficiency in both indoor and outdoor water use.
- To maximize the level of recycling and reuse.
- To protect and preserve environmental resources.
- To extend the life of current water supplies.
- To raise public awareness of water conservation and encourage responsible personal behavior through public education programs.

## 1.01 MINIMUM REGULATORY REQUIREMENTS CHECKLIST

A water conservation plan is defined as "[a] strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document". Recognizing the need for efficient use of existing water supplies, TCEQ has developed guidelines and requirements governing the development of water conservation and drought contingency plans. The minimum TCEQ requirements and where they are addressed within this document are included in **Appendix B**.

## 1.02 ADDITIONAL REQUIREMENTS AND GUIDANCE

In addition to TCEQ rules regarding water conservation, this Plan also incorporates both minimum requirements as required from NTMWD and elements from several conservation initiatives.

- **2024 NTMWD Water Conservation Plan** – Member Cities and Customers of the NTMWD are required to implement water conservation strategies as designated in the NTMWD Water Conservation Plan. These strategies

represent minimum measures to be implemented and enforced to promote water conservation and are to remain in effect on a permanent basis.

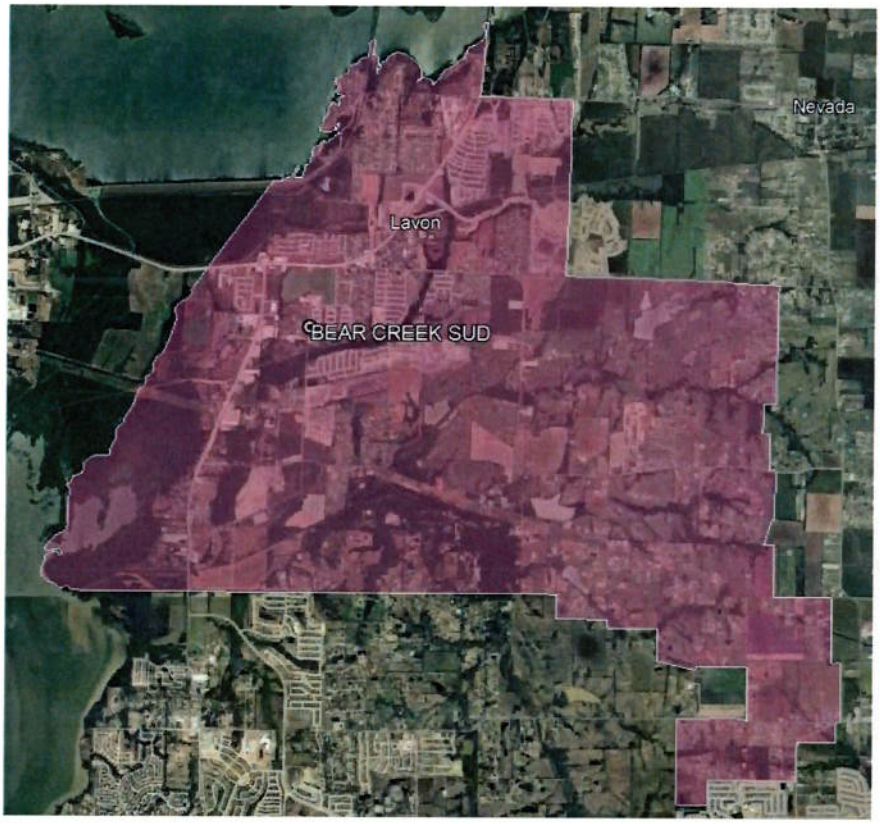
- **Guidance and Methodology for Reporting on Water Conservation and Water Use** - Developed by TWDB and TCEQ in consultation with the Water Conservation Advisory Council (the Guidance). The Guidance was developed in response to a charge by the 82nd Texas Legislature to develop water use and calculation methodology and guidance for preparation of water use reports and water conservation plans in accordance with TCEQ rules.
- **North Texas Regional Landscape Initiative** – The North Texas regional water providers (NTMWD, DWU and TRWD) collaborated to create the Regional Landscape Initiatives. This document was developed as a resource of best management practices for municipal staff to help reduce water waste and encourage long-term water conservation in the North Texas region. Information consists of the background, importance, and benefits of each BMP and key talking points to consider when implementing the strategy. Several of the optional water management measures included in this Plan are from this collaborative initiative.

# 2.00 WATER UTILITY PROFILE

This section contains a description of Bear Creek Special Utility District's service area and water system. This information can also be reviewed in **Appendix C**, which contains a completed TCEQ Water Utility Profile.

## 2.01 DESCRIPTION OF THE SERVICE AREA

Our service area covers roughly 84 sq. miles of Collin County and Rockwall County. An estimated 12,504 people live in our service area with 4,199 connections.




## 2.02 WATER UTILITY PROFILE

Bear Creek Special Utility District's existing water supply is composed of the following sources.

- Purchased Treated Water from NTMWD

# 3.00 WATER CONSERVATION GOALS

TCEQ rules require the adoption of specific 5-year and 10-year water conservation goals for a water conservation plan.

## 3.01 5- AND 10-YEAR GOALS

Per capita water use varies from year to year based on several factors including weather conditions, changing demographics and other variables. The TWDB requires specific 5- and 10-year goals which are summarized in **Table 1**.

**Table 1: Five- and 10-Year Per Capita Water Use Goals**

| | Historic 5-Year Average | Baseline | 5-Year Goal 2029 | 10-Year Goal 2034 |
|---|---|---|---|---|
| Total (GPCD)[1] | 96 | 106 | 95 | 92 |
| Residential (GPCD)[2] | 66 | 72 | 68 | 65 |
| ICIM (GPCD)[3] | 8 | 12 | 14 | 11 |
| Water Loss (GPCD)[4] | 3* | 5* | 3* | 2* |
| Water Loss (Percentage)[5] | 3%* | 4%* | 3%* | 2%* |

*[1]Total GPCD = (Total Gallons in System / Permanent Population) / 365*
*[2]Residential GPCD = (Gallons Used for Residential Use / Residential Population) / 365*
*[3]ICIM GPCD = (Gallons Used for Industrial, Commercial, Institutional and Multi-family Use / Permanent Population) / 365*
*[4]Water Loss GPCD = (Total Water Loss / Permanent Population) / 365*
*[5]Water Loss Percentage = (Total Water Loss / Total Gallons in System) x 100; or (Water Loss GPCD / Total GPCD) x 100*
** The Water Loss numbers for the last 5 years are not wholly represented in prior appendix D reports due to a faulty meter that has since been replaced. These numbers are a best estimate until we have harder data to go off of.*

## 3.02 METHOD FOR TRACKING

NTMWD requires Member Cities and Customers to complete annual conservation reports by March 31 of the following year and submit them to NTMWD. A copy of the form is included as **Appendix D**.

The completion of this Annual Water Conservation Report allows Bear Creek Special Utility District to track the effectiveness of its water conservation programs over time and reassess those programs that are not providing water savings, ensuring maximum water use efficiency and greater levels of conservation.

# 4.00 METERING, RECORDS AND WATER LOSS CONTROL

## 4.01 METERING PROGRAM

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

### ACCURATE METERING OF TREATED WATER DELIVERIES FROM NTMWD

Accurate metering of water diversions and deliveries, detection, and repair of leaks in the raw water transmission and potable water distribution systems and regular monitoring of nonrevenue water are important elements of NTMWD's program to control losses. Water deliveries from NTMWD are metered by NTMWD using meters with accuracy of ±2%. These meters are calibrated on an annual basis by NTMWD to maintain the required accuracy.

### METERING OF CUSTOMER AND PUBLIC USES

Water usage for all customers of the District, including public and government users, is metered. Bear Creek Special Utility District uses smart meters to read meters and logs the data for every location once a month.

### METER TESTING, REPAIR AND REPLACEMENT

Bear Creek Special Utility District uses a third party to test the meters. As part of this water conservation plan, Bear Creek Special Utility District maintains a meter replacement program that will replace every meter on a 10-year cycle.

## 4.02 MONITORING AND RECORD MANAGEMENT PROGRAM

As required by TAC Title 30, Chapter 288, a record management system should allow for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information is included in the NTMWD annual water conservation report that is included in **Appendix D**.

## 4.03 WATER LOSS CONTROL PROGRAM

### DETERMINATION AND CONTROL OF WATER LOSS

Total water loss is the difference between treated water pumped and authorized consumption or metered deliveries to customers. Authorized consumption includes billed metered uses, unbilled metered uses, and unbilled unmetered uses such as firefighting and releases for flushing of lines.

Water losses include two categories:

- Apparent losses such as inaccuracies in customer meters. (Customer meters tend to run more slowly as they age and under-report actual use). Unauthorized consumption due to illegal connections and theft.
- Real losses due to water main breaks and leaks in the water distribution system and unreported losses.

### LEAK DETECTION AND REPAIR

Bear Creek Special Utility Districts' crews and personnel look for and report evidence of leaks in the water distribution system. Areas of the water distribution system in which numerous leaks and line breaks occur are targeted for replacement as funds are available.

District utility staff adheres to the following steps for leak detection in the District's distribution system:

- District staff is cognizant of the need for visual inspections of water lines and detecting leaks in the District's distribution system on an on-going basis
    - Areas with a history of excessive leak and break rates are noted and breaks repaired.
        - Leak repair report forms are prepared and kept for reference.
- Leak detection equipment is used to identify leaks in the District's distribution system
    - Currently the District uses Aqua Test T-10 SDR equipment for leak detection.
- Hydrants and valves in the distribution system are inspected on a yearly basis.
- District staff inspects pipes, cleaning, lining and adheres to other maintenance efforts to improve the distribution system and prevent leaks and ruptures from occurring.
- The district conducts meter testing and repair/replacement as necessary.
- Meters are inspected on a monthly basis for leak detection through a combination of physical inspections and billing system audits. Meters are replaced on a 10-year cycle, or as needed for meter accuracy.

## 5.00 CONTRACT REQUIREMENTS FOR WHOLESALE CUSTOMERS

Bear Creek SUD is prohibited by contract with North Texas Municipal Water District to be providing water to wholesale customers.

## 6.00 RESERVOIR SYSTEM OPERATIONS PLAN

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

# 7.00 CONSERVATION PLAN ADOPTION AND ENFORCEMENT

## 7.01 MEANS OF IMPLEMENTATION AND ENFORCEMENT

Staff will implement the Plan in accordance with adoption of the Plan. **Appendix G** contains a copy of the ordinance adopted regarding this Plan. The document designates responsible officials to implement and enforce the Plan.

**Schedule for Implementing the Plan to Achieve Targets and Goals**

Following is a schedule, to achieve the targets and goals for water conservation:

- Meters
    - Meter replacement program:
        - Meters will continue to be monitored for accuracy annually and replaced on a ten-year cycle, or when accuracy cannot be maintained withing ±2%.
- Water audits
    - Water losses are identified and corrected.
    - Water losses are minimized by replacement of deteriorating water mains and appurtenances, conducted on an on-going basis.
- Materials developed to encourage water conservation measures, materials obtained from the Texas Water Development Board, Texas Commission on Environmental Quality or other sources will be mailed out semi-annually (once in the spring and once in the summer) to all customers.
- Water conserving pricing
    - Rates shall continue to be reviewed annually to ensure water revenues exceed expenses and replacement costs and to discourage excessive and wasteful use.
- The leak detection program to reduce water losses.
    - Inspections and soundings of all water main fittings and connections to be conducted semi-annually.
    - Intermittent night-flow measurements to be conducted daily using SCADA.
    - Pressure controlled to just above the standard-of-service level by use of pressure zones.
    - Pressure zones operated based on the topography.
    - Surges in pressure limited by coordination with Fire Department.

## 7.02 REVIEW AND UPDATE OF WATER CONSERVATION PLAN

TCEQ requires that the water conservation plan be updated every five years. This Plan will be updated as required and as appropriate based on new or updated information.

## 7.03 REGIONAL WATER PLANNING GROUP AND NTMWD NOTIFICATION

In accordance with TCEQ regulations, a copy of this water conservation plan was provided to the Region C Water Planning Group. In accordance with NTMWD contractual requirements, a copy of this water conservation plan was also sent to NTMWD. **Appendix F** includes a copy of the letters sent.

# 8.00 WATER CONSERVATION PROGRAM

## 8.01 PUBLIC EDUCATION PROGRAM

### A. NTMWD PUBLIC EDUCATION PROGRAM AND TECHNICAL ASSISTANCE

Bear Creek Special Utility District obtains water conservation support from the NTMWD. This includes several public education and outreach efforts such as:

- Beginning in 2006 and continuing through 2018, NTMWD invested in the development and implementation of the "Water IQ: Know Your Water" campaign, including newspaper ads, radio spots, billboards, a website, and other forms of communication all intended to educate the public regarding water use and water conservation. During the 2017 campaign, over a quarter of a million people were reached by the program through media relations, outreach and interactive media. The total audience reached through the campaign in 2017 was over 88 million impressions.
- In 2013, NTMWD participated in the "Water My Yard" program to install weather stations throughout its service area to provide consumers with a weekly email or text message and information through the Water My Yard website recommending the adequate amount of supplemental water that is needed to maintain healthy grass in specific locations. This service represents the largest network of weather stations providing ET-based irrigation recommendations in the state of Texas and provides the public with advanced information regarding outdoor irrigation needs, thereby reducing water use. Through a series of selections on the type of irrigation system a consumer has, a weekly email or text message is provided that will recommend how long (in minutes) that an irrigation system needs to run based on the past seven days of weather. This recommendation provides the actual amount of supplemental water that is required for a healthy lawn based on research of the Texas A&M Agrilife Extension Service and proven technologies.

- "Water4Otter" is a water conservation campaign for kids launched by NTMWD in 2014. It is based on the insight that most parents agree they would listen if their kids asked them to conserve water. The TWDB awarded the NTMWD a conservation grant to develop Water4Otter as a model program that could be used throughout the state. The 2023 program included 22 performances at 11 schools in eight different ISDs including stops at elementary schools in Wylie, Garland, Mesquite, Plano, Princeton, Richardson, and Royse City.
- "Love Lavon Lake" is a water conservation campaign designed to help North Texans know their primary water source. The campaign launched in 2018 with a call to action to, "Conserve your water source. Love Lavon Lake". The campaign was based on market research showing the more people know the source of their drinking water, the more likely they are to use it wisely and efficiently.
- NTMWD implemented the "#PledgetoPlantSmart" initiative that seeks to inspire positive change in water conservation by encouraging North Texas residents to do their part and plant smart by selecting native or adapted plants for their garden and landscaping.

NTMWD also participates in a regional outreach campaign called "Water is Awesome" partnering with the City of Dallas and Tarrant Regional Water District. NTMWD Member Cities and Customers have access to the campaign materials which include:

- In 2019, an additional tagline, "Keep Texas Water on Tap", was incorporated to promote the Water is Awesome brand and direct traffic to waterisawesome.com.
- In 2020, a "customer city toolkit" provided customizable resources allowing cities to incorporate their logos with the campaign brand for their website, social media, and print. Cities are encouraged to use campaign resources to advance conservation efforts.
- In 2021, the regional water providers collaborated to create the Regional Landscape Initiatives. This document was developed as a resource of best management practices for municipal staff to help reduce water waste and encourage long-term water conservation in the North Texas region. Information consists of the background, importance, and benefits of each BMP and key talking points to consider when implementing the strategy. Several of the optional water management measures included in this Plan are from this collaborative initiative.
- The 2023 campaign will include a focus on short HGTV-style web series about converting yards into drought-resistant, water-conservative yardscapes.

Conservation materials and more are made available to Member Cities and Customers through an online portal that is hosted by NTMWD. In addition to the portal the NTMWD actively provides technical assistance through the following:

- NTMWD holds **Regularly Scheduled Meetings** with Member Cities and Customers for water supply updates, public campaign strategies, and legislative activities related to water and water conservation.
- NTMWD purchases **American Water Works Association Research Foundation Publications** for use by Member Cities and Customers to further enhance resources for water efficiency, water rate structures, etc. Additionally, NTMWD pays for Member City and Customer membership to the **Alliance for Water Efficiency**.
- To assist its Member Cities and Customers in the development of their own water conservation plans, NTMWD has developed a **Model Water Conservation Plan for NTMWD Member Cities and Customers.** The Model Water Conservation Plan addresses TCEQ requirements for water conservation plans for municipal use by public water suppliers and includes advanced water conservation strategies beyond TCEQ requirements that mirror the NTMWD plan. This is available online at https://www.ntmwd.com/login/portal/.
- Since 2003, NTMWD has held **Water Conservation Workshops** for staff of its Member Cities and Customers. These workshops have covered several conservation-related topics, including TCEQ requirements for water conservation and drought contingency plans, advanced water conservation strategies, current NTMWD water conservation efforts, water conservation programs of the cities, current drought status, progress on future water supplies, and related topics. These workshops also provide training and education regarding water use accounting, irrigation evaluations, industrial, commercial, and institutional audits, and other procedures. Additional examples include workshops on Water Loss Audit Training as well as on the TWDB Water Conservation Planning Tool.
- Based on the annual reporting data collected from Member Cities and Customers from 2022, approximately 24% of the District's treated water sales went to supply ICIM users within their service area. To target programs for this customer base, the District hired Plummer Associates, Inc. to create the **Industrial, Commercial, Institutional and Multifamily Program**. The ICIM program provides NTMWD Member City and Customer staff with the knowledge and tools necessary to identify ICIM customers with high water usage. This program was created to categorize water use data to find outliers and identify areas to concentrate water conservation efforts. This program can help Member Cities and Customers' ICIM water customers develop targeted methods for

increasing water efficiency as an alternative to a traditional voluntary approach for water consumption improvement.

- As part of the ICIM program, the District is currently engaging with the Member and Customer Cities to encourage their ICIM customers to participate in **Water Efficiency Opportunity Surveys**. These surveys encompass a building audit that recommends various water conservation measures that can be implemented to save both money and water. Items addressed include toilet retrofits, urinal retrofits, showerhead retrofits, lavatory retrofits, non-lavatory faucet retrofits, leak repair, water cooled ice machine retrofit, commercial disposer, food steam, cooling tower efficiency and irrigation system efficiency. As of June 2023, NTMWD has utilized the ICIM program to audit four buildings resulting in an estimated annual water savings of 87.4 million gallons.

- As part of its wastewater system, NTMWD has developed **Industrial Pretreatment Programs** for the cities of Allen, Forney, Frisco, McKinney, Mesquite, Murphy, Plano, Richardson, Rockwall, Terrell, and Wylie. The pretreatment programs developed by NTMWD are adopted and implemented by the cities, which are also responsible for enforcement of the programs. By reducing allowable volumes of specific pollutants and encouraging pretreatment of industrial wastes, this joint effort by NTMWD and the cities has improved water quality in the region's streams and reservoirs. NTMWD industrial pretreatment personnel are also available to assist cities on request in the review or design of systems to allow industrial recycling and reuse of wastewater. Such systems have reduced water use by some industries, while also reducing wastewater volumes and saving money for the industries.

- NTMWD encourages its Member Cities and Customers to develop and implement **Rebate and Bulk Purchasing Programs** that help the Member Cities and Customers achieve overall water savings. Further, NTMWD provides technical assistance to those Member Cities and Customers who wish to implement rebate and bulk purchasing programs.

## B. PUBLIC EDUCATION PROGRAM

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

- Include inserts on water conservation with water bills or mail outs at least twice per year. Inserts will include material developed by District staff and material obtained from the Texas Water Development Board ("TWDB"), the TCEQ, and other sources.
- Provide water conservation literature to new customers.
- Encourage local media coverage of water conservation issues and the importance of water conservation.

- Notify local organizations, schools, and civic groups that the District staff and staff of the NTMWD are available to make presentations on the importance of water conservation and ways to save water.
- Promote the *Texas smartscape* website, www.txsmartscape.com and provide water conservation brochures and other water conservation materials available to the public at District hall and other public places.
- Make information on water conservation available online on the District website, www.bearcreeksud.com including links to the Texas Smartscape website and to information on water conservation on the TWDB and TCEQ websites and other resources.
- Promote use of the NTMWD Water My Yard website and encourage customers to sign up to receive weekly watering advice.
- District will consider offering conservation presentations to local schools, when requested, if staff is available.

## 8.02 REQUIRED CONSERVATION STRATEGIES

The following water conservation strategies are required. These strategies represent minimum measures to be implemented and enforced to promote water conservation and are to remain in effect on a permanent basis.

### A. TCEQ CONSERVATION PLAN REQUIREMENTS

The preceding sections cover the regulatory requirements identified in TAC Title 30, Part 1, Chapter 288, Subchapter B, Rule 288. These rules are included in **Appendix B**.

### B. CONSERVATION COORDINATOR

The designation of a Conservation Coordinator is required by House Bill 1648, effective September 1, 2017 for all retail public water utilities with 3,300 service connections or more. The NTMWD requires that all Member Cities and Customers, regardless of number of connections, appoint a Conservation Coordinator who will serve as the primary point of contact between the entity and the District on conservation matters.

The duties of the Conservation Coordinator are as follows:

- Submit an annual conservation report to NTMWD by March 31. This is referred to as the 'Appendix D Report'. NTMWD will provide a blank workbook for each Member City and Customer to fill out prior to the deadline.

- Submit an adopted water conservation and water resource and emergency management plan by May 1, 2024 (and every five years afterwards). These plans must be submitted to NTMWD, the applicable Regional Water Planning Group, TCEQ and TWDB. The conservation coordinator is also responsible for submitting a copy of the Plan if it is updated after initial adoption and submission.

Bear Creek Special Utility District's Conservation Coordinator is identified below. Bear Creek Special Utility District will notify NTMWD if this changes at any point before the water conservation plan is updated.

Morgan NeSmith
(972) 843-2101
mnesmith@bearcreeksud.com

## C. WATER CONSERVATION PRICING

Each Member City and Customer must adopt an increasing block rate water structure that is intended to encourage water conservation and to discourage excessive use and waste of water.

With the intent of encouraging water conservation and discouraging waste and excessive use of water, the District has adopted a non-promotional water rate structure designed so the price of water increases with increasing water use.

Bear Creek Special Utility District's water rate structure is as follows:

**Table 2.1**

**Monthly Customer Charges**

| Meter Size | Base Charge |
|---|---|
| ¾" | $40.25 |
| 1" | $69.00 |
| 2" | $112.70 |
| 3" | $213.90 |
| 4" | $416.30 |
| 6" | $821.10 |

**Table 2.2**

**Volume Unit Charges**

| Water User | Charge | Volume (gallons) |
|---|---|---|
| Residential and Commercial | $7.78 | 0 – 5,000 |

| | | |
|---|---|---|
| | $8.60 | 5,001 – 10,000 |
| | $9.82 | 10,001 – 15,000 |
| | $12.08 | 15,001 – 25,000 |
| | $13.57 | 25,001 and above |

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

Bear Creek Special Utility District's plumbing code standards encourages water conservation and meets the minimum statutory requirements. The state has required water-conserving fixtures in new construction and renovations since 1992. The state standards call for flows of no more than 2.5 gallons per minute (gpm) for faucets, 2.5 gpm for showerheads. As of January 1, 2014, the state requires maximum average flow rates of 1.28 gallons per flush (gpf) for toilets and 0.5 gpf for urinals. Similar standards are now required under federal law. These state and federal standards assure that all new construction and renovations will use water-conserving fixtures.

## E. YEAR-ROUND OUTDOOR WATERING SCHEDULES

A mandatory weekly watering schedule has been gradually gaining acceptance in the region and the state. NTMWD requires all Member Cities and Customers to adhere to a permanent outdoor watering schedule.

- **Summer (April 1 – October 31)** –Spray irrigation with sprinklers or irrigation systems at each service address must be limited to no more than **two days per week**. Additionally, prohibit lawn irrigation watering from **10 a.m. to 6 p.m.** Education should be provided that irrigation **should only be used when needed**, which is often less than twice per week, even in the heat of summer.

- **Winter (November 1 – March 31)** – Spray irrigation with sprinklers or irrigation systems at each service address must be limited to no more than ***one day per week*** with education that less than once per week (or not at all) is usually adequate.

Additional irrigation may be provided by hand-held hose with shutoff nozzle, use of dedicated irrigation drip zones, and/or soaker hose provided no runoff occurs. Many North Texas horticulturists have endorsed twice-weekly watering as more than sufficient for landscapes in the region, even in the heat of summer.

## F. TIME OF DAY WATERING SCHEDULE

NTMWD requires that during the summer months (April 1 – October 31) under normal conditions, spray irrigation with an irrigation system or sprinkler is only permitted on authorized watering days, before 10 a.m. or after 6 p.m. The primary purpose of this measure is to reduce wind drift and evaporation losses during the active growing season. The time-of-day watering schedule requirement increases watering efficiency by eliminating outdoor irrigation use when climatic factors negatively impact irrigation system efficiencies. Midday irrigation is not an optimal time to irrigate because evapotranspiration rates are higher, and plants are more susceptible to stress associated with factors such as higher temperatures and lower relative humidity.

## G. IRRIGATION SYSTEM REQUIREMENTS FOR NEW AND COMMERCIAL SYSTEMS

In 2007, the 80th Texas Legislature passed House Bill 1656, Senate Bill 3, and House Bill 4 related to regulating irrigation systems and irrigators by adopting minimum standards and specifications for designing, installing, and operating irrigation systems. The Texas legislation required cities with a population over 20,000 to develop a landscape irrigation program that includes permitting, inspection, and enforcement of water conservation for new irrigation systems.

NTMWD ***requires*** all Member Cities and Customers adhere to a minimum set of irrigation standards:

1) Require that all new irrigation systems be in compliance with state design and installation regulations (Texas Administrative Code Title 30, Chapter 344).

2) Require operational 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 properly maintained to function properly.

3) Require that irrigation systems be inspected at the same time as initial backflow preventer inspection.

4) Require the owner of a regulated irrigation property to obtain an evaluation of any permanently installed irrigation system on an annual basis. The irrigation evaluation shall be conducted by a licensed irrigator in the state of Texas and be submitted to the local water provider (i.e., city, water supply corporation).

## H. WATER WASTE PROVISIONS

NTMWD requires all Member Cities and Customers prohibit activities that waste water. The main purpose of a water waste ordinance is to provide for a means to enforce that water waste

is prevented during lawn and landscape irrigation, that water resources are conserved for their most beneficial and vital uses, and that public health is protected. It provides a defined enforcement mechanism for exceptional neglect related to the proper maintenance and efficient use of water fixtures, pipes, and irrigation systems. The ordinance can provide additional assistance or enforcement actions if no corrective action has been taken after a certain number of correspondences.

NTMWD ***requires*** that the following water waste ordinance offenses include:

1) The use of irrigation systems that water impervious surfaces. (Wind-driven water drift will be taken into consideration.)
2) Outdoor watering during precipitation or freeze events.
3) The use of poorly maintained sprinkler systems that waste water.
4) Excess water runoff or other obvious waste.
5) Overseeding, sodding, sprigging, broadcasting or plugging with cool season grasses or watering cool season grasses, except for golf courses and athletic fields.
6) 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. This does not include recreational swimming pools.
7) Non-commercial car washing that does not use a water hose with an automatic shut-off valve.
8) Hotels and motels that do not offer a linen reuse water conservation option to customers.

## 8.03 ADDITIONAL CONSERVATION STRATEGIES

### A. RESTAURANTS, BARS, AND OTHER COMMERCIAL FOOD OR BEVERAGE ESTABLISHMENTS THAT PROVIDE DRINKING WATER TO CUSTOMERS UNLESS A SPECIFIC REQUEST IS MADE BY THE CUSTOMER FOR DRINKING WATER.USE OF ET-BASED WEEKLY WATERING ADVICE/RECOMMENDATIONS

Landscapes frequently require less watering than the year-round water schedule allows. This measure can be particularly useful for entities with a significant percentage of customers using automated landscape irrigation systems.

Water providers in the Dallas-Fort Worth (DFW) area (including NTMWD) sponsor weather stations to collect daily weather data and provide the most accurate watering recommendations. Many cities in the DFW area can already take advantage of these ET-based

recommendations and incorporate them into their water conservation programs, at no cost to the city. Examples of such a service are shown below.

- **Water My Yard** – An online platform where homeowners can sign up to receive weekly watering recommendations based on their location and a few specifications about their sprinkler system. Users can then choose to accept the recommendations by email, text, or both. Recommendations are available for select cities in Collin, Dallas, Denton, Fannin, Hunt, Kaufman, and Rockwall Counties. Sponsored by NTMWD and Texas A&M AgriLife Extension Service (.org).

Providing evapotranspiration (ET)-based weekly watering recommendations can reduce the amount of water applied for outdoor watering if customers follow the guidance.

## B. ICIM RECOMMENDATIONS

NTMWD has partnered with Plummer Associates, Inc. to develop the ICIM program to identify where additional ICIM water savings can be achieved. Bear Creek S.U.D. offers the Water Efficiency Opportunity Surveys offered from this partnership:

- **Providing Water Efficiency Opportunity Surveys for ICIM Customers** - A detailed water efficiency survey can enable end users to understand how they use water, develop a complete inventory of water using equipment and processes, identify potential leaks and losses, set realistic reduction goals, identify and implement useful policies, identify low cost/no cost projects and assess potential investments in significant projects aimed at reducing long-term water demand. Members can reach out to NTMWD to participate in the ongoing Water Efficiency Opportunity Surveys.

# 2024 Water Resource and Emergency Management Plan

*Under Texas Water Code Chapter 11 and Title 30 Texas Administrative Code Chapter 288, Retail, Irrigation and Wholesale Public Water Suppliers are required to develop, implement and submit updated Drought Contingency Plans to TCEQ every five years.*

# 1.00 INTRODUCTION

Bear Creek Special Utility District is a Customer of the North Texas Municipal Water District (NTMWD). This Plan was developed following TCEQ guidelines and requirements governing the development of drought contingency plans.

**The goal of the water resource and emergency management plan is to prepare for potential water shortages and to preserve water for essential uses and the protection of public health. The objectives to achieve this goal are as follows:**

- To save water during droughts, water shortages, and emergencies.
- To save water for domestic use, sanitation, and fire protection.
- To protect and preserve public health, welfare, and safety.
- To reduce the adverse impacts of shortages.
- To reduce the adverse impacts of emergency water supply conditions.

Note: NTMWD refers to their drought contingency plan (DCP) as the water resource and emergency management plan (WREMP) and should be considered synonymous with a DCP.

## 1.01 MINIMUM REGULATORY REQUIREMENTS

A drought contingency plan is defined as "a strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies". Recognizing the need for efficient use of existing water supplies, TCEQ has developed guidelines and requirements governing the development of water conservation and drought contingency plans.

The minimum TCEQ requirements and where they are addressed within this document are described in **Appendix B.**

# 2.00 IMPLEMENTATION AND ENFORCEMENT

## 2.01 PROVISIONS TO INFORM THE PUBLIC AND OPPORTUNITY FOR INPUT

Bear Creek Special Utility District provided opportunity for public input in the development of this 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.
- Posting the draft Plan on the community website and/or social media.
- Providing the draft Plan to anyone requesting a copy.

- Holding a public meeting regarding the Plan on 3/18/2024 Public notice of this meeting was provided on the community website and in local newspapers.
- Approving the Plan at a public Board meeting on 4/22/2024. Public notices of this meeting were provided on the community website and live audio was available during the meeting.

## 2.02 PROGRAM FOR CONTINUING PUBLIC EDUCATION AND INFORMATION

Bear Creek Special Utility District informs and educates the public about the Plan by the following means:

- Preparing a bulletin describing the plan and making it available at City Hall and/or other appropriate locations.
- Including information and making the Plan available to the public through the community website and/or social media.
- Notifying local organizations, schools, and civic groups that utility staff are available to make presentations on the Plan (usually in conjunction with presentations on water conservation programs).
- At any time that the Plan is activated or changes, Bear Creek Special Utility District will notify local media of the issues, the water resource management stage (if applicable), and the specific actions required of the public. The information will also be publicized on the community website and/or social media. Billing inserts will also be used as appropriate.

## 2.03 COORDINATION WITH THE REGIONAL WATER PLANNING GROUPS AND NTMWD

**Appendix F** of this Plan includes copies of letters sent to the Chairs of the appropriate regional water planning groups as well as NTMWD.

## 2.04 INITIATION AND TERMINATION OF WATER RESOURCE MANAGEMENT STATGES

### A. INITITATION OF A WATER RESOURCE MANAGEMENT STAGE

The General Manager may order the implementation of a water resource management stage when one or more of the trigger conditions for that stage is met.

- NTMWD has initiated a water resource management stage. (Stages imposed by NTMWD action ***must*** be initiated by Member Cities and Customers.)

- Bear Creek S.U.D. may implement restrictions at any time as required due to emergencies experienced with the water system operations when storage of water for pumping capacity is restricted such that normal demand cannot be met.
- Bear Creek S.U.D. may implement restrictions at any time if the Texas State Governor has issued a drought disaster declaration for Collin, Rockwall, or the neighboring counties.

The following actions will be taken when a water resource management stage is initiated:

- The public will be notified through local media and the supplier's website.
- Wholesale customers and NTMWD will be notified by email that provides details of the reasons for initiation of the water resource management stage.
- If any mandatory provisions of the Plan are activated, Bear Creek Special Utility District will notify TCEQ and the NTMWD Executive Director within five business days. Instructions to report drought contingency plan water use restrictions to TCEQ is available online at https://www.tceq.texas.gov/drinkingwater/homeland_security/security_pws.

## B. TERMINATION OF A WATER RESOURCE MANAGEMENT STAGE

Water resource management stages initiated by NTMWD may be terminated after NTMWD has terminated the stage. For stages initiated by the General Manager, they may order the termination of a water resource management stage when the conditions for termination are met or at their discretion.

The following actions will be taken when a water resource management stage is terminated:

- The public will be notified through local media and the supplier's website.
- Wholesale customers and NTMWD will be notified by email.
- If any mandatory provisions of the Plan that have been activated are terminated, Bear Creek Special Utility District will notify TCEQ Executive Director and the NTMWD Executive Director within five business days. Instructions to report drought contingency plan water use restrictions to TCEQ is available online at https://www.tceq.texas.gov/drinkingwater/homeland_security/security_pws.

The General Manager 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 potentially changed conditions that warrant the continuation of the water resource management stage. The reason for this decision should be documented.

## 2.05 PROCEDURE FOR GRANTING VARIANCES TO THE PLAN

The General Manager may grant temporary variances for existing water uses otherwise prohibited under this Plan if one or more of the following conditions are met:

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

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

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

## 2.06 PROCEDURES FOR ENFORCING MANDATORY WATER USE RESTRICTIONS

Mandatory water use restrictions may be imposed in Stage 1, Stage 2 and Stage 3.

Any customer, defined pursuant to 30 Texas Administrative Code, Chapter 291, failing to comply with the provisions of the Plan shall be subject to a monetary fine of Fifty Dollars and No/100 ($50.00) and/or discontinuance of water service by the District, as referenced in the Ordinance in Appendix G.

## 2.07 REVIEW AND UPDATE OF WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

As required by TCEQ rules, Bear Creek Special Utility District must review their respective Plan every five years. The plan will be updated as appropriate based on new or updated information.

# 3.00 WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

Initiation and termination criteria for water management stages include general, demand, supply, and emergency criteria. One of the major indicators of approaching or ongoing drought conditions is NTMWD's combined reservoir storage, defined as storage at Lavon Lake plus storage in Bois d'Arc Lake. Percent storage is determined by dividing the current storage by the total conservation storage when the lakes are full. **Table 1** summarizes the water management stages by triggers based on percent combined storage and associated demand reduction goals and outdoor watering restrictions. The following sections go into more detail on the three water management stages.

TCEQ requires notification when mandatory restrictions are placed on a customer. NTMWD must notify TCEQ when they impose mandatory restrictions on Member Cities and Customers. Member Cities and Customers must likewise notify TCEQ when they impose mandatory restrictions on their customers (wholesale or retail). Measures that impose mandatory requirements on customers are denoted with **"requires notification to TCEQ"**.

NTMWD and the utilities must notify TCEQ within five business days if these measures are implemented (https://www.tceq.texas.gov/response/drought/drought-and-public-water-systems).

**Table 2: Water Management Plan Stages Summary**

| Drought Stage | | April to October | November to March | Demand Reduction Goal | Outdoor Watering Restrictions |
|---|---|---|---|---|---|
| | | Percent Combined Storage | | | |
| **Stage 1** | Initiation | 70% | 60% | 2% | 2X per week (Apr-Oct)<br>1X per week (Nov-Mar) |
| | Termination | 75% | 65% | | |
| **Stage 2** | Initiation | 55% | 45% | 5% | 1X per week (Apr-Oct)<br>1X every other week (Nov-Mar) |
| | Termination | 70% | 60% | | |
| **Stage 3** | Initiation | 30% | 20% | 30% | No outdoor watering |
| | Termination | 55% | 45% | | |

# 3.01 WATER RESOURCE MANAGEMENT – STAGE 1

## A. INITIATION AND TERMINATION CRITERIA FOR STAGE 1

NTMWD has initiated Stage 1, which may be initiated when one or more of the following criteria is met:

- **General Criteria**
    - The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1.
    - One or more source(s) is interrupted, unavailable, or limited due to contamination, invasive species, equipment failure or other cause.
    - The water supply system is unable to deliver needed supplies due to the failure or damage of major water system components.
    - Part of the system has a shortage of supply or damage to equipment. (NTMWD may implement measures for only that portion of the system impacted.)
    - A portion of the service area is experiencing an extreme weather event or power grid/supply disruptions.
- **Demand Criteria**
    - Water demand has exceeded or is expected to exceed 90% of maximum sustainable production or delivery capacity for an extended period.
- **Supply Criteria**
    - The combined storage in Lavon and Bois d'Arc Lake, as published by the TWDB, is less than:
        - 70% of the combined conservation pool capacity during any of the months of April through October
        - 60% of the combined conservation pool capacity during any of the months of November through March
    - The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought.
    - NTMWD is concerned that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, and/or some other NTMWD water source may be limited in availability within the next six months.

***Stage 1 may terminate when one or more of the following criteria is met:***

- **General Criteria**

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the termination of Stage 1.
- The circumstances that caused the initiation of Stage 1 no longer prevail.

- **Supply Criteria**
  - The combined storage in Lavon and Bois d'Arc Lakes, as published by the TWDB, is greater than:
    - 75% of the combined conservation pool capacity during any of the months of April through October
    - 65% of the combined conservation pool capacity during any of the months of November through March

## B. GOAL FOR USE REDUCTION UNDER STAGE 1

The goal for water use reduction under Stage 1 is an annual reduction of 2% in the use that would have occurred in the absence of water management measures. Because discretionary water use is highly concentrated in the summer months, savings should be higher than 5% in summer to achieve an annual savings goal of 2%. **If circumstances warrant, the Executive Director can set a goal for greater or less water use reduction.**

## C. WATER MANAGEMENT MEASURES AVAILABLE UNDER STAGE 1

The actions listed below are provided as potential measures to reduce water demand. NTMWD may choose to implement any or all of the available restrictions in Stage 1.

- **Requires notification to TCEQ by NTMWD.** Require Member Cities and Customers (including indirect Customers) to initiate Stage 1 restrictions in their respective, independently adopted water resource management plans.
- Continue actions described in the water conservation plan.
- Increase enforcement of landscape watering restrictions from the water conservation plan.
- Initiate engineering studies to evaluate alternative actions that can be implemented if conditions worsen.
- Accelerate public education efforts on ways to reduce water use.
- Halt non-essential NTMWD water use.
- Encourage the public to wait until the current drought or water emergency situation has passed before establishing new landscaping.
- Encourage all users to reduce the frequency of draining and refilling swimming pools.

- **Requires notification to TCEQ by Member Cities and Customers and/or NTMWD.** Initiate a rate surcharge for all water use over a certain level.
- **Requires notification to TCEQ by Member Cities and Customers.** Parks, golf courses, and athletic fields using potable water for landscape watering are required to meet the same reduction goals and measures outlined in this stage. As an exception, golf course greens and tee boxes may be hand watered as needed.

## 3.02 WATER RESOURCE MANAGEMENT – STAGE 2

### A. INITIATION AND TERMINATION CRITERIA FOR STAGE 2

NTMWD has initiated Stage 2, which may be initiated due to one or more of the following criteria is met:

- **General Criteria**
    - The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2.
    - One or more supply source(s) is interrupted, unavailable, or limited due to contamination, invasive species, equipment failure or other cause.
    - The water supply system is unable to deliver needed supplies due to the failure or damage of major water system components.
    - Part of the system has a shortage of supply or damage to equipment. (NTMWD may implement measures for only that portion of the system impacted.)
    - A portion of the service area is experiencing an extreme weather event or power grid/supply disruptions.
- **Demand Criteria**
    - Water demand has exceeded or is expected to exceed 95% of maximum sustainable production or delivery capacity for an extended period.
- **Supply Criteria**
    - The combined storage in Lavon and Bois d'Arc Lake, as published by the TWDB, is less than
        - 55% of the combined conservation pool capacity during any of the months of April through October
        - 45% of the combined conservation pool capacity during any of the months of November through March
    - SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought.

- NTMWD is concerned that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, and/or some other NTMWD water source may be limited in availability within the next three months.

***Stage 2 may terminate when one or more of the following criteria is met:***

- **General Criteria**
  - The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the termination of Stage 2.
  - The circumstances that caused the initiation of Stage 2 no longer prevail.
- **Supply Criteria**
  - The combined storage in Lavon and Bois d'Arc Lake, as published by the TWDB, is greater than
    - 70% of the combined conservation pool capacity during any of the months of April through October
    - 60% of the combined conservation pool capacity during any of the months of November through March

## B. GOAL FOR USE REDUCTION UNDER STAGE 2

The goal for water use reduction under Stage 2 is an annual reduction of 5% in the use that would have occurred in the absence of water resource management measures. Because discretionary water use is highly concentrated in the summer months, savings should be higher than 5% in summer to achieve an annual savings goal of 5%. **If circumstances warrant, the Executive Director can set a goal for greater or less water use reduction.**

## C. WATER MANAGEMENT MEASURES AVAILABLE UNDER STAGE 2

The actions listed below are provided as potential measures to reduce water demand. NTMWD may choose to implement any or all of the available restrictions in Stage 2.

- Continue or initiate any actions available under the water conservation plan and Stage 1.
- Implement viable alternative water supply strategies.
- **Requires notification to TCEQ by NTMWD.** Require Member Cities and Customers (including indirect Customers) to initiate Stage 2 restrictions in their respective, independently adopted water resource management plans.
- **Requires notification to TCEQ by NTMWD and/or Member Cities and Customers.** Limit landscape watering with sprinklers or irrigation systems at each service address to once per week on designated days between April 1 and October 31. Limit landscape

watering with sprinklers or irrigation systems at each service address to once every other week on designated days between November 1 and March 31. Exceptions are as follows:

- New construction may be watered as necessary for 30 days from the installation of new landscape features.
- Foundation watering (within 2 feet), watering of new plantings (first year) of shrubs, and watering of trees (within a 10-foot radius of its trunk) for up to two hours on any day by a hand-held hose, a soaker hose, or a dedicated zone using a drip irrigation system, provided no runoff occurs.
- Athletic fields may be watered twice per week.
- Locations using alternative sources of water supply only for irrigation may irrigate without day-of-the-week restrictions provided proper signage is employed to notify the public of the alternative water source(s) being used. However, irrigation using alternative sources of supply is subject to all other restrictions applicable to this stage. If the alternative supply source is a well, proper proof of well registration with your local water supplier (e.g., city, water supply corporation) is required. Other sources of water supply may not include imported treated water.
- An exemption is for drip irrigation systems from the designated outdoor water use day limited to no more than one day per week. Drip irrigation systems are, however, subject to all other restrictions applicable under this stage.

- **Requires notification to TCEQ by Member Cities and Customers.** Prohibit overseeding, sodding, sprigging, broadcasting or plugging with or watering, except for golf courses and athletic fields.
- **Requires notification to TCEQ by NTMWD.** Institute a mandated reduction in water deliveries to all Member Cities and Customers. Such a reduction will be distributed as required by Texas Water Code Section 11.039 (**Appendix E**).
- **Requires notification to TCEQ by Member Cities and Customers and/or NTMWD.** Initiate a rate surcharge for all water use over a certain level.
- **Requires notification to TCEQ by Member Cities and Customers.** Parks and golf courses using potable water for landscape watering are required to meet the same reduction goals and measures outlined in this stage. As an exception, golf course greens and tee boxes may be hand watered as needed.

## 3.03 WATER RESOURCE MANAGEMENT – STAGE 3

### A. INITIATION AND TERMINATION CRITERIA FOR STAGE 3

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

- **General Criteria**
    - The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3.
    - One or more supply source(s) is interrupted, unavailable, or limited due to contamination, invasive species, equipment failure, or other cause.
    - The water supply system is unable to deliver needed supplies due to the failure or damage of major water system components.
    - Part of the system has a shortage of supply or damage to equipment. (NTMWD may implement measures for only that portion of the system impacted.)
    - A portion of the service area is experiencing an extreme weather event or power grid/supply disruptions.
- **Demand Criteria**
    - Water demand has exceeded or is expected to exceed maximum sustainable production or delivery capacity for an extended period.
- **Supply Criteria**
    - The combined storage in Lavon and Bois d'Arc Lake, as published by the TWDB, is less than
        - 30% of the combined conservation pool capacity during any of the months of April through October
        - 20% of the combined conservation pool capacity during any of the months of November through March
- SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a drought and have significantly reduced supplies available to NTMWD.
- The supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, and/or some other NTMWD water source has become limited in availability.

***Stage 3 may terminate when one or more of the following criteria is met:***

- **General Criteria**
    - The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the termination of Stage 3.

- Other circumstances that caused the initiation of Stage 3 no longer prevail.

- **Supply Criteria**
  - The combined storage in Lavon and Bois d'Arc Lake, as published by the TWDB, is greater than:
    - 55% of the combined conservation pool capacity during any of the months of April through October
    - 45% of the combined conservation pool capacity during any of the months of November through March

## B. GOAL FOR USE REDUCTION UNDER STAGE 3

The goal for water use reduction under Stage 3 is an annual reduction of 30% in the use that would have occurred in the absence of water resource management measures, or the goal for water use reduction is whatever reduction is necessary. Because discretionary water use is highly concentrated in the summer months, savings should be higher than 30% in summer to achieve an annual savings goal of 30%. **If circumstances warrant, the Executive Director can set a goal for greater or less water use reduction.**

## C. WATER MANAGEMENT MEASURES AVAILABLE UNDER STAGE 3

The actions listed below are provided as potential measures to reduce water demand. NTMWD may choose to implement any or all of the available restrictions in Stage 3.

- Continue or initiate any actions available under the water conservation plan and Stages 1 and 2.
- Implement viable alternative water supply strategies.
- **Requires notification to TCEQ by NTMWD.** Require Member Cities and Customers (including indirect Customers) to initiate Stage 3 restrictions in their respective, independently adopted water resource management plans.
- **Requires notification to TCEQ by Member Cities and Customers.** Initiate mandatory water use restrictions as follows:
  - Hosing and washing of paved areas, buildings, structures, windows or other surfaces is prohibited except by variance and performed by a professional service using high efficiency equipment.
  - Prohibit operation of ornamental fountains or ponds that use potable water except where supporting aquatic life.
- **Requires notification to TCEQ by Member Cities and Customers.** Prohibit new sod, overseeding, sodding, sprigging, broadcasting or plugging with or watering.

- **Requires notification to TCEQ by Member Cities and Customers.** Prohibit the use of potable water for the irrigation of new landscape.
- **Requires notification to TCEQ by NTMWD and/or Member Cities and Customers.** Prohibit all commercial and residential landscape watering, except foundations (within 2 feet) and trees (within a 10-foot radius of its trunk) may be watered for two hours one day per week with a hand-held hose, a soaker hose, or a dedicated zone using a drip irrigation system provided no runoff occurs. Drip irrigation systems are not exempt from this requirement.
- **Requires notification to TCEQ by Member Cities and Customers.** Prohibit washing of vehicles except at a commercial vehicle wash facility.
- **Requires notification to TCEQ by Member Cities and Customers.** Landscape watering of parks, golf courses, and athletic fields with potable water is prohibited. As an exception, golf course greens and tee boxes may be hand watered as needed. Variances may be granted by the water provider under special circumstances.
- **Requires notification to TCEQ by Member Cities and Customers.** Prohibit the filling, draining, and/or refilling of existing swimming pools, wading pools, Jacuzzi and hot tubs except to maintain structural integrity, proper operation and maintenance or to alleviate a public safety risk. Existing pools may add water to replace losses from normal use and evaporation. Permitting of new swimming pools, wading pools, Jacuzzi and hot tubs is prohibited.
- **Requires notification to TCEQ by Member Cities and Customers.** Prohibit the operation of interactive water features such as water sprays, dancing water jets, waterfalls, dumping buckets, shooting water cannons, inflatable pools, temporary splash toys or pools, slip-n-slides, or splash pads that are maintained for recreation.
- **Requires notification to TCEQ by Member Cities and Customers.** Require all commercial water users to reduce water use by a set percentage.
- **Requires notification to TCEQ by NTMWD.** Institute a mandated reduction in deliveries to all Member Cities and Customers. Such a reduction will be distributed as required by Texas Water Code Section 11.039.
- **Requires notification to TCEQ by NTMWD and/or Member Cities and Customers.** Initiate a rate surcharge over normal rates for all water use or for water use over a certain level

# Appendix A
# List of References

*The following appendix contains a list of references used throughout the plans.*

# APPENDIX A

## LIST OF REFERENCES


1. Texas Commission on Environmental Quality Water Conservation Implementation Report. https://www.tceq.texas.gov/assets/public/permitting/forms/20645.pdf

2. Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rules 288.1 and 288.5, and Subchapter B, Rule 288.22, downloaded from http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288, April 2023.

3. Water Conservation Implementation Task Force: "Texas Water Development Board Report 362, Water Conservation Best Management Practices Guide," prepared for the Texas Water Development Board, Austin, November 2004.

4. Texas Water Development Board, Texas Commission on Environmental Quality, Water Conservation Advisory Council: Guidance and Methodology for Reporting on Water Conservation and Water Use, December 2012

5. Freese and Nichols, Inc.: Model Water Conservation Plan for NTMWD Members Cities and Customers, prepared for the North Texas Municipal Water District, Fort Worth, January 2019.

6. Freese and Nichols, Inc.: Model Water Resource and Emergency Management Plan for NTMWD Members Cities and Customers, prepared for the North Texas Municipal Water District, Fort Worth, January 2019.

7. Freese and Nichols Inc, Alan Plummer Associates, Inc., CP & Y Inc., Cooksey Communications. "2021 Region C Water Plan"

# Appendix B

# Texas Administrative Code Title 30 Chapter 288

*The following appendix contains the Texas Administrative Code that regulates both water conservation and drought contingency plans. Prior to the code, a summary is given that outlines where each requirement is fulfilled within the plans.*

# APPENDIX B

## TEXAS ADMINISTRATIVE CODE TITLE 30 CHAPTER 288

TCEQ rules governing development of water conservation plans are contained in Title 30, Chapter 288, Subchapter A of the Texas Administrative Code, which is included in this Appendix for reference.

The water conservation plan elements required by TCEQ water conservation rules that are covered in this water conservation plan are listed below.

**Minimum Conservation Plan Requirements for Public Water Suppliers**

- 288.2(a)(1)(A) – Utility Profile – Section 2
- 288.2(a)(1)(B) – Record Management System – Section 4
- 288.2(a)(1)(C) – Specific, Quantified Goals – Section 3
- 288.2(a)(1)(D) – Accurate Metering – Section 4
- 288.2(a)(1)(E) – Universal Metering – Section 4
- 288.2(a)(1)(F) – Determination and Control of Water Loss – Section 4
- 288.2(a)(1)(G) – Public Education and Information Program – Section 8
- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 8
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Section 6
- 288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 7
- 288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 7
- 288.2(c) – Review and Update of Plan – Section 7

**Additional Requirements for Public Water Suppliers (Population over 5,000)**

- 288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Section 4
- 288.2(a)(2)(B) – Requirement for Water Conservation Plans by Wholesale Customers – Section 5

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|---|---|
| **TITLE 30** | ENVIRONMENTAL QUALITY |
| **PART 1** | TEXAS COMMISSION ON ENVIRONMENTAL QUALITY |
| **CHAPTER 288** | WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS |
| **SUBCHAPTER A** | WATER CONSERVATION PLANS |
| **RULE §288.1** | **Definitions** |

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

(1) Agricultural or Agriculture--Any of the following activities:

(A) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;

(B) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media by a nursery grower;

(C) raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;

(D) raising or keeping equine animals;

(E) wildlife management; and

(F) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure.

(2) Agricultural use--Any use or activity involving agriculture, including irrigation.

(3) Best management practices--Voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.

(4) Conservation--Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.

(5) Commercial use--The use of water by a place of business, such as a hotel, restaurant, or office building. This does not include multi-family residences or agricultural, industrial, or institutional users.

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

(7) Industrial use--The use of water in processes designed to convert materials of a lower order of value into forms having greater usability and commercial value, and the development of power by means other than hydroelectric, but does not include agricultural use.

(8) Institutional use--The use of water by an establishment dedicated to public service, such as a school, university, church, hospital, nursing home, prison or government facility. All facilities dedicated to public service are considered institutional regardless of ownership.

(9) Irrigation--The agricultural use of water for the irrigation of crops, trees, and pastureland, including, but not limited to, golf courses and parks which do not receive water from a public water supplier.

(10) Irrigation water use efficiency--The percentage of that amount of irrigation water which is beneficially used by agriculture crops or other vegetation relative to the amount of water diverted from the source(s) of supply. Beneficial uses of water for irrigation purposes include, but are not limited to, evapotranspiration needs for vegetative maintenance and growth, salinity management, and leaching requirements associated with irrigation.

(11) Mining use--The use of water for mining processes including hydraulic use, drilling, washing sand and gravel, and oil field re-pressuring.

(12) Municipal use--The use of potable water provided by a public water supplier as well as the use of sewage effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.

(13) Nursery grower--A person engaged in the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, who grows more than 50% of the products that the person either sells or leases, regardless of the variety sold, leased, or grown. For the purpose of this definition, grow means the actual cultivation or propagation of the product beyond the mere holding or maintaining of the item prior to sale or lease, and typically includes activities associated with the production or multiplying of stock such as the development of new plants from cuttings, grafts, plugs, or seedlings.

(14) Pollution--The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

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

(16) Regional water planning group--A group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code §16.053.

(17) Residential gallons per capita per day--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.

(18) Residential use--The use of water that is billed to single and multi-family residences, which applies to indoor and outdoor uses.

(19) Retail public water supplier--An individual or entity that for compensation supplies water to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants when that water is not resold to or used by others.

(20) Reuse--The authorized use for one or more beneficial purposes of use of water that remains unconsumed after the water is used for the original purpose of use and before that water is either disposed of or discharged or otherwise allowed to flow into a watercourse, lake, or other body of state-owned water.

(21) Total use--The volume of raw or potable water provided by a public water supplier to billed customer sectors or nonrevenue uses and the volume lost during conveyance, treatment, or transmission of that water.

(22) Total gallons per capita per day (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 this chapter shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

(23) Water conservation coordinator--The person designated by a retail public water supplier that is responsible for implementing a water conservation plan.

(24) Water conservation plan--A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the

recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document(s).

(25) Wholesale public water supplier--An individual or entity that for compensation supplies water to another for resale to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants as an incident of that employee service or tenancy when that water is not resold to or used by others, or an individual or entity that conveys water to another individual or entity, but does not own the right to the water which is conveyed, whether or not for a delivery fee.

(26) Wholesale use--Water sold from one entity or public water supplier to other retail water purveyors for resale to individual customers.

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**Source Note:** The provisions of this §288.1 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective August 15, 2002, 27 TexReg 7146; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective January 10, 2008, 33 TexReg 193; amended to be effective December 6, 2012, 37 TexReg 9515; amended to be effective August 16, 2018, 43 TexReg 5218

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

(a) A water conservation plan for municipal water use by public water suppliers must provide information in response to the following. If the plan does not provide information for each requirement, the public water supplier shall include in the plan an explanation of why the requirement is not applicable.

(1) Minimum requirements. All water conservation plans for municipal uses by public water suppliers must include the following elements:

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

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

(i) residential;

(I) single family;

(II) multi-family;

(ii) commercial;

(iii) institutional;

(iv) industrial;

(v) agricultural; and,

(vi) wholesale.

(C) specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in total GPCD and residential GPCD. The goals established by a public water supplier under this subparagraph are not enforceable;

(D) metering device(s), within an accuracy of plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply;

(E) a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement;

(F) measures to determine and control water loss (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections; abandoned services; etc.);

(G) a program of continuing public education and information regarding water conservation;

(H) a water rate structure which is not "promotional," i.e., a rate structure which is cost-based and which does not encourage the excessive use of water;

(I) a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies; and

(J) a means of implementation and enforcement which shall be evidenced by:

(i) a copy of the ordinance, resolution, or tariff indicating official adoption of the water conservation plan by the water supplier; and

(ii) a description of the authority by which the water supplier will implement and enforce the conservation plan; and

(K) documentation of coordination with the regional water planning groups for the service area of the public water supplier in order to ensure consistency with the appropriate approved regional water plans.

(2) Additional content requirements. Water conservation plans for municipal uses by public drinking water suppliers serving a current population of 5,000 or more and/or a projected population of 5,000 or more within the next ten years subsequent to the effective date of the plan must include the following elements:

(A) a program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system;

(B) a requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in this chapter. If the customer intends to resell the water, the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

(3) Additional conservation strategies. Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements in paragraphs (1) and (2) of this subsection, if they are necessary to achieve the stated water conservation goals of the plan. The commission may require that any of the following strategies be implemented by the water supplier if the commission determines that the strategy is necessary to achieve the goals of the water conservation plan:

(A) conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;

(B) adoption of ordinances, plumbing codes, and/or rules requiring water-conserving plumbing fixtures to be installed in new structures and existing structures undergoing substantial modification or addition;

(C) a program for the replacement or retrofit of water-conserving plumbing fixtures in existing structures;

(D) reuse and/or recycling of wastewater and/or graywater;

(E) a program for pressure control and/or reduction in the distribution system and/or for customer connections;

(F) a program and/or ordinance(s) for landscape water management;

(G) a method for monitoring the effectiveness and efficiency of the water conservation plan; and

(H) any other water conservation practice, method, or technique which the water supplier shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

(b) A water conservation plan prepared in accordance with 31 TAC §363.15 (relating to Required Water Conservation Plan) of the Texas Water Development Board and substantially meeting the requirements of this section and other applicable commission rules may be submitted to meet application requirements in accordance with a memorandum of understanding between the commission and the Texas Water Development Board.

(c) A public water supplier for municipal use shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The public water supplier for municipal use shall review and update the next revision of its water conservation plan every five years to coincide with the regional water planning group.

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**Source Note:** The provisions of this §288.5 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective December 6, 2012, 37 TexReg 9515

## APPENDIX B

## TEXAS ADMINISTRATIVE CODE TITLE 30 CHAPTER 288

TCEQ rules governing development of water conservation plans are contained in Title 30, Chapter 288, Subchapter A of the Texas Administrative Code, which is included in this Appendix for reference.

The water conservation plan elements required by TCEQ water conservation rules that are covered in this drought contingency plan are listed below.

**Minimum Drought Contingency Plan Requirements for Public Water Suppliers**

- **288.20(a)(1)(A)** – Provisions to Inform Public and Provide Opportunity for Public Input - Section 2
- **288.20(a)(1)(B)** – Program for Continuing Public Education and Information – Section 2
- **288.20(a)(1)(C)** –Coordination with Regional Water Planning Groups – Section 2
- **288.20(a)(1)(D)** – Description of Information to Be Monitored and Criteria for the Initiation and Termination of Water Resource Management Stages – Sections 2
- **288.20(a)(1)(E)** – Stages for Implementation of Measures in Response to Situations – Section 3
- **288.20(a)(1)(F)** – Specific, Quantified Targets for Water Use Reductions During Water Shortages – Section 3
- **288.20(a)(1)(G)** – Specific Water Supply or Water Demand Measures to Be Implemented at Each Stage of the Plan – Section 3
- **288.20(a)(1)(H)** – Procedures for Initiation and Termination of Drought Contingency and Water Emergency Response Stages – Section 2
- **288.20(a)(1)(I)** – Description of Procedures to Be Followed for Granting Variances to the Plan – Section 2
- **288.20(a)(1)(J)** – Procedures for Enforcement of Mandatory Water Use Restrictions – Section 2
- **288.20(b)** – TCEQ Notification of Implementation of Mandatory Provisions – Sections 2 and 3
- **288.20(c)** – Review of Drought Contingency and Water Emergency Response Plan Every Five (5) Years – Section 2

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|---|---|
| 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** |

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(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;

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(iii) supply source contamination; or

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

(F) The drought contingency plan must include specific, quantified targets for water use reductions to be achieved during periods of water shortage and drought. The entity preparing the plan shall establish the targets. The goals established by the entity under this subparagraph are not enforceable.

(G) The drought contingency plan must include the specific water supply or water demand management measures to be implemented during each stage of the plan including, but not limited to, the following:

(i) curtailment of non-essential water uses; and

(ii) utilization of alternative water sources and/or alternative delivery mechanisms with the prior approval of the executive director as appropriate (e.g., interconnection with another water system, temporary use of a non-municipal water supply, use of reclaimed water for non-potable purposes, etc.).

(H) The drought contingency plan must include the procedures to be followed for the initiation or termination of each drought response stage, including procedures for notification of the public.

(I) The drought contingency plan must include procedures for granting variances to the plan.

(J) The drought contingency plan must include procedures for the enforcement of mandatory water use restrictions, including specification of penalties (e.g., fines, water rate surcharges, discontinuation of service) for violations of such restrictions.

(2) Privately-owned water utilities. Privately-owned water utilities shall prepare a drought contingency plan in accordance with this section and incorporate such plan into their tariff.

(3) Wholesale water customers. Any water supplier that receives all or a portion of its water supply from another water supplier shall consult with that supplier and shall include in the drought contingency plan appropriate provisions for responding to reductions in that water supply.

(b) A wholesale or retail water supplier shall notify the executive director within five business days of the implementation of any mandatory provisions of the drought contingency plan.

(c) The retail public water supplier shall review and update, as appropriate, the drought contingency plan, at least every five years, based on new or updated information, such as the adoption or revision of the regional water plan.

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

# Appendix C

# TCEQ Water Utility Profile

*The following appendix contains the form TCEQ-10218*

# Texas Commission on Environmental Quality

**Water Availability Division**
**MC-160, P.O. Box 13087 Austin, Texas 78711-3087**
**Telephone (512) 239-4600, FAX (512) 239-2214**


## Utility Profile and Water Conservation Plan Requirements for Municipal Water Use by Retail Public Water Suppliers

This form is provided to assist retail public water suppliers in water conservation plan assistance in completing this form or in developing your plan, please contact the Conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4600.

*Water users can find best management practices (BMPs) at the Texas Water Development Board's website http://www.twdb.texas.gov/conservation/BMPs/index.asp. The practices are broken out into sectors such as Agriculture, Commercial and Institutional, Industrial, Municipal and Wholesale. BMPs are voluntary measures that water users use to develop the required components of Title 30, Texas Administrative Code, Chapter 288. BMPs can also be implemented in addition to the rule requirements to achieve water conservation goals.*

**Contact Information**

| | | |
|---|---|---|
| Name of Water Supplier: | Bear Creek Special Utility District | |
| Address: | 16881 C. R. 541 Lavon, TX 75166 | |
| Telephone Number: | (972) 843-2101 | Fax: (972) 853-2505 |
| Water Right No.(s): | Certificate No. 10066 | |
| Regional Water Planning Group: | Group C | |
| Water Conservation Coordinator (or person responsible for implementing conservation program): | Morgan NeSmith | Phone: (972) 843-2101 |
| Form Completed by: | Morgan NeSmith | |
| Title: | Office Manager | |
| Signature: | Morgan NeSmith | Date: 3/1/2024 |

**A water conservation plan for municipal use by retail public water suppliers must include the following requirements (as detailed in 30 TAC Section 288.2). If the plan does not provide information for each requirement, you must include in the plan an explanation of why the requirement is not applicable.**

# Utility Profile

## I. POPULATION AND CUSTOMER DATA

### *A. Population and Service Area Data*

1. Attach a copy of your service-area map and, if applicable, a copy of your Certificate of Convenience and Necessity (CCN).

2. Service area size (in square miles): 84

   (Please attach a copy of service-area map)

3. Current population of service area: 12,504

4. Current population served for:

   a. Water 12,504

   b. Wastewater

5. Population served for previous five years:

| *Year* | *Population* |
|---|---|
| 2019 | 7,299 |
| 2020 | 8,103 |
| 2021 | 9,756 |
| 2022 | 10,878 |
| 2023 | 12,504 |

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

| *Year* | *Population* |
|---|---|
| 2020 | 8,103 |
| 2030 | 58,098 |
| 2040 | 98,916 |
| 2050 | 98,916 |
| 2060 | 98,916 |

7. List source or method for the calculation of current and projected population size.

   Current: Number of customers * 3 / Projected: Bear Creek SUD's Master Plan

*B. Customer Data*

Senate Bill 181 requires that uniform consistent methodologies for calculating water use and conservation be developed and available to retail water providers and certain other water use sectors as a guide for preparation of water use reports, water conservation plans, and reports on water conservation efforts. A water system must provide the most detailed level of customer and water use data available to it, however, any new billing system purchased must be capable of reporting data for each of the sectors listed below. More guidance can be found at: http://www.twdb.texas.gov/conservation/doc/SB181Guidance.pdf

1. Quantified 5-year and 10-year goals for water savings:

| | *Historic 5-year Average* | *Baseline* | *5-year goal for year* | *10-year goal for year* |
|---|---|---|---|---|
| Total GPCD | 96 | 106 | 95 | 92 |
| Residential GPCD | 66 | 72 | 68 | 65 |
| Water Loss GPCD | 3 | 5 | 3 | 2 |
| Water Loss Percentage | 3% | 4% | 3% | 2% |

**Notes:**
Total GPCD = (Total Gallons in System ÷ Permanent Population) ÷ 365
Residential GPCD = (Gallons Used for Residential Use ÷ Residential Population) ÷ 365
Water Loss GPCD = (Total Water Loss ÷ Permanent Population) ÷ 365
Water Loss Percentage = (Total Water Loss ÷ Total Gallons in System) x 100; or (Water Loss GPCD ÷ Total GPCD) x 100

2. Current number of active connections. Check whether multi-family service is counted as ☐ Residential or ☐ Commercial?

| *Treated Water Users* | *Metered* | *Non-Metered* | *Totals* |
|---|---|---|---|
| Residential | 4,008 | | 4,017 |
| Single-Family | 4,008 | | 4,017 |
| Multi-Family | | | |
| Commercial | 96 | | 96 |
| Industrial/Mining | 7 | | 7 |
| Institutional | 20 | | 20 |
| Agriculture | 59 | | 59 |
| Other/Wholesale | | | |

3. List the number of new connections per year for most recent three years.

| Year | 2023 | 2022 | 2021 |
|---|---|---|---|
| *Treated Water Users* | | | |
| Residential | 642 | 478 | 429 |
| Single-Family | 642 | 478 | 429 |
| Multi-Family | | | |
| Commercial | 6 | 3 | 5 |
| Industrial/Mining | | | |
| Institutional | 3 | | |
| Agriculture | 8 | 6 | 8 |
| Other/Wholesale | | | |

4. List of annual water use for the five highest volume customers.

| *Customer* | *Use (1,000 gal/year)* | *Treated or Raw Water* |
|---|---|---|
| Preferred Materials | 10,011,500 | Treated Water |
| LakePointe at Lavon HOA | 2,586,000 | Treated Water |
| LakePointe at Lavon HOA | 1,594,700 | Treated Water |
| Lavon Grand Heritage HOA | 1,548,900 | Treated Water |
| Nova Landscape Group | 1,442,400 | Treated Water |

## II. WATER USE DATA FOR SERVICE AREA

### *A. Water Accounting Data*

1. List the amount of water use for the previous five years (in 1,000 gallons).

   Indicate whether this is ☐ diverted or ☒ treated water.

| *Year* | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| *Month* | | | | | |
| January | 12,955,000 | 15,522,000 | 15,025,000 | 18,952,000 | 29,489,000 |
| February | 12,098,000 | 13,745,000 | 17,315,000 | 16,712,000 | 20,094,000 |
| March | 16,083,000 | 14,299,000 | 15,858,000 | 17,987,000 | 29,954,000 |
| April | 15,463,000 | 18,499,000 | 22,489,000 | 24,623,000 | 35,038,000 |
| May | 16,771,000 | 18,029,000 | 16,322,000 | 29,261,000 | 42,162,000 |
| June | 16,346,000 | 25,389,000 | 23,184,000 | 45,645,000 | 57,875,000 |
| July | 26,767,000 | 27,250,000 | 34,611,000 | 60,614,000 | 54,754,000 |
| August | 39,285,000 | 38,759,000 | 44,423,000 | 54,239,000 | 75,956,000 |
| September | 26,808,000 | 28,650,000 | 44,161,000 | 40,370,000 | 81,822,000 |
| October | 23,480,000 | 29,796,000 | 35,094,000 | 47,043,000 | 48,762,000 |
| November | 17,448,000 | 22,375,000 | 26,596,000 | 29,665,000 | 35,969,000 |
| December | 15,811,000 | 18,600,000 | 22,627,000 | 35,736,000 | 35,832,000 |
| **Totals** | 239,315,000 | 270,913,000 | 317,705,000 | 420,847,000 | 547,707,000 |

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

The figures above were determined from a master meter located at the point of a diversion from the source.

3. Amount of water (in 1,000 gallons) delivered/sold as recorded by the following account types for the past five years.

| *Year* | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| *Account Types* | | | | | |
| Residential | 171,779,500 | 191,197,500 | 213,420,000 | 293,028,950 | 335,678,300 |
| Single-Family | 171,779,500 | 191,197,500 | 213,420,000 | 293,028,950 | 335,678,300 |
| Multi-Family | | | | | |
| Commercial | 8,251,400 | 4,810,000 | 13,469,400 | 34,754,700 | 58,354,000 |
| Industrial/Mining | 8,862,600 | 6,569,800 | 8,208,900 | 10,834,100 | 11,976,400 |
| Institutional | 3,928,500 | 3,816,000 | 3,286,500 | 3,585,000 | 3,612,700 |
| Agriculture | 11,227,800 | 13,373,600 | 17,888,500 | 25,954,200 | 27,371,700 |
| Other/Wholesale | | | | | |

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

| *Year* | *Amount (gallons)* | *Percent %* |
|---|---|---|
| 2019 | 35,262,200 | 14% |
| 2020 | 51,146,100 | 18% |
| 2021 | 61,431,700 | 19% |
| 2022 | 52,690,050 | 12% |
| 2023 | 110,713,900 | 20% |

*B. Projected Water Demands*

1. If applicable, attach or cite projected water supply demands from the applicable Regional Water Planning Group for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years and any additional water supply requirements from such growth.

## III. WATER SUPPLY SYSTEM DATA

*A. Water Supply Sources*

1. List all current water supply sources and the amounts authorized (in acre feet) with each.

| *Water Type* | *Source* | *Amount Authorized* |
|---|---|---|
| Surface Water | NTMWD | 1,462 |
| Groundwater | | |
| Other | | |

*B. Treatment and Distribution System (if providing treated water)*

1. Design daily capacity of system (MGD): 3.92
2. Storage capacity (MGD):
   a. Elevated 1.10
   b. Ground 2.82
3. If surface water, do you recycle filter backwash to the head of the plant?

   ☐ Yes ☒ No If yes, approximate amount (MGD):

**IV. WASTEWATER SYSTEM DATA**

*A. Wastewater System Data (if applicable)*

1. Design capacity of wastewater treatment plant(s) (MGD):
2. Treated effluent is used for ☐ on-site irrigation, ☐ off-site irrigation, for ☐ plant wash-down, and/or for ☐ chlorination/dechlorination.

   If yes, approximate amount (in gallons per month):
3. Briefly describe the wastewater system(s) of the area serviced by the water utility. Describe how treated wastewater is disposed. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and the receiving stream if wastewater is discharged.

*B. Wastewater Data for Service Area (if applicable)*

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

| *Year* | | | | | |
|---|---|---|---|---|---|
| *Month* | | | | | |
| January | | | | | |
| February | | | | | |
| March | | | | | |
| April | | | | | |
| May | | | | | |
| June | | | | | |
| July | | | | | |
| August | | | | | |
| September | | | | | |
| October | | | | | |
| November | | | | | |
| December | | | | | |
| **Totals** | | | | | |

# Water Conservation Plan

In addition to the utility profile, please attach the following as required by Title 30, Texas Administrative Code, §288.2. Note: If the water conservation plan does not provide information for each requirement, an explanation must be included as to why the requirement is not applicable.

A. *Record Management System*

The water conservation plan must include a record management system which allows for the classification of water sales and uses in to the most detailed level of water use data currently available to it, including if possible, the following sectors: residential (single and multi-family), commercial.

B. *Specific, Quantified 5 & 10-Year Targets*

The water conservation plan must include specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in gallons per capita per day. Note that the goals established by a public water supplier under this subparagraph are not enforceable. These goals must be updated during the five-year review and submittal.

C. *Measuring and Accounting for Diversions*

The water conservation plan must include a statement about the water suppliers metering device(s), within an accuracy of plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply.

D. *Universal Metering*

The water conservation plan must include and a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement.

E. *Measures to Determine and Control Water Loss*

The water conservation plan must include measures to determine and control water loss (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections; abandoned services; etc.).

F. *Continuing Public Education & Information*

The water conservation plan must include a description of the program of continuing public education and information regarding water conservation by the water supplier.

G. *Non-Promotional Water Rate Structure*

The water supplier must have a water rate structure which is not "promotional," i.e., a rate structure which is cost-based and which does not encourage the excessive use of water. This rate structure must be listed in the water conservation plan.

H. *Reservoir Systems Operations Plan*

The water conservation plan must include a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies.

*I. Enforcement Procedure and Plan Adoption*

The water conservation plan must include a means for implementation and enforcement, which shall be evidenced by a copy of the ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan.

*J. Coordination with the Regional Water Planning Group(s)*

The water conservation plan must include documentation of coordination with the regional water planning groups for the service area of the public water supplier in order to ensure consistency with the appropriate approved regional water plans.

*K. Plan Review and Update*

A public water supplier for municipal use shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The public water supplier for municipal use shall review and update the next revision of its water conservation plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. The revised plan must also include an implementation report.

## VI. ADDITIONAL REQUIREMENTS FOR LARGE SUPPLIERS

Required of suppliers serving population of 5,000 or more or a projected population of 5,000 or more within the next ten years:

*A. Leak Detection and Repair*

The plan must include a description of the program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system in order to control unaccounted for uses of water.

*B. Contract Requirements*

A requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in this chapter. If the customer intends to resell the water, the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

## VII. ADDITIONAL CONSERVATION STRATEGIES

Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements of 30 TAC §288.2(1), if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:

1. Conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;

2. Adoption of ordinances, plumbing codes, and/or rules requiring water conserving plumbing fixtures to be installed in new structures and existing structures undergoing substantial modification or addition;

3. A program for the replacement or retrofit of water-conserving plumbing fixtures in existing structures;

4. A program for reuse and/or recycling of wastewater and/or graywater;

5. A program for pressure control and/or reduction in the distribution system and/or for customer connections;

6. A program and/or ordinance(s) for landscape water management;

7. A method for monitoring the effectiveness and efficiency of the water conservation plan; and

8. Any other water conservation practice, method, or technique which the water supplier shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

## VIII. WATER CONSERVATION PLANS SUBMITTED WITH A WATER RIGHT APPLICATION FOR NEW OR ADDITIONAL STATE WATER

Water Conservation Plans submitted with a water right application for New or Additional State Water must include data and information which:

1. support the applicant's proposed use of water with consideration of the water conservation goals of the water conservation plan;

2. evaluates conservation as an alternative to the proposed appropriation; and

3. evaluates any other feasible alternative to new water development including, but not limited to, waste prevention, recycling and reuse, water transfer and marketing, regionalization, and optimum water management practices and procedures.

Additionally, it shall be the burden of proof of the applicant to demonstrate that no feasible alternative to the proposed appropriation exists and that the requested amount of appropriation is necessary and reasonable for the proposed use.

# BEAR CREEK SUD

Telephone 1-972-843-2101 • P.O. Box 188
Lavon, Texas 75166

November 4, 2022

**CERTIFICATE OF CONVENIENCE AND NECESSITY**

BEAR CREEK SPECIAL UTILITY DISTRICT
P. O. BOX 188
LAVON, TEXAS 75166

CERTIFICATE NO. 10066

1. Certificate Holder:

   Name: Bear Creek Special Utility District

   Address: P. O. Box 188
   Lavon, Texas 75166

2. General Description and Location of Service Area:

   The area covered by this certification, including a bounded service area and ten facilities only locations, is located approximately 16 miles southeast of downtown McKinney, Texas on State Highway 78 in Collin and Rockwall Counties, Texas.

   The bounded service area is generally bounded on the north by Farm to Market Road 6, and on the east by Farm to Market Road 1138, on the south by Collin County Line and Farm to Market Road 552 and on the west by State Highway 205.

3. Certificate Maps:

   The certificate holder is authorized to provide water service in the area identified on Map No. KHA No. 064572812, maintained in the offices of the Public Utility Commission of Texas.

Camille Reagan

Camille Reagan
General Manager
Bear Creek Special Utility District

# Public Utility Commission

# of Texas

## By These Presents Be It Known To All That

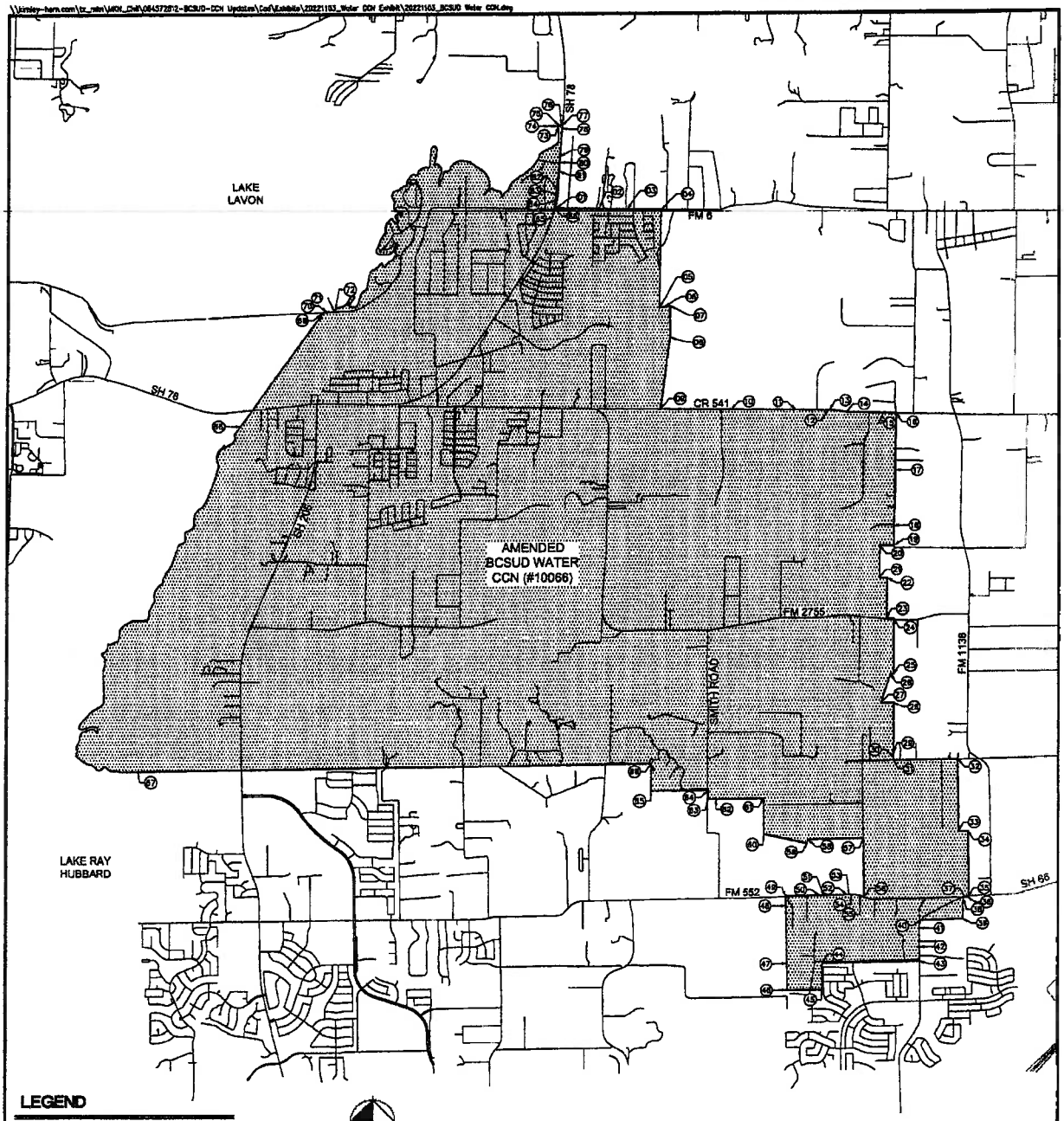
# Bear Creek SUD

having obtained certification to provide water or sewer utility service for the convenience and necessity of the public, and it having been determined by this Commission that the public convenience and necessity would in fact be advanced by the provision of such service, Bear Creek SUD is entitled to this

## Certificate of Convenience and Necessity No. 10066

to provide continuous and adequate water utility service to that service area or those service areas in Collin and Rockwall counties as by final Order or Orders duly entered by this Commission, which Order or Orders resulting from Docket No. 53062 are on file at the Commission offices in Austin, Texas; and are matters of official record available for public inspection; and be it known further that these presents do evidence the authority and the duty of the Bear Creek SUD to provide such utility service in accordance with the laws of this State and Rules of this Commission, subject only to any power and responsibility of this Commission to revoke or amend this Certificate in whole or in part upon a subsequent showing that the public convenience and necessity would be better served thereby.

KHA No. 064572812




| POINT # | NORTHING | EASTING |
|---|---|---|
| 01 | 7068653.04 | 2804363.13 |
| 02 | 7066827.29 | 2808083.34 |
| 03 | 7065810.01 | 2807238.13 |
| 04 | 7065781.94 | 2806571.51 |
| 05 | 7064676.00 | 2806518.34 |
| 06 | 7064915.67 | 2805726.55 |
| 07 | 7064851.30 | 2805694.38 |
| 08 | 7063582.66 | 2805852.90 |
| 09 | 7060779.09 | 2805586.04 |
| 10 | 7060752.65 | 2811405.16 |
| 11 | 7060726.85 | 2814013.33 |
| 12 | 7060718.64 | 2815352.03 |
| 13 | 7060714.96 | 2815366.36 |
| 14 | 7060627.60 | 2816078.21 |
| 15 | 7060588.78 | 2817549.90 |

| POINT # | NORTHING | EASTING |
|---|---|---|
| 16 | 7060578.62 | 2818055.46 |
| 17 | 7058287.55 | 2818010.83 |
| 18 | 7056082.05 | 2817983.27 |
| 19 | 7055291.78 | 2817974.23 |
| 20 | 7055291.78 | 2817425.13 |
| 21 | 7053982.72 | 2817408.62 |
| 22 | 7053979.01 | 2817704.93 |
| 23 | 7052384.88 | 2817702.28 |
| 24 | 7052357.44 | 2817980.95 |
| 25 | 7050178.72 | 2817985.94 |
| 26 | 7050176.67 | 2817886.43 |
| 27 | 7049046.10 | 2817903.62 |
| 28 | 7049049.04 | 2817988.52 |
| 29 | 7047041.27 | 2817993.12 |
| 30 | 7046881.10 | 2817983.53 |

| POINT # | NORTHING | EASTING |
|---|---|---|
| 31 | 7046753.59 | 2817993.78 |
| 32 | 7046787.20 | 2820568.06 |
| 33 | 7043811.02 | 2820801.42 |
| 34 | 7043819.32 | 2820975.22 |
| 35 | 7041288.47 | 2821027.14 |
| 36 | 7041284.55 | 2820985.65 |
| 37 | 7041270.02 | 2820675.60 |
| 38 | 7041249.20 | 2820790.94 |
| 39 | 7040413.83 | 2820797.11 |
| 40 | 7040386.84 | 2819142.05 |
| 41 | 7040027.23 | 2819056.03 |
| 42 | 7039269.78 | 2819067.63 |
| 43 | 7038882.38 | 2819075.42 |
| 44 | 7038624.65 | 2815185.08 |
| 45 | 7037548.10 | 2815192.58 |

| POINT # | NORTHING | EASTING |
|---|---|---|
| 46 | 7037537.69 | 2813607.12 |
| 47 | 7038603.89 | 2813785.84 |
| 48 | 7040864.65 | 2813730.00 |
| 49 | 7041324.92 | 2813721.65 |
| 50 | 7041356.36 | 2815077.08 |
| 51 | 7041359.83 | 2815225.59 |
| 52 | 7041382.03 | 2816182.87 |
| 53 | 7041384.09 | 2816288.57 |
| 54 | 7041388.33 | 2816366.60 |
| 55 | 7041338.05 | 2816592.00 |
| 56 | 7041281.34 | 2816870.69 |
| 57 | 7043639.14 | 2816832.30 |
| 58 | 7043891.82 | 2814561.63 |
| 59 | 7043443.24 | 2814557.71 |
| 60 | 7043608.02 | 2812515.36 |

| POINT # | NORTHING | EASTING |
|---|---|---|
| 61 | 7045251.02 | 2812801.14 |
| 62 | 7045226.21 | 2810858.01 |
| 63 | 7045222.25 | 2810546.99 |
| 64 | 7045378.65 | 2810531.66 |
| 65 | 7045590.16 | 2806276.00 |
| 66 | 7046640.41 | 2806296.03 |
| 67 | 7046313.09 | 2587790.53 |
| 68 | 7060099.48 | 2581799.91 |
| 69 | 7064790.73 | 2585096.15 |
| 70 | 7064749.22 | 2585160.13 |
| 71 | 7064764.34 | 2585480.28 |
| 72 | 7064844.96 | 2585510.00 |
| 73 | 7072172.82 | 2804452.13 |
| 74 | 7072190.93 | 2804469.58 |
| 75 | 7072199.72 | 2804502.22 |

| POINT # | NORTHING | EASTING |
|---|---|---|
| 76 | 7072226.78 | 2804588.14 |
| 77 | 7072230.15 | 2804624.21 |
| 78 | 7072074.92 | 2804617.05 |
| 79 | 7070927.31 | 2804542.11 |
| 80 | 7070688.50 | 2804527.19 |
| 81 | 7070327.03 | 2804502.98 |
| 82 | 7069867.86 | 2804485.97 |
| 83 | 7069361.60 | 2804436.63 |
| 84 | 7068178.17 | 2804408.33 |
| 85 | 7068981.80 | 2804374.11 |
| 86 | 7068853.90 | 2804352.10 |

| | |
|---|---|
| DATE: | NOVEMBER 2022 |
| DESIGN: | EML |
| DRAWN: | EML |
| CHECKED: | JEH |
| KHA NO.: | 064572812 |

**BEAR CREEK SUD WATER CCN**

**WATER CCN EXHIBIT CCN #10066**

11/03/2022

Kimley»Horn

| No. | Revision | By | Date |
|---|---|---|---|

# Appendix D

# NTMWD Member City and Customer Annual Water Conservation Report

*The following appendix contains a blank copy of the NTMWD Member City and Customer Annual Water Conservation Report. This is updated and reviewed by NTMWD on an annual basis.*

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

## Contact Information

| | |
|---|---|
| **TWDB Survey Number:** | 487400 |
| **Name of System:** | Bear Creek SUD |
| **PWS ID:** | TX0430037 |
| **Contact Name:** | Morgan NeSmith |
| **Title:** | Office Manager |
| **Email Address:** | mnesmith@bearcreeksud.com |
| **Telephone Number:** | (972) 843-2101 |
| **Year Covered:** | 2023 |
| **Days in Year** | 365 |

## Water System Information

| | | | |
|---|---|---|---|
| Estimated Water Service Area Population: | 12,504 | ***Source:*** | *# of Customers*3* |
| # of Backflow Preventers: | 2,870 | | |

### *Peak Day Usage*

| Delivery Point | **Total System** | **1** | **2** |
|---|---|---|---|
| Peak Day (MG) | 3.55 | 0.64 | 3.55 |
| Average Day (MG) | 1.50 | 0.20 | 1.30 |
| Peak/Average Day Ratio | 2.37 | 3.23 | 2.73 |
| Firm Pumping Capacity (MGD) | 9.21 | 0.50 | 6.79 |
| Storage Volume (MG) | 3.92 | 0.52 | 3.40 |

### *Authorized Consumption and Water Loss*

| | | | |
|---|---|---|---|
| Total System Input Volume: | 548 | | |
| Billed Metered: | 437 | | |
| Billed Unmetered (MG): | | ***Description:*** | *Estimated water that has been sold but not metered; for example, dust-control* |
| Unbilled Metered (MG): | 42 | ***Description:*** | *Water that is metered but not billed, such as city/government offices, city park* |
| Unbilled Unmetered (MG): | 28 | ***Description:*** | *Estimated water not billed or metered, such as most line flushing* |
| Total Authorized Consumption: | 506 | | |
| Water Loss (MG): | 41 | | |
| Water Loss (gpcd): | 9 | | |
| Water Loss (percent): | 8% | | |

### *Per Capita Use (Gallons per person per day)*

| | |
|---|---|
| Total Use (MG) | 548 |
| Residential Use (MG) | 336 |
| Municipal Use (MG) | 536 |
| ICI Use (MG) | 74 |
| Total Per Capita Use (gpcd) | 120 |
| Residential Per Capita Use (gpcd) | 74 |
| Municipal Per Capita Use (gpcd) | 117 |
| ICI Per Capita Use (gpcd) | 16 |

## Water Conservation Plan 5- and 10-Year Goals for Water Savings

| | 5-Year Goal | 10-Year Goal | |
|---|---|---|---|
| **Total GPCD** | 95 | 92 | *Total GPCD = (Total Gallons in System / Permanent Population) / 365* |
| **Residential GPCD** | 68 | 65 | *Residential GPCD = (Gallons Used for Residential Use / Residential Population) / 365* |
| **Water Loss (GPCD)** | 3 | 2 | *Water Loss GPCD = (Total Water Loss / Permanent Population) / 365* |
| **Water Loss (Percentage)** | 3% | 2% | *Water Loss Percentage = (Total Water Loss / Total Gallons in System ) x 100; or (Water Loss GPCD / Total GPCD) x 100* |

**Retail Water Metered by Month (in Million Gallons):**

| Month | Sales by Category | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Residential Single Family | Residential Multi Family | Public/ Institutional | Commercial | Industrial | Agriculture | Metered Irrigation | Wholesale | Direct Reuse |
| January | 16.91 | - | 0.11 | 1.29 | 0.56 | - | 0.63 | - | - |
| February | 14.74 | - | 0.18 | 1.44 | 0.38 | - | 0.53 | - | - |
| March | 14.49 | - | 0.14 | 2.95 | 0.61 | - | 0.47 | - | - |
| April | 22.06 | - | 0.47 | 4.42 | 0.83 | - | 1.26 | - | - |
| May | 22.56 | - | 0.32 | 3.60 | 0.72 | - | 1.69 | - | - |
| June | 29.46 | - | 0.25 | 3.82 | 1.03 | - | 2.53 | - | - |
| July | 34.87 | - | 0.38 | 4.37 | 1.31 | - | 3.52 | - | - |
| August | 47.38 | - | 0.31 | 8.77 | 1.57 | - | 3.90 | - | - |
| September | 52.31 | - | 0.43 | 16.15 | 1.76 | - | 5.37 | - | - |
| October | 33.76 | - | 0.51 | 6.39 | 1.20 | - | 3.22 | - | - |
| November | 24.58 | - | 0.32 | 3.13 | 0.95 | - | 2.46 | - | - |
| December | 22.56 | - | 0.19 | 2.01 | 1.05 | - | 1.79 | - | - |
| **TOTAL** | 335.67 | - | 3.61 | 58.35 | 11.97 | - | 27.37 | - | - |
| ***# of Connections (or Units)*** | *4,017.00* | - | *20.00* | *96.00* | *7.00* | - | *59.00* | | - |

**Recorded Supplies from Sources by Month (in Million Gallons):**

| Month | Deliveries from NTMWD | Other Sources | | | | | | | Total Supplies |
|---|---|---|---|---|---|---|---|---|---|
| January | 29.49 | | | | | | | | 29.49 |
| February | 20.09 | | | | | | | | 20.09 |
| March | 29.95 | | | | | | | | 29.95 |
| April | 35.04 | | | | | | | | 35.04 |
| May | 42.16 | | | | | | | | 42.16 |
| June | 57.88 | | | | | | | | 57.88 |
| July | 54.75 | | | | | | | | 54.75 |
| August | 75.96 | | | | | | | | 75.96 |
| September | 81.82 | | | | | | | | 81.82 |
| October | 48.76 | | | | | | | | 48.76 |
| November | 35.97 | | | | | | | | 35.97 |
| December | 35.83 | | | | | | | | 35.83 |
| **TOTAL** | **547.71** | - | - | - | - | - | - | - | **547.71** |

**Recorded Supplies by Delivery Point from NTMWD by Month (in Million Gallons):**

| Month | NTMWD Delivery Point | | | | | | | | Total System |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | | | | | | | |
| January | 3.18 | 26.31 | | | | | | | 29.49 |
| February | 2.09 | 18.00 | | | | | | | 20.09 |
| March | 2.76 | 27.20 | | | | | | | 29.95 |
| April | 2.93 | 32.11 | | | | | | | 35.04 |
| May | 3.74 | 38.42 | | | | | | | 42.16 |
| June | 8.85 | 49.02 | | | | | | | 57.88 |
| July | 8.26 | 46.50 | | | | | | | 54.75 |
| August | 4.51 | 71.45 | | | | | | | 75.96 |
| September | 14.49 | 67.34 | | | | | | | 81.82 |
| October | 7.83 | 40.94 | | | | | | | 48.76 |
| November | 6.42 | 29.55 | | | | | | | 35.97 |
| December | 7.32 | 28.51 | | | | | | | 35.83 |
| **TOTAL** | **72.36** | **475.34** | - | - | - | - | - | - | **547.71** |

**Wholesale Water Sales to Other Water Systems (in Million Gallons):**

| | Sale 1 | Sale 2 | Sale 3 | Sale 4 | Sale 5 | Sale 6 | Sale 7 | Sale 8 | Total Wholesale Sales |
|---|---|---|---|---|---|---|---|---|---|
| *Buyer Name* | | | | | | | | | |
| *Type of Water* | | | | | | | | | |
| *Name of Source* | | | | | | | | | |
| *Estimated Water Service Area Population* | | | | | | | | | |
| January | - | - | - | - | - | - | - | - | - |
| February | - | - | - | - | - | - | - | - | - |
| March | - | - | - | - | - | - | - | - | - |
| April | - | - | - | - | - | - | - | - | - |
| May | - | - | - | - | - | - | - | - | - |
| June | - | - | - | - | - | - | - | - | - |
| July | - | - | - | - | - | - | - | - | - |
| August | - | - | - | - | - | - | - | - | - |
| September | - | - | - | - | - | - | - | - | - |
| October | - | - | - | - | - | - | - | - | - |
| November | - | - | - | - | - | - | - | - | - |
| December | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - |

**Water Sales to Industrial Production Facilities (in Million Gallons):**

| | Sale 1 | Sale 2 | Sale 3 | Sale 4 | Sale 5 | Sale 6 | Sale 7 | Sale 8 | Total Industrial Production Facilities Sales |
|---|---|---|---|---|---|---|---|---|---|
| *Buyer Name* | | | | | | | | | |
| *Type of Water* | | | | | | | | | |
| *Name of Source* | | | | | | | | | |
| January | | | | | | | | | - |
| February | | | | | | | | | - |
| March | | | | | | | | | - |
| April | | | | | | | | | - |
| May | | | | | | | | | - |
| June | | | | | | | | | - |
| July | | | | | | | | | - |
| August | | | | | | | | | - |
| September | | | | | | | | | - |
| October | | | | | | | | | - |
| November | | | | | | | | | - |
| December | | | | | | | | | - |
| TOTAL | - | - | - | - | - | - | - | - | - |

## Additional Information

**Describe Any ICIM (Industrial, Commercial, Institutional, & Multi-Family) Practices being Implemented to Improve Water Efficiency**

**Describe any Unusual Circumstances**

**Provide an Update on Progress in Implementation of Conservation Plan**

Bear Creek SUD adopted a Water Conservation Plan in 2018 as part of the requirement for the approval of a loan from Texas Water Development Board. The conservation plan follows the requirements from TWDB and similar to NTMWD model plan for conservation. Bear Creek SUD follows the conservation plan by posting notifications on the building, bills, and on the website. Bear Creek SUD provides pamplets from TWDB to all customers on Water IQ. There will be a new Water Conservation Plan adopted in 2024.

**What Conservation Measures are Planned for Next Year?**

Continue to educate customers with Water Conservation Plan.

**Do City Limits Differ Significantly from Water Service Area? If so, explain.**

Yes, Bear Creek SUD provides water service to customers in both Rockwall and Collin County within the city limits and ETJ of 4 different cities.

**Is there any Assistance Requested from the North Texas Municipal Water District?**

**Other?**

**Historical Water Use Data for Bear Creek SUD**

| Year | Days in Year | Connections | Estimated Population | Deliveries from NTMWD (MG) | Other Supplies (MG) | Metered Sales by Category (Million Gallons) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Residential Single Family | Residential Multi-Family | Public/ Institutional | Commercial | Industrial | Agriculture | Metered Irrigation | Wholesale | Direct Reuse | Total |
| 2007 | 365 | 1,501 | 4,479 | 142.83 | 0.00 | 114.14 | 0.00 | 1.51 | 12.51 | 0.80 | 0.00 | 0.00 | 0.00 | 0.00 | 128.97 |
| 2008 | 366 | 1,561 | 4,683 | 176.94 | 0.00 | 141.23 | 0.00 | 8.45 | 18.63 | 0.97 | 0.00 | 0.00 | 0.00 | 0.00 | 169.27 |
| 2009 | 365 | 1,636 | 4,744 | 175.80 | 0.00 | 129.67 | 0.00 | 5.67 | 16.56 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 152.00 |
| 2010 | 365 | 1,738 | 5,214 | 191.99 | 0.00 | 156.79 | 0.00 | 7.01 | 15.88 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 179.69 |
| 2011 | 365 | 1,795 | 5,385 | 231.75 | 0.00 | 188.55 | 0.00 | 7.16 | 21.93 | 0.48 | 0.00 | 0.00 | 0.00 | 0.00 | 218.12 |
| 2012 | 366 | | | | | | | | | | | | | | |
| 2013 | 365 | | | | | | | | | | | | | | |
| 2014 | 365 | | | | | | | | | | | | | | |
| 2015 | 365 | 2,096 | 6,288 | 213.88 | 0.00 | 174.11 | 0.00 | 2.28 | 22.27 | 1.40 | 0.00 | 0.00 | 0.00 | 0.00 | 200.06 |
| 2016 | 366 | 2,145 | 6,435 | 225.67 | 0.00 | 181.59 | 0.00 | 1.69 | 8.78 | 1.39 | 0.00 | 14.83 | 0.00 | 0.00 | 208.29 |
| 2017 | 365 | 2,253 | 6,759 | 214.35 | 0.00 | 156.32 | 0.00 | 2.95 | 7.45 | 2.21 | 0.00 | 12.65 | 0.00 | 0.00 | 181.58 |
| 2018 | 365 | 2,362 | 7,086 | 259.37 | 0.00 | 172.75 | 0.00 | 3.84 | 10.47 | 2.07 | 0.00 | 10.17 | 0.00 | 0.00 | 199.29 |
| 2019 | 365 | 2,367 | 7,101 | 239.32 | 0.00 | 171.78 | 0.00 | 3.93 | 14.05 | 3.06 | 0.00 | 11.23 | 0.00 | 0.00 | 204.05 |
| 2020 | 366 | 2,666 | 7,998 | 270.91 | 0.00 | 191.20 | 0.00 | 3.82 | 4.81 | 6.57 | 0.00 | 13.61 | 0.00 | 0.00 | 220.01 |
| 2021 | 365 | 3,252 | 9,756 | 317.71 | 0.00 | 213.42 | 0.00 | 3.29 | 13.47 | 8.21 | 0.00 | 17.89 | 0.00 | 0.00 | 256.28 |
| 2022 | 365 | 3,631 | 10,893 | 420.85 | 0.00 | 285.48 | 0.00 | 3.75 | 34.69 | 10.83 | 0.00 | 25.95 | 0.00 | 0.00 | 360.70 |
| 2023 | 365 | 4,199 | 12,504 | 547.71 | 0.00 | 335.67 | 0.00 | 3.61 | 58.35 | 11.97 | 0.00 | 27.37 | 0.00 | 0.00 | 436.96 |

Note: After 2020, Residential sales were divided into single and multi-family classifications. Historical information from the TWDB Water Use Surveys were incorporated where available. The category of 'Other' was removed and replaced with 'Reuse'. Historical volumes for 'Other' were redistributed into the appropriate category when appropriate. These changes were made to be consistent with TWDB terminology.

**Historical Per Capita Use Data and Water Loss for Bear Creek SUD**

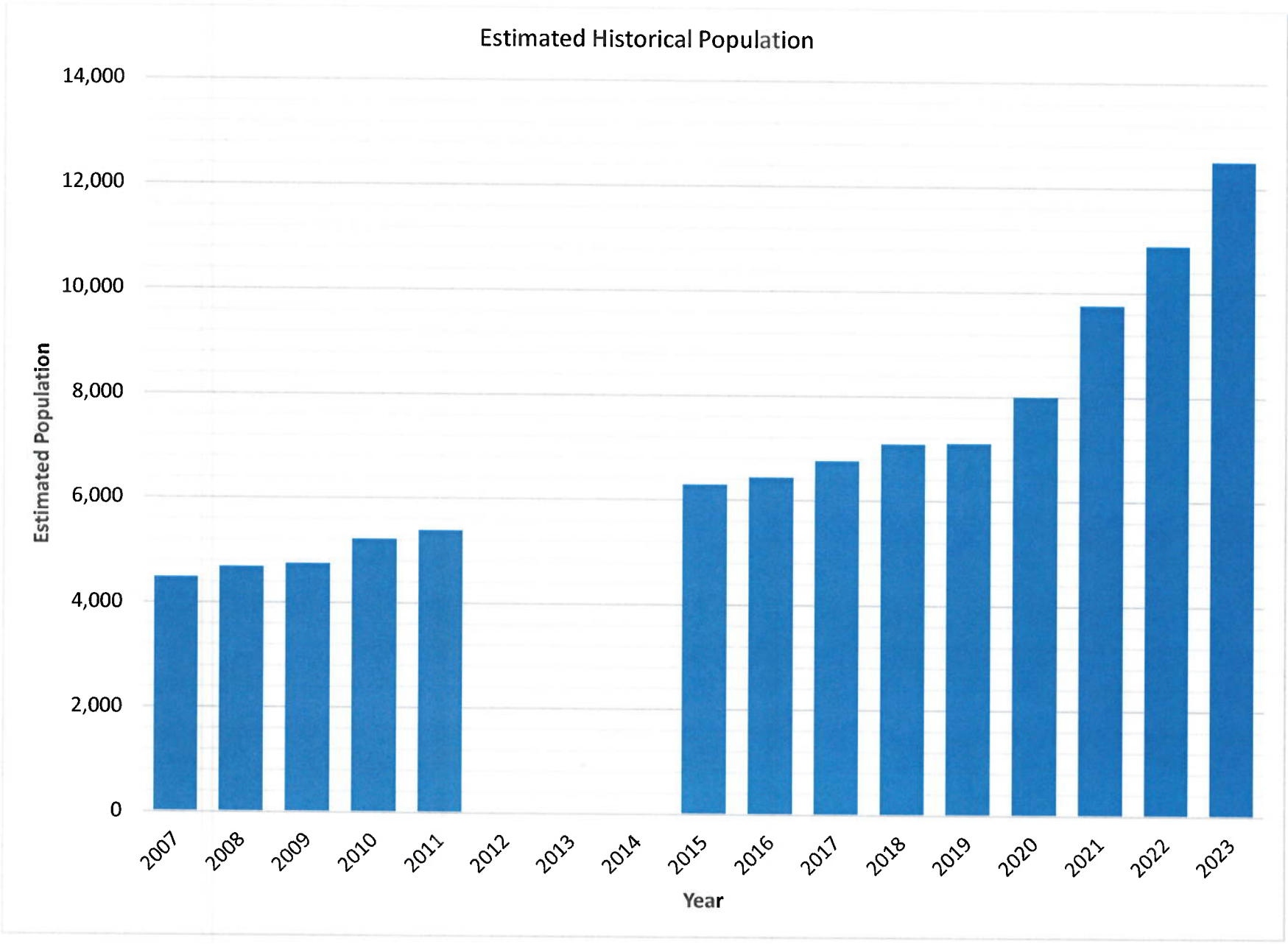
| Year | Estimated Population | Total Use | | | Residential Use | | | Municipal Per Capita Use (gpcd) | ICIM Per Capita Use (gpcd) | Authorized Consumption | | | | Water Loss | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Per Capita Use (gpcd) | Total 5-Year Per Capita Goal | Total 10-Year Per Capita Goal | Residential Per Capita Use (gpcd) | Residential 5-Year Per Capita Goal | Residential 10-Year Per Capita Goal | | | Billed Metered (MG) | Billed Unmetered (MG) | Unbilled Metered (MG) | Unbilled Unmetered (MG) | Water Loss (MG) | Water Loss (gpcd) | Water Loss 5-Year Per Capita Goal | Water Loss 10-Year Per Capita Goal | Water Loss (percentage) | Water Loss (percentage) 5-Year Goal | Water Loss (percentage) 10-Year Goal |
| 2007 | 4,479 | 87 | | | 70 | | | 87 | 9 | 128.97 | 0.00 | 0.00 | 1.80 | 12 | 7 | | | 8% | | |
| 2008 | 4,683 | 103 | | | 82 | | | 103 | 16 | 169.27 | 0.00 | 0.00 | 1.58 | 6 | 4 | | | 3% | | |
| 2009 | 4,744 | 102 | | | 75 | | | 101 | 13 | 152.00 | 0.00 | 0.04 | 1.69 | 22 | 13 | | | 13% | | |
| 2010 | 5,214 | 101 | | | 82 | | | 101 | 12 | 179.69 | 0.00 | 0.00 | 3.11 | 9 | 5 | | | 5% | | |
| 2011 | 5,385 | 118 | | | 96 | | | 118 | 15 | 218.12 | 0.00 | 0.04 | 5.96 | 8 | 4 | | | 3% | | |
| 2012 | | | | | | | | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | | | | | | | | |
| 2015 | 6,288 | 93 | | | 76 | | | 93 | 11 | 200.06 | 0.00 | 0.01 | 19.68 | -6 | -3 | | | -3% | | |
| 2016 | 6,435 | 96 | | | 77 | | | 95 | 5 | 208.29 | 0.00 | 0.04 | 25.29 | -8 | -3 | | | -4% | | |
| 2017 | 6,759 | 87 | | | 63 | | | 86 | 5 | 181.58 | 0.00 | 38.51 | 0.35 | -6 | -2 | | | -3% | | |
| 2018 | 7,086 | 100 | 95 | 92 | 67 | 72 | 70 | 99 | 6 | 199.29 | 0.00 | 62.22 | 1.84 | -4 | -2 | 8 | 8 | -2% | 8% | 9% |
| 2019 | 7,101 | 92 | 95 | 92 | 66 | 72 | 70 | 91 | 8 | 204.05 | 0.00 | 36.56 | 8.29 | -10 | -4 | 8 | 8 | -4% | 8% | 9% |
| 2020 | 7,998 | 93 | 95 | 92 | 65 | 72 | 70 | 90 | 5 | 220.01 | 0.00 | 45.06 | 13.35 | -7 | -3 | 8 | 8 | -3% | 8% | 9% |
| 2021 | 9,756 | 89 | 95 | 92 | 60 | 72 | 70 | 87 | 7 | 256.28 | 0.00 | 70.41 | 5.83 | -15 | -4 | 8 | 8 | -5% | 8% | 9% |
| 2022 | 10,893 | 106 | 93 | 90 | 72 | 67 | 64 | 103 | 12 | 360.70 | 0.00 | 61.82 | 16.86 | -19 | -5 | 2 | 2 | -4% | 2% | 2% |
| 2023 | 12,504 | 120 | 95 | 92 | 74 | 68 | 65 | 117 | 16.2 | 436.96 | 0.00 | 41.95 | 27.58 | 41 | 9 | 3 | 2 | 8% | 3% | 2% |

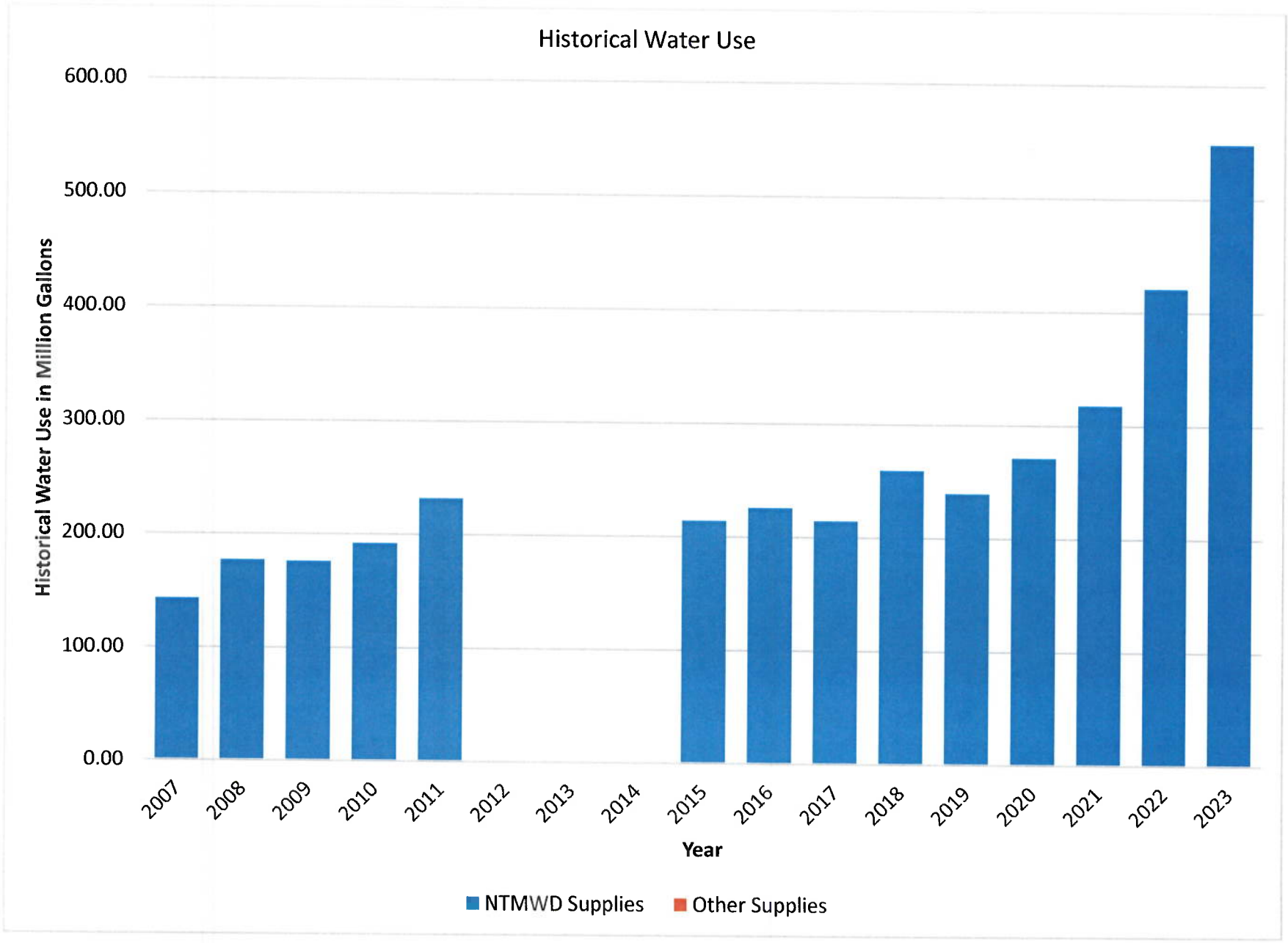
Note:

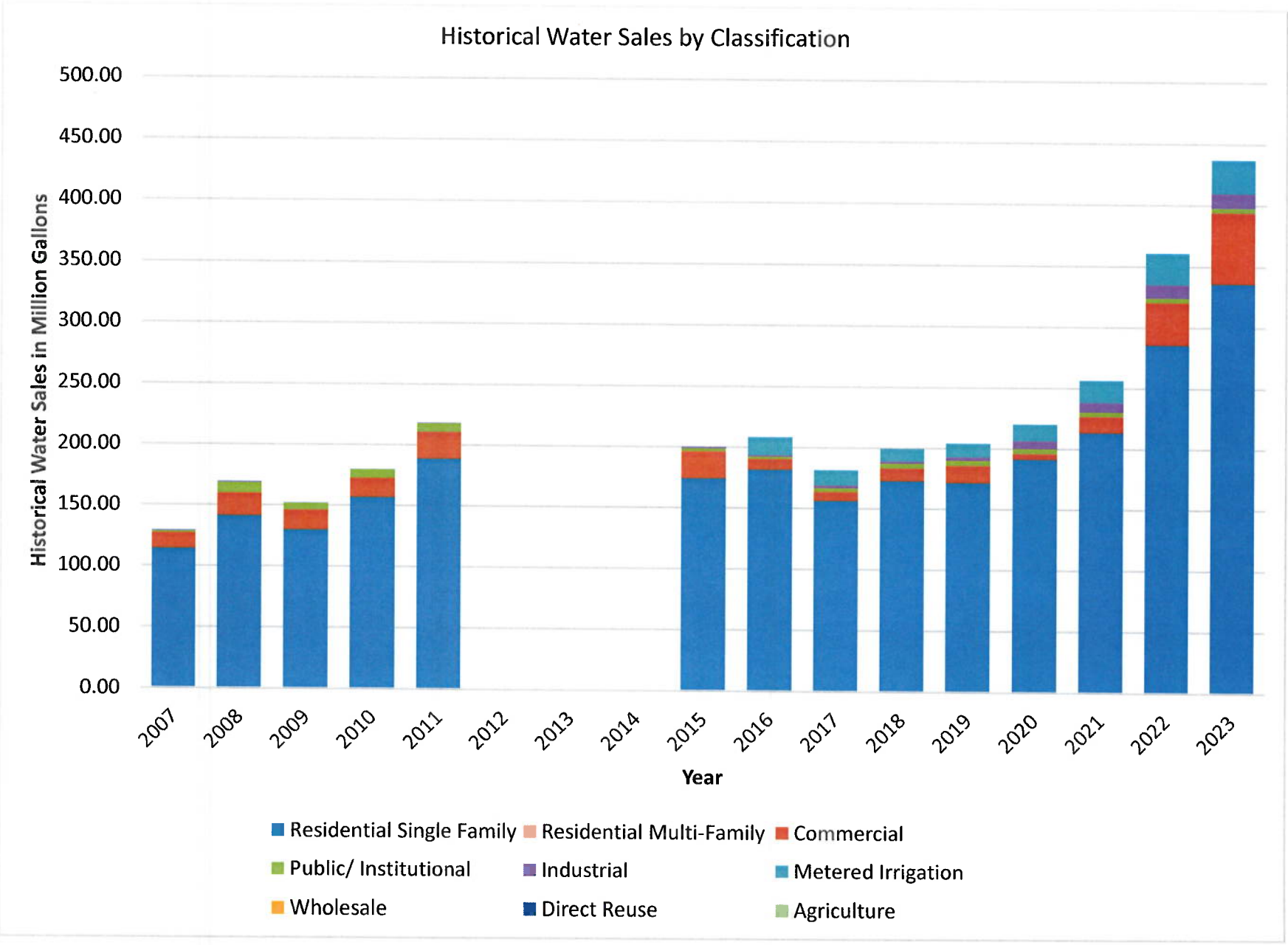
In-city municipal use = total water supplied less sales to industry, wholesale sales and other sales.

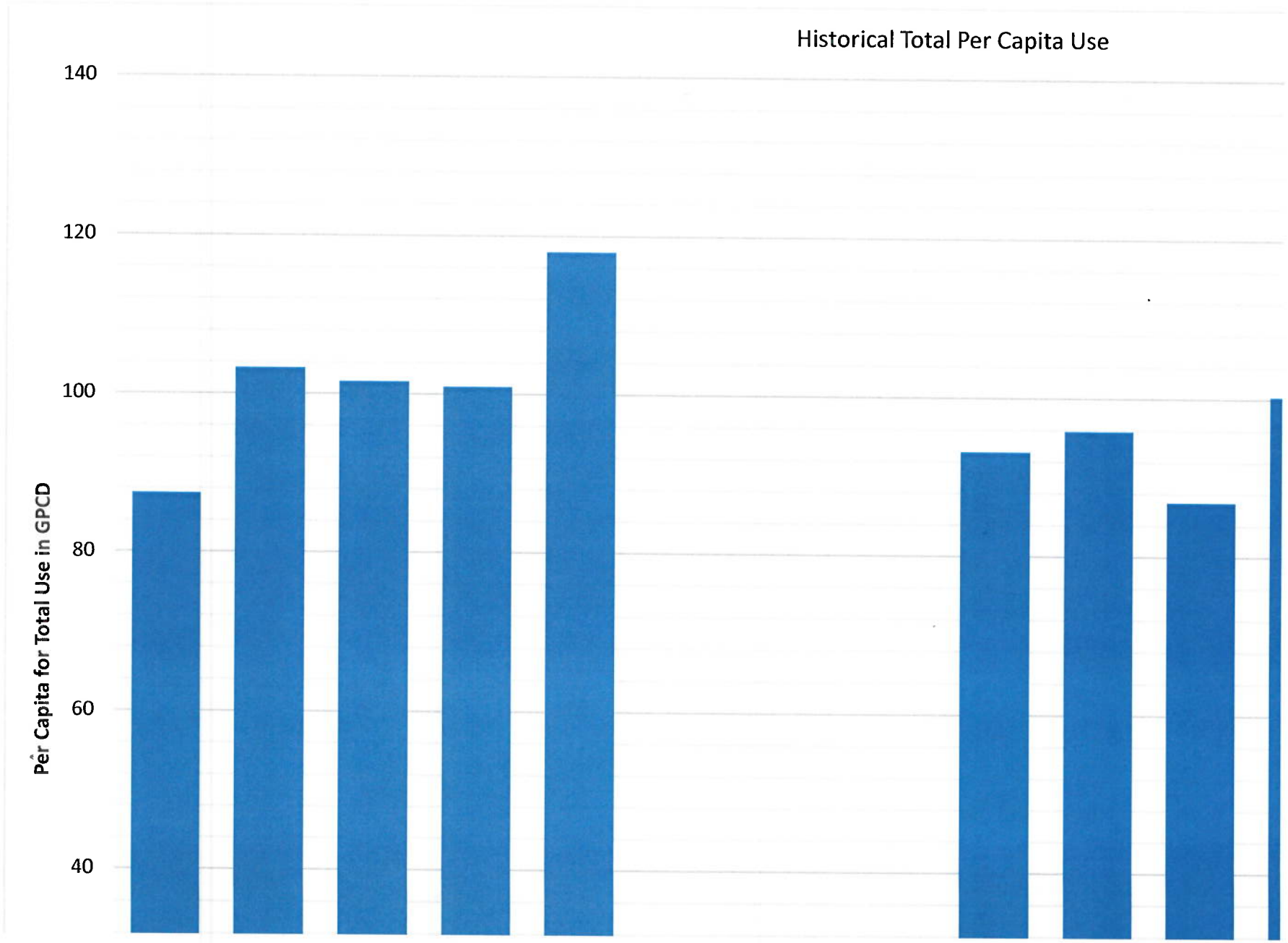
After 2017 - Unaccounted Water has been removed and replaced with Water Losses (per TWDB definition). This category is inclusive of real and apparent losses. Categories for authorized consumption were also added; Unbilled metered replaced estimated fire use, unbilled unmetered replaced estimated line flushing, and a new category for billed unmetered sales was added.

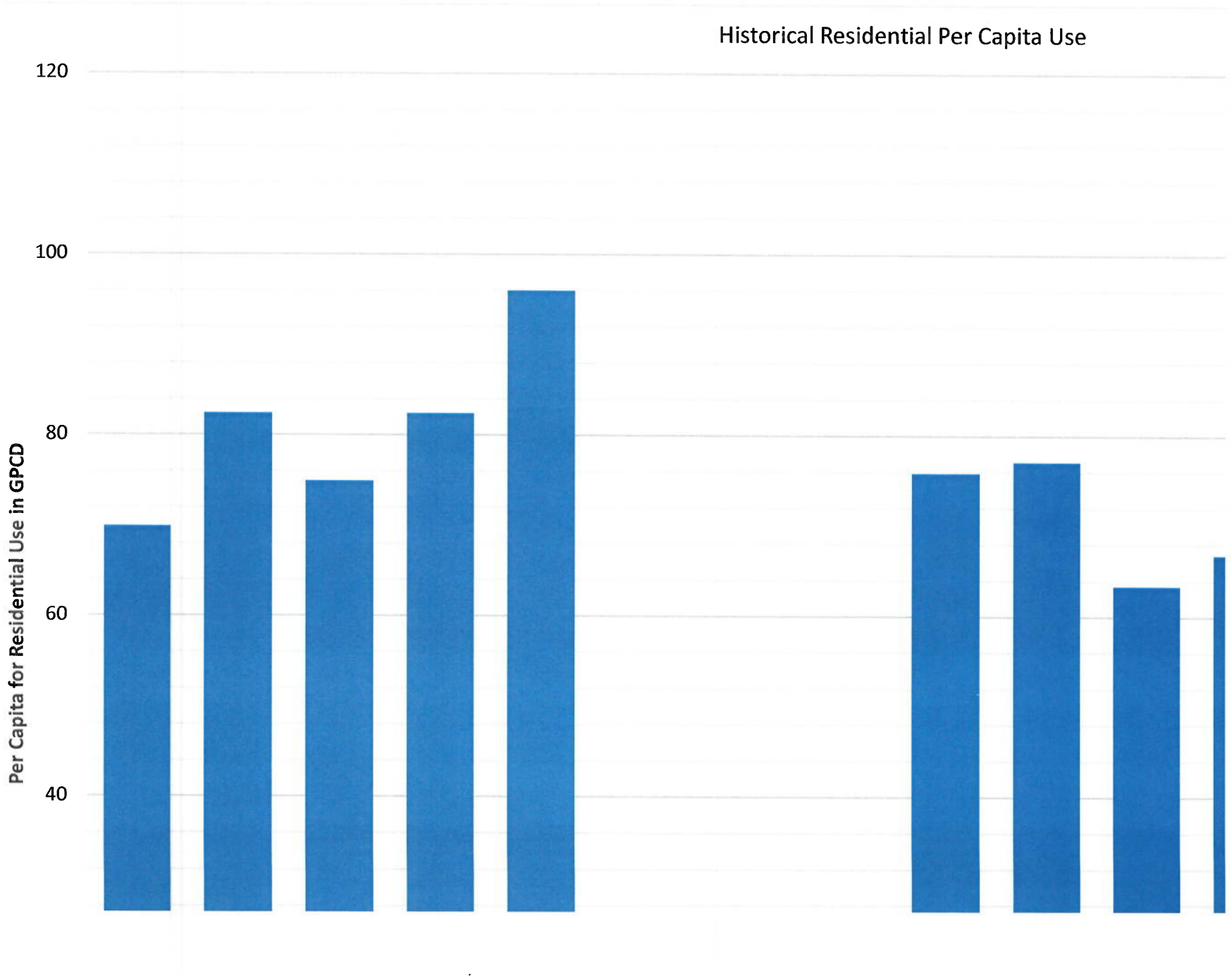
Water loss is negative due to a leak on the fill valve from NTMWD to storage tank. BCSUD notified NTMWD in 2018 and is expected to be repaired Fall 2022.

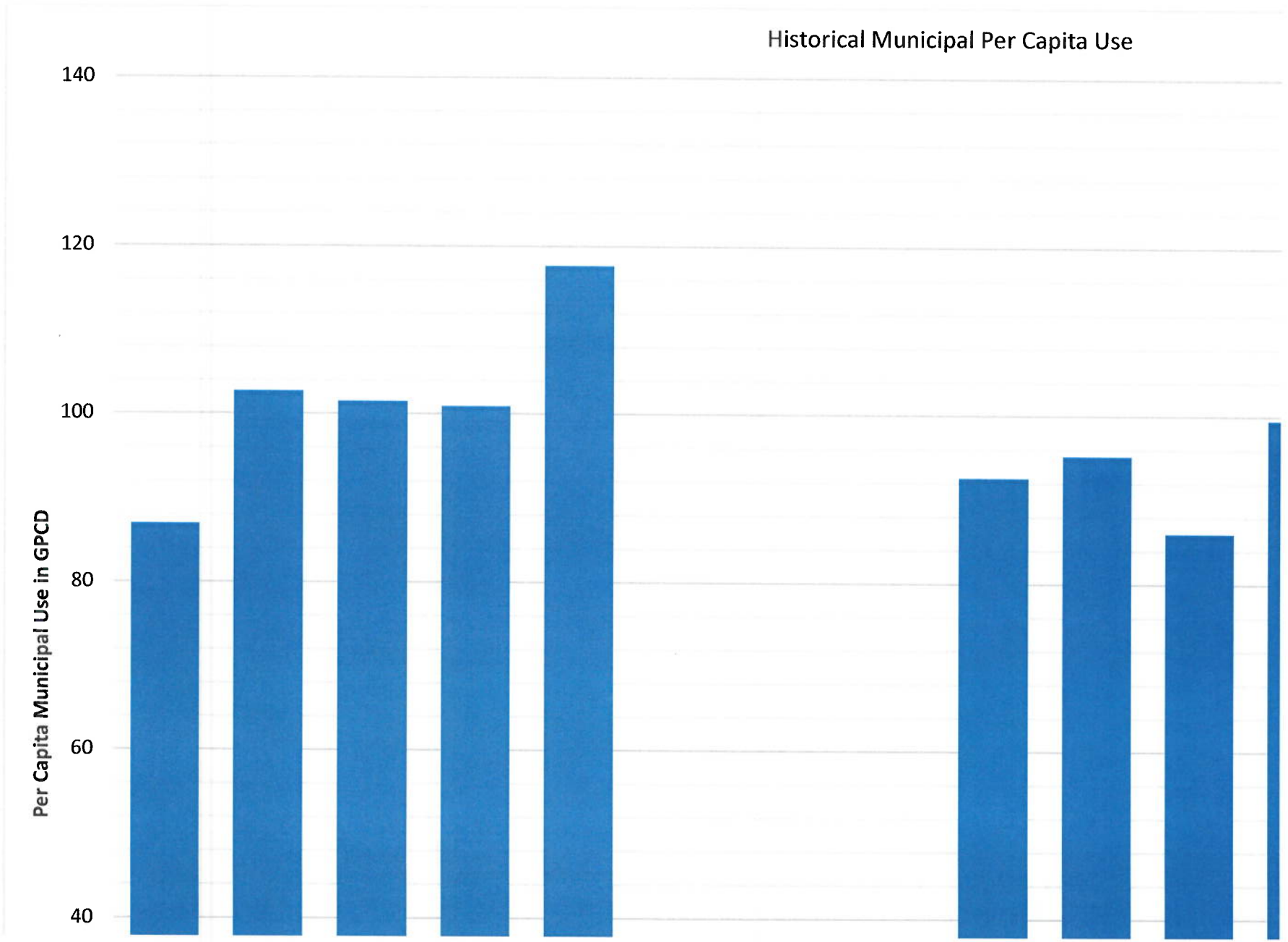

Estimated Historical Population
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Estimated Population
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Year

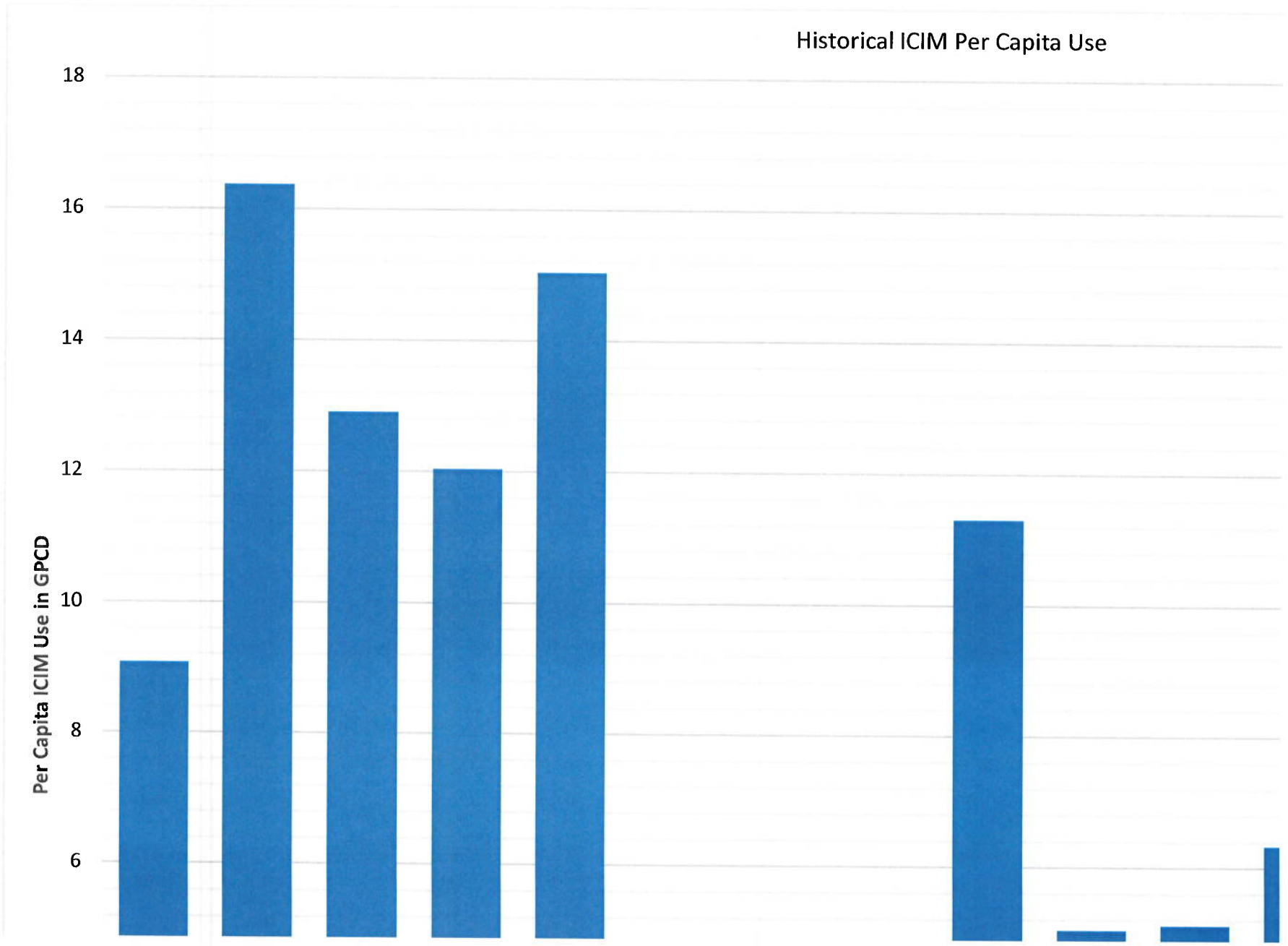

Historical Water Use
600.00
500.00
400.00
300.00
200.00
100.00
0.00
Historical Water Use in Million Gallons
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Year
NTMWD Supplies
Other Supplies

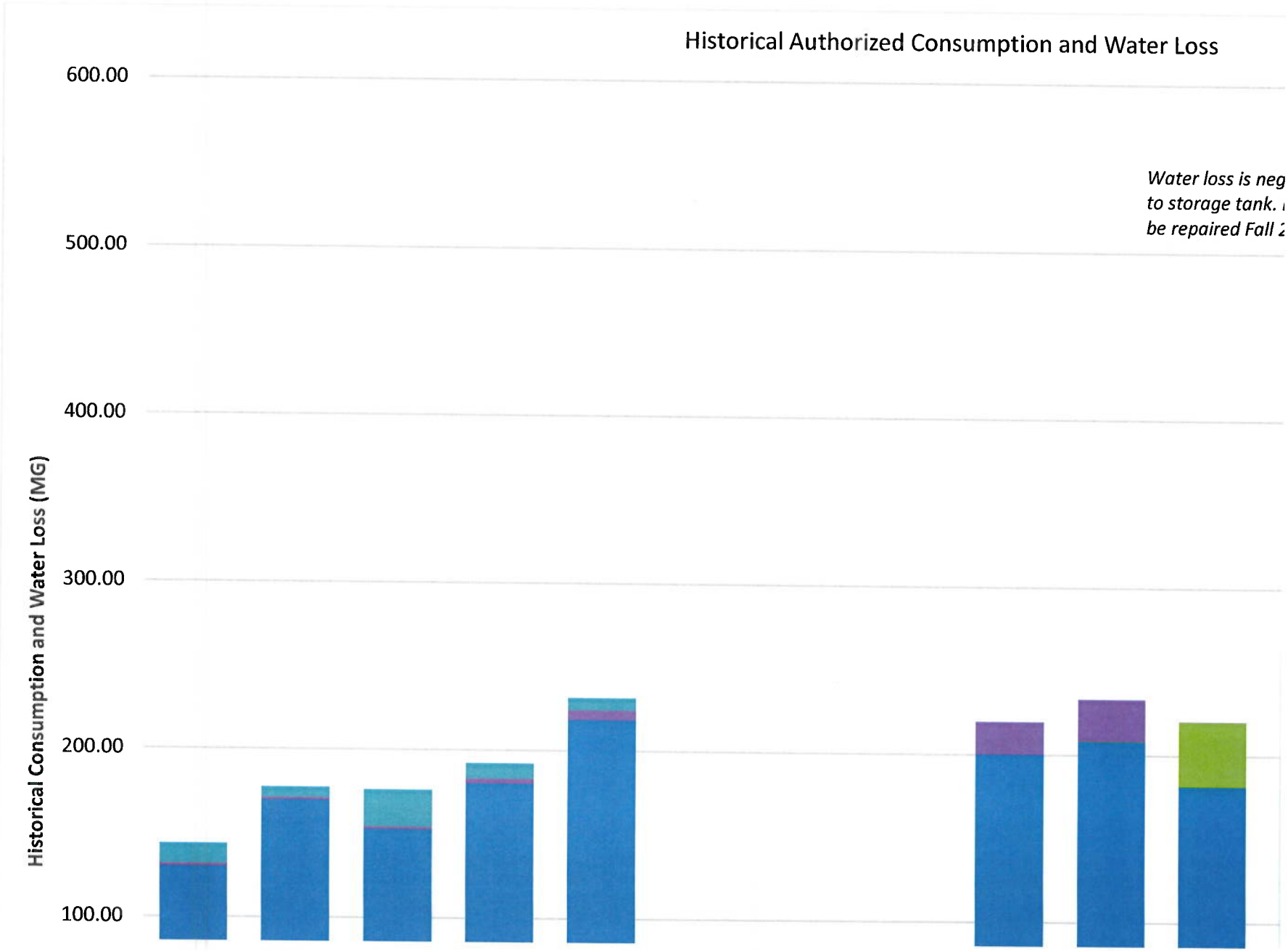

Historical Water Sales by Classification
Historical Water Sales in Million Gallons
500.00
450.00
400.00
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Year
Residential Single Family
Residential Multi-Family
Commercial
Public/ Institutional
Industrial
Metered Irrigation
Wholesale
Direct Reuse
Agriculture

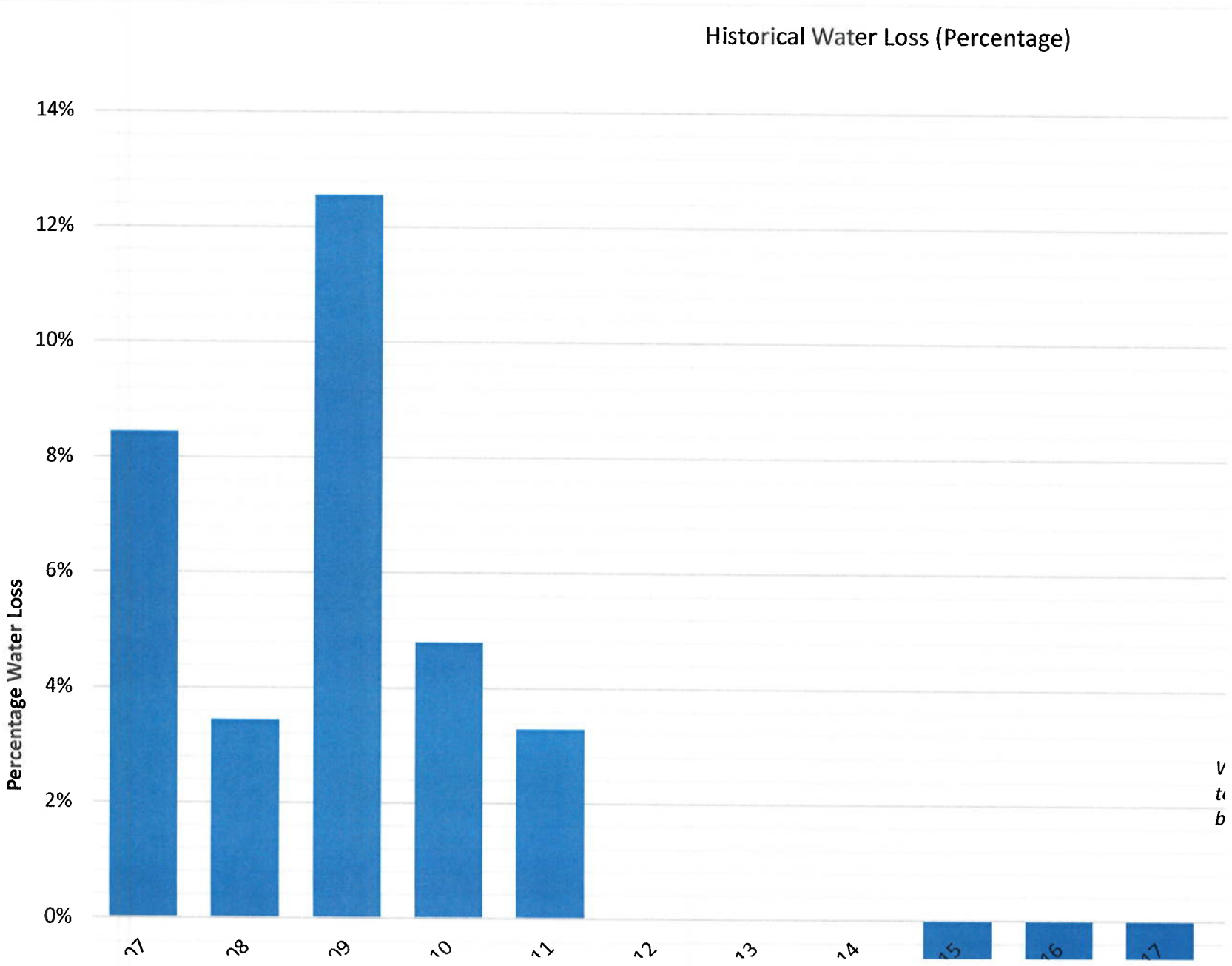

Historical Total Per Capita Use
140
120
100
80
60
40
Per Capita for Total Use in GPCD


Historical Residential Per Capita Use
120
100
80
60
40
Per Capita for Residential Use in GPCD


Historical Municipal Per Capita Use
Per Capita Municipal Use in GPCD
140
120
100
80
60
40


Historical ICIM Per Capita Use
Per Capita ICIM Use in GPCD
18
16
14
12
10
8
6


Historical Authorized Consumption and Water Loss
600.00
500.00
400.00
300.00
200.00
100.00
Historical Consumption and Water Loss (MG)
Water loss is neg
to storage tank.
be repaired Fall 2


Historical Water Loss (Percentage)
Percentage Water Loss
14%
12%
10%
8%
6%
4%
2%
0%
07
08
09
10
11
12
13
14
15
16
17

# Appendix E

# TCEQ Water Conservation Implementation Report

# Texas Commission on Environmental Quality

Water Availability Division
MC-160, P.O. Box 13087 Austin, Texas 78711-3087
Telephone (512) 239-4600, FAX (512) 239-2214

## WATER CONSERVATION IMPLEMENTATION REPORT FORM AND SUMMARY OF UPDATES/REVISIONS TO WATER CONSERVATION PLAN

(Texas Water Code §11.1271(b) and Title 30 Texas Administrative Code §288.30(1) to (4))

*Please note, this form replaces the following forms: TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers)*

**This Form is applicable to the following entities:**

1. **Water Right Holders of 1,000 acre-feet or more for municipal, industrial, and other non-irrigation uses.**
2. **Water Right Holders of 10,000 acre-feet or more for irrigation uses.**

The above noted entities are required by rule to submit updates to their water conservation plan(s) and water conservation implementation report(s) every five years beginning May 1, 2009. See 30 Texas Administrative Code (TAC) §288.30(1) to (4). Entities must also submit any revisions to their water conservation plan within 90 days of adoption when the plans are revised in between the five-year submittal deadlines. This form may be used for the five-year submittal or when revisions are made to the water conservation plans in the interim periods between five-year submittals. Please complete the form as directed below.

1. Water Right Holder Name: Bear Creek Special Utility District
2. Water Right Permit or Certificate Nos. Certificate No. 10066

3. Please Indicate by placing an 'X' next to all that Apply to your Entity:

Water Right Holder of 1,000 acre-feet or more for non-irrigation uses

X Municipal Water Use by Public Water Supplier

_____ Wholesale Public Water Supplier

X Industrial Use

_____ Mining Use

X Agriculture Non-Irrigation

Water Right Holder of 10,000 acre-feet or more for irrigation uses

_____ Individually-Operated Irrigation System

_____ Agricultural Water Suppliers Providing Water to More Than One User

***Water Conservation Implementation Reports/Annual Reports***

4. Water Conservation Annual Reports for the previous five years were submitted to the Texas Water Development Board (TWDB) for each of the uses indicated above as required by 30 TAC §288.30(10)(C)? Yes x No_____

**TCEQ no longer requires submittal of the information contained in the detailed implementation report previously required in Forms TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers). However, the Entity must be up-to-date on its Annual Report Submittals to the TWDB.**

***Water Conservation Plans***

5. For the five-year submittal (or for revisions between the five-year submittals), attach your updated or revised Water Conservation Plan for each of the uses indicated in Section 3, above. Every updated or revised water conservation plan submitted must contain each of the minimum requirements found in the TCEQ rules and must be duly adopted by the entity submitting the water conservation plan. Please include evidence that each water conservation plan submitted has been adopted.

   - Rules on minimum requirements for Water Conservation Plans can be found in 30 TAC Chapter 288. http://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288
   - Forms which include the minimum requirements and other useful information are also available to assist you. Visit the TCEQ webpage for Water Conservation Plans and Reports. https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/conserve.html

*Call **512-239-4600** or email to **wcp@tceq.texas.gov** for assistance with the requirements for your water conservation plan(s) and report(s).*

6. For each Water Conservation Plan submitted, list dates and descriptions of the conservation measures implemented, and the actual amount of water saved.

N/A

7. For each Water Conservation Plan submitted, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.

   Yes _____ No X_____

   If the targets were not met, please provide an explanation as to why any of the targets were not met, including any progress on that particular target.

Targets were not met because we are in high density development.

8. For each five-year submittal, does each water conservation plan submitted contain *updated* five and ten-year targets for water savings and water loss?
Yes X No

If yes, please identify where in the water conservation plan the updated targets are located (page, section).

Page 4. Section 3.01

9. In the box below (or in an attachment titled "Summary of Updates or Revisions to Water Conservation Plans), please identify any other revisions/updates made to each water conservation plan that is being updated or revised. Please specify the water conservation plan being updated and the location within the plan of the newly adopted updates or revisions.

N/A

10. *Form Completed by (Point of Contact):* Morgan NeSmith
*(If different than name listed above, owner and contact may be different individual(s)/entities)*

Contact Person Title/Position: Office Manager

Contact Address: P. O. Box 188 Lavon, TX 75166

Contact Phone Number: 972-843-2101 Contact Email Address: h20@bearcreeksud.com

Signature: Morgan NeSmith Date: 3/1/2024

# Appendix F

# Letters to Regional Water Planning Group and NTMWD

# BEAR CREEK SUD

Telephone 1-972-843-2101 • P.O. Box 188
Lavon, Texas 75166

April 22, 2024

Region C Water Planning Group
c/o Trinity River Authority
P.O. Box 60
Arlington, TX 76004

Dear Chair:

Enclosed please find a copy of the Water Conservation and Water Resource and Emergency Management Plan for Bear Creek Special Utility District. 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. The plans were adopted on April 22, 2024.

Sincerely,

Camille Reagan

Camille Reagan

Bear Creek Special Utility District

# Appendix G

# Adoption of Plans

## Special Utility District Order

### Adopting Water Conservation Plan

**Order No. 2024-001**

**AN ORDER ADOPTING A WATER CONSERVATION PLAN FOR THE BEAR CREEK SPECIAL UTILITY DISTRICT TO PROMOTE THE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION PLAN.**

**WHEREAS**, the Bear Creek Special Utility District (the "District"), recognizes that the amount of water available to its water customers is limited; and

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

**WHEREAS**, the Water Code and the regulations of the Texas Commission on Environmental Quality (the "Commission") require that the District adopt a Water Conservation Plan; and

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

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

**WHEREAS**, the Board of Directors of the District desires to adopt the North Texas Municipal Water District (the "NTMWD") Model Water Conservation Plan as official District policy for the conservation of water.

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

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

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

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

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

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

**Section 6.** {If Applicable} Ordinance No. 2018-004, adopted on September 11, 2018, is hereby repealed.

Approved and adopted by the Board of Directors on this 22 day of April, 2024.

President, Board of Directors

Attest:

Secretary

# Appendix H

# Adoption of Enforcement Order Pertaining to Illegal Water Connections and Theft of Water

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

**Order No. 2024-002**

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

**WHEREAS,** the Bear Creek Special Utility District (the "District"), recognizes that the amount of water available to its water customers is limited; and

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

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

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

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

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

(a) A person may not knowingly tamper, connect to, or alter any component of the District's water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the District.

(b) If, without the written consent of the District, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).

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

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

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

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

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

**Section 6.** {If Applicable} Ordinance No. 2018-005, adopted on September 11, 2018, is hereby repealed.

Approved and adopted by the Board of Directors on this 22 day of April, 2024.

President, Board of Directors

Attest:

Secretary