

TCEQ Interoffice Memorandum

TO: Office of the Chief Clerk
Texas Commission on Environmental Quality

THRU: Chris Kozlowski, Team Leader
Water Rights Permitting Team

FROM: Sarah Henderson, Project Manager
Water Rights Permitting Team

DATE: May 5, 2022

SUBJECT: North Texas Municipal Water District
ADJ 2410
CN601365448, RN104072269
Application No. 08-2410L to Amend Certificate of Adjudication No. 08-2410
Texas Water Code §§ 11.122, 11.042, Requiring Limited Mailed Notice
Lake Lavon on the East Fork Trinity River, Trinity River Basin
Collin County

The application and fees were received on March 23, 2022. Additional information was received on April 6 and April 27, 2022. The application was declared administratively complete and accepted for filing with the Office of the Chief Clerk on May 5, 2022. Mailed notice to the downstream water right holders of record in the Trinity River Basin and notice to the Texas Parks and Wildlife Department and Office of Public Interest Counsel is required pursuant to Title 30 Texas Administrative Code §§ 295.161(a)&(c).

All fees have been paid and the application is sufficient for filing.

Sarah E Henderson

Sarah Henderson, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section

OCC Mailed Notice Required **YES** **NO**

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 5, 2022

Ms. Sara Thornton
Lloyd Gosselink
816 Congress Avenue, Suite 1900
Austin, Texas 78701

VIA E-MAIL

RE: North Texas Municipal Water District
ADJ 2410
CN601365448, RN104072269
Application No. 08-2410L to Amend Certificate of Adjudication No. 08-2410
Texas Water Code §§ 11.122, 11.042, Requiring Limited Mailed Notice
Lake Lavon on the East Fork Trinity River, Trinity River Basin
Collin County

Dear Ms. Thornton:

This acknowledges receipt, on March 23, 2022, of the referenced application and fees in the amount of \$51,025.00 (Receipt No. M214931, copy attached), and additional information on April 6 and April 27, 2022.

The application was declared administratively complete and filed with the Office of the Chief Clerk on May 5, 2022. Staff will continue processing the application for consideration by the Executive Director.

Please be advised that additional information may be requested during the technical review phase of the application process.

If you have any questions concerning this matter please contact me via email at sarah.henderson@tceq.texas.gov or by telephone at (512) 239-2535.

Sincerely,

Sarah E Henderson

Sarah Henderson, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section

Attachment



25-MAR-22 11:39 AM

TCEQ - A/R RECEIPT REPORT BY ACCOUNT NUMBER

Fee Description	Fee Code	Account#	Ref#1	Check Number	CC Type	Slip Key	Tran Date	Tran Amount
			Ref#2	Card Auth.	Tran Code	Document#		
			Paid In By	User Data	Rec Code			
WTR USE PERMITS	WUP		M214931	168615	N	BS00093636	25-MAR-22	-\$51,025.00
	WUP			032522		D2802318		
			NORTH TEXAS	VHERRAND	CK			
			MWD					
Total (Fee Code):								-\$51,025.00
Grand Total:								-\$75,770.60

S. Henderson

RECEIVED
MAR 28 2022
Water Availability Division

Sarah Henderson

From: Jennifer Allis
Sent: Thursday, April 28, 2022 12:47 PM
To: Sarah Henderson
Subject: Fw: RE: North Texas Municipal Water District Application to Amend Certificate of Adjudication No. 08-2410
Attachments: COMBINED Final NTMWD Water Resource Management Plan 01-29-2019.pdf

From: Lauren Thomson [REDACTED]
Sent: Wednesday, April 27, 2022 9:18 PM
To: WRPT <WRPT@tceq.texas.gov>
Cc: Sara Thornton [REDACTED]; [REDACTED]; [REDACTED]; Brooke McGregor <brooke.mcgregor@tceq.texas.gov>; Kathy Alexander <kathy.alexander@tceq.texas.gov>; Dubelza Galvan [REDACTED] Jennifer Allis <Jennifer.Allis@tceq.texas.gov>
Subject: RE: RE: North Texas Municipal Water District Application to Amend Certificate of Adjudication No. 08-2410

Good evening,

Please see attached for the 2019 NTMWD Water Resource and Emergency Management Plan with the signed Appendix D.

Please let us know if you have any other questions or if you need anything else.

Best,
Lauren

From: Lauren Thomas <[REDACTED]>
Sent: Wednesday, April 6, 2022 9:53 AM
To: WRPT@tceq.texas.gov
Cc: Sara Thornton [REDACTED]; brooke.mcgregor@tceq.texas.gov; Kathy.Alexander@tceq.texas.gov; Dubelza Galvan <[REDACTED]>; Jennifer.Allis@tceq.texas.gov
Subject: RE: North Texas Municipal Water District Application to Amend Certificate of Adjudication No. 08-2410

Good morning,

Please see attached for the Final NTMWD Water Resource Management Plan and Final Model Water Resource Management Plan, as requested.

We apologize for the oversight in not including these documents in the application. Let us know if you have any more questions or if you need anything else.

Best,
Lauren



LAUREN C. THOMSON

Attorney
512-322-5850 Direct
Lloyd Gosselink Rochelle & Townsend, P.C.
816 Congress Ave., Suite 1900, Austin, TX 78701
www.lglawfirm.com | 512-322-5800
[News](#) | [vCard](#) | [Bio](#)

From: Dubelza Galvan [REDACTED]
Sent: Wednesday, March 23, 2022 4:02 PM
To: 'WRPT@tceq.texas.gov' <WRPT@tceq.texas.gov>
Cc: Sara Thornton [REDACTED]; Lauren Thomas [REDACTED];
[REDACTED]; 'brooke.mcgregor@tceq.texas.gov' <brooke.mcgregor@tceq.texas.gov>;
'Kathy.Alexander@tceq.texas.gov' <Kathy.Alexander@tceq.texas.gov>
Subject: North Texas Municipal Water District Application to Amend Certificate of Adjudication No. 08-2410

Good afternoon,

Please see attached North Texas Municipal Water District Application to Amend Certificate of Adjudication No. 08-2410. A hard-copy of the application will be hand-delivered this afternoon.

Thank you,
Dubelza



DUBELZA GALVAN

Paralegal
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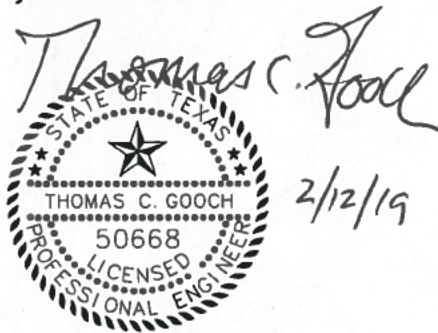
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2019 NORTH TEXAS MUNICIPAL WATER DISTRICT WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

JANUARY 2019



FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

Prepared by:
FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300



FOREWORD

This 2019 Water Resource and Emergency Management Plan (which is an update to the 2014 Water Resource and Emergency Management Plan) was prepared by Freese and Nichols, Inc. for the North Texas Municipal Water District (NTMWD), pursuant to Texas Commission on Environmental Quality (TCEQ) rules governing drought contingency plans. Some material is based on NTMWD’s previous water conservation and drought contingency plans listed in Appendix A.

Questions regarding this Water Resource and Emergency Management Plan should be addressed to the following:

Jeremy Rice
Freese and Nichols, Inc.
(817) 735-7300
[REDACTED]

Denise Hickey
North Texas Municipal Water District
(972) 442-5405
[REDACTED]

This Water Resource and Emergency Management Plan is based on the Texas Administrative Code in effect on January 18, 2019.

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APPENDICES

APPENDIX A	List of References
APPENDIX B	Texas Commission on Environmental Quality Rules on Drought Contingency Plans <ul style="list-style-type: none">• Texas Administrative Code Title 30, Chapter 288, Section 288.20 - Drought Contingency Plans for Municipal Uses by Public Water Suppliers (Page B-1)• Texas Administrative Code Title 30, Chapter 288, Section 288.22 - Drought Contingency Plans for Wholesale Water Suppliers (Page B-4)
APPENDIX C	Letters to Region C and Region D Water Planning Groups
APPENDIX D	North Texas Municipal Water District Board Minutes Showing Adoption of the Water Conservation Plan and Water Resource and Emergency Management Plan
APPENDIX E	Texas Water Code Section 11.039

1. INTRODUCTION AND OBJECTIVES

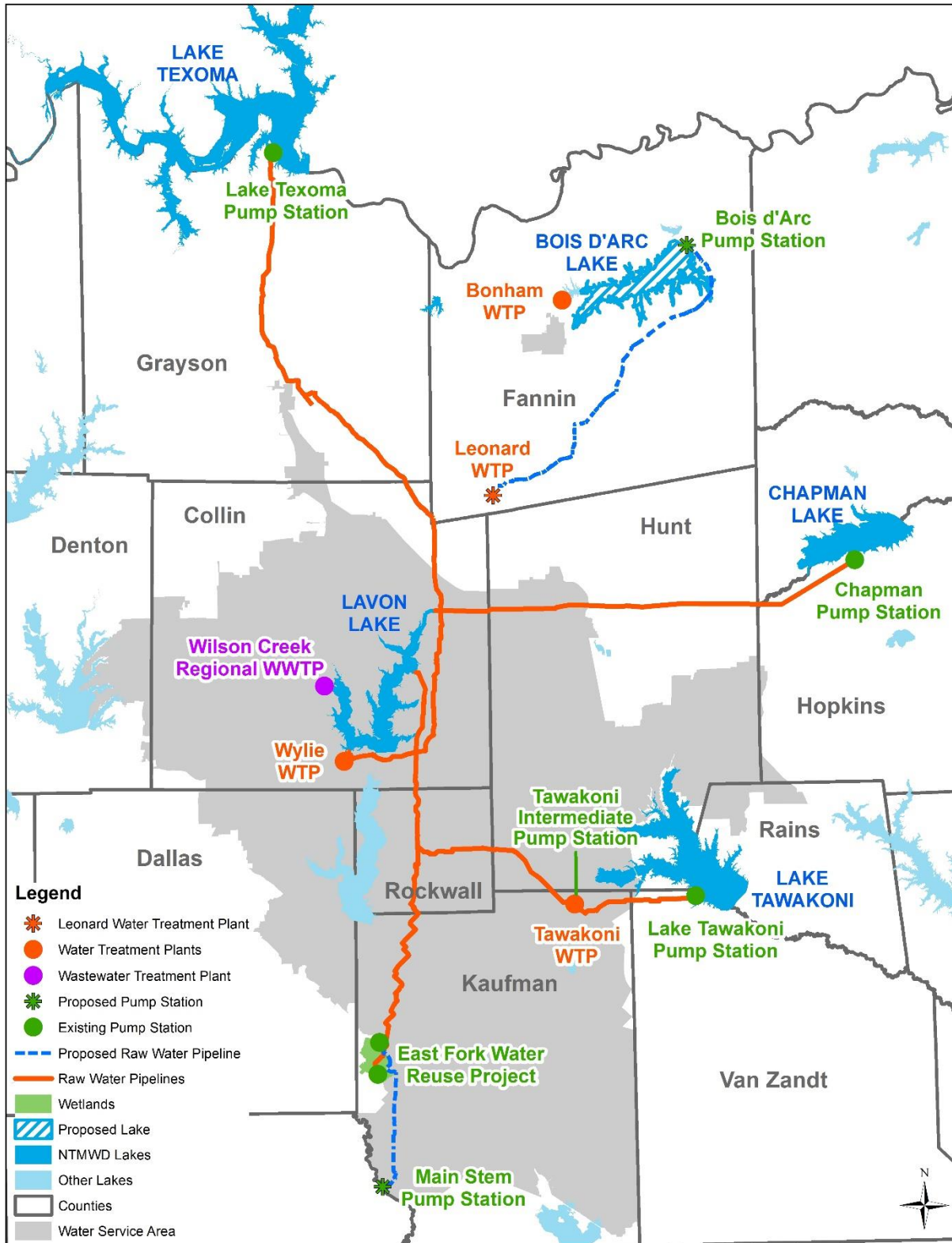
Water supply has always been a key issue in the development of Texas. In recent years, the increasing population and economic development of North Central Texas have led to growing demands for water supplies. At the same time, local and less expensive sources of water supply are already largely developed. Additional supplies to meet future demands will be expensive and difficult to secure. It is therefore important that NTMWD makes efficient use of its existing supplies and makes them last as long as possible. This will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

Recognizing the need for efficient use of existing water supplies, TCEQ has developed guidelines and requirements governing the development of water conservation and drought contingency plans for wholesale water suppliers.¹ The TCEQ drought contingency plan regulations applicable to public water suppliers and wholesale water suppliers are included in Appendix B. NTMWD has developed this Water Resource and Emergency Management Plan (Plan) pursuant to TCEQ guidelines and requirements. NTMWD is a regional wholesale water supplier for 13 Member Cities and numerous other Customers in Collin, Dallas, Denton, Fannin, Grayson, Hopkins, Hunt, Kaufman, Rains, Rockwall, and Van Zandt Counties in North Central Texas. NTMWD currently provides water for approximately 1.7 million people. Figure 1-1 shows the NTMWD service area along with existing and planned water supplies. This Plan has been developed in concert with the Model Water Resource and Emergency Management Plan drafted by NTMWD for use by NTMWD Member Cities and Customers.² This NTMWD Water Resource and Emergency Management Plan will replace the Water Resource and Emergency Management Plan dated April 2014.

The main objective of this Water Resource and Emergency Management Plan is to have mechanisms in place to preserve supplies for essential uses under drought, water supply shortage, water emergency conditions, or other supply interruptions.

¹Superscripted numbers match references listed in Appendix A.

Figure 1-1: NTMWD Service Area with Existing and Planned Raw Water Supplies



2. DEFINITIONS AND ABBREVIATIONS

1. AQUATIC LIFE means a vertebrate organism dependent upon an aquatic environment to sustain its life.
2. 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.
3. COMMERCIAL FACILITY means business or industrial buildings and the associated landscaping, but does not include the fairways, greens, or tees of a golf course.
4. 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.
5. CUSTOMERS include those entities to whom NTMWD provides wholesale water that are not Member Cities of NTMWD.
6. DESIGNATED OUTDOOR WATER USE DAY means a day prescribed by rule on which a person is permitted to irrigate outdoors**.
7. 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.
8. 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.
9. 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.

10. 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.
11. FOUNDATION WATERING means an application of water to the soils directly abutting (within two feet of) the foundation of a building, structure.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. ORNAMENTAL FOUNTAIN means an artificially created structure (up to a certain diameter) from which a jet, stream, or flow of treated water emanates and is not typically utilized for the preservation of aquatic life.
18. NTMWD RETAIL CUSTOMERS include those customers to whom NTMWD provides retail water.
19. 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.
20. SPRINKLER means an above-ground water distribution device that may be attached to a garden hose.



21. SWIMMING POOL means any structure, basin, chamber, or tank including hot tubs, containing an artificial body of water for swimming, diving, or recreational bathing, and having a depth of two (2) feet or more at any point.
22. WATER RESOURCE MANAGEMENT PLAN means a strategy or combination of strategies for temporary supply management and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies required by Texas Administrative Code Title 30, Chapter 288, Subchapter B. This is sometimes called a drought contingency plan.

Abbreviations

Abbreviation	Full Nomenclature
ED	NTMWD Executive Director
NTMWD or District	North Texas Municipal Water District
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
WREMP	NTMWD Water Resource and Emergency Management Plan

3. STATE REQUIREMENTS FOR DROUGHT CONTINGENCY PLANS

3.1 STATE REQUIREMENTS FOR DROUGHT CONTINGENCY PLANS FOR WHOLESALE WATER SUPPLIERS

NTMWD acts primarily as a wholesale water provider, but NTMWD also has 29 retail customers. This section outlines with the state law requirements for wholesale water providers to develop a drought contingency plan. Section 3.2 of this report discusses the requirements that apply to NTMWD as a retail public water supplier regarding a drought contingency plan.

This 2019 Water Resource and Emergency Management Plan is consistent with Texas Commission on Environmental Quality (TCEQ) regulations for the development of drought contingency plans by wholesale water suppliers, contained in Title 30, Chapter 288, Section 288.22 of the Texas Administrative Code, which is included in Appendix B.

Minimum Requirements

TCEQ's minimum requirements for drought contingency plans are addressed in the following subsections of this report:

- 288.22(a)(1) – Provisions to Inform the Public and Provide Opportunity for Public Input – Section 4.2
- 288.22(a)(2) – Coordination with the Regional Water Planning Groups – Section 4.8
- 288.22(a)(3) – Criteria for Initiation and Termination of Drought Stages – Section 4.3
- 288.22(a)(4) – Drought and Emergency Response Stages – Section 4.4
- 288.22(a)(5) – Procedures for Initiation and Termination of Drought Stages – Section 4.3
- 288.22(a)(6) – Specific, Quantified Targets for Water Use Reductions During Water Shortages – Section 4.4
- 288.22(a)(7) – Specific Water Supply or Water Demand Management Measures to be Implemented during Each Drought Stage – Section 4.4
- 288.22(a)(8) – Provision in Wholesale Contracts to Require Water Distribution According to Texas Water Code Section §11.039 – Sections 4.4 and 4.5
- 288.22(a)(9) – Procedures for Granting Variances to the Plan - Section 4.6
- 288.22(a)(10) - Procedures for Enforcement of Mandatory Restrictions – Section 4.7

- 288.22(b) – TCEQ Notification of Implementation of Mandatory Measures – Sections 4.3 and 4.4
- 288.22(c) – Review and Update of the Plan – Section 4.9

3.2 STATE REQUIREMENTS FOR DROUGHT CONTINGENCY PLANS FOR PUBLIC WATER SUPPLIERS

In addition to serving as a wholesale water supplier, NTMWD is also a public water supplier of potable water, providing direct retail service to 29 customers who do not have access to retail service from other sources. The TCEQ has established rules for the development of drought contingency plans for public water suppliers that provide retail service. The rules for drought contingency plans for public water suppliers are contained in Title 30, Chapter 288, Section 288.20 of the Texas Administrative Code, which is included in Appendix B.

Section 3.1 of this report (which addresses rules applicable to wholesale water providers) addresses the majority of the requirements dictated by the regulations applicable to for public water suppliers. This section covers any additional information needed to meet TCEQ requirements for public water suppliers that were not already addressed in the section above.

- 288.20(a)(1)(A) – Provisions to Inform Public and Provide Opportunity for Public Input – Addressed in Section 4.2.
- 288.20(a)(1)(B) – Program for Continuing Public Education and Information – NTMWD shall provide for continuing public education and information by the following measures:
 - Discussing the Water Conservation Plan and Water Resource and Emergency Management Plan when staff speaks to the public on water conservation issues.
 - Including information on the Water Conservation Plan and Water Resources and Emergency Management Plan in bills for its retail Customers.
 - Notification of the public and the media as Water Resource Management Stages are implemented.
- 288.20(a)(1)(C) – Coordination with Regional Water Planning Groups – Addressed in Section 4.8.
- 288.20(a)(1)(D) – Description of Information to Be Monitored and Criteria for the Initiation and Termination of Water Resource Management Stages – Addressed in Sections 4.3 and 4.4.

- 288.20(a)(1)(E) – Stages for Implementation of Measures in Response to Situations – Addressed in Section 4.4.
- 288.20(a)(1)(F) – Specific, Quantified Targets for Water Use Reductions During Water Shortages – Addressed in Section 4.4.
- 288.20(a)(1)(G) – Specific Water Supply or Water Demand Measures to Be Implemented at Each Stage of the Plan – Addressed in Section 4.4.
- 288.20(a)(1)(H) – Procedures for Initiation and Termination of Drought Contingency and Water Emergency Response Stages – Addressed in Section 4.3.
- 288.20(a)(1)(I) – Description of Procedures to Be Followed for Granting Variances to the Plan – Addressed in Section 4.6. Retail Customers may request variances under the same terms as Member Cities and Customers.
- 288.20(a)(1)(J) – Procedures for Enforcement of Mandatory Water Use Restrictions – Addressed in Section 4.7.
- 288.20(b) – TCEQ Notification of Implementation of Mandatory Provisions – Addressed in Section 4.3.
- 288.20(c) – Review of Drought Contingency and Water Emergency Response Plan Every Five (5) Years – Addressed in Section 4.9.

4. NORTH TEXAS MUNICIPAL WATER DISTRICT WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

4.1 INTRODUCTION

The purpose of this 2019 Water Resource and Emergency Management Plan is as follows:

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

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

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

In the fall of 2005, NTMWD began preparing a public education campaign regarding water conservation. In June 2006, NTMWD initiated a major educational campaign using the “Water IQ – Know your water” message originally developed for the state’s Water Conservation Implementation Task Force in 2004. This NTMWD campaign was the first major local campaign based on this message. NTMWD hired Enviromedia Social Marketing of Austin, Texas, to assist in program implementation. Through the end of 2018, NTMWD has invested \$16.6 million since 2006 in this public education campaign. Since 2006, Water IQ has been used for on-going water conservation education and to encourage demands reduction in response to drought and water supply challenges. The Water IQ campaign includes multiple methods to reach and educate the public:

- Television ads
- Radio ads

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

The specifics of the public outreach and education campaign in the future will vary depending on the circumstances of future droughts. The Water IQ program shows NTMWD's commitment to an appropriate drought and water emergency response in addition to the ongoing effort to educate the public in the wise and efficient use of water supplies regardless of weather conditions.

4.2 PROVISIONS TO INFORM THE PUBLIC AND OPPORTUNITY FOR PUBLIC INPUT

NTMWD provided opportunity for public input in the development of this Water Resource and Emergency Management Plan by the following means:

- Providing written notice of the proposed Plan and the opportunity to comment on the Plan by newspaper and posted notice.
- Posting the draft Plan on the NTMWD website and on social media.
- Meeting with representatives of Member Cities and Customers to discuss the draft Plan.
- Providing the draft Plan to anyone requesting a copy.
- Holding a public meeting regarding the Water Resource and Emergency Management Plan at the NTMWD offices in Wylie on January 9, 2019. Public notice of this meeting was provided on the NTMWD website and in local newspapers.

4.3 INITIATION AND TERMINATION OF WATER RESOURCE MANAGEMENT STAGES

Initiation of a Water Resource Management Stage



The Executive Director, with the consent of the NTMWD Board of Directors, may order the implementation of a Water Resource Management Stage for all or part of the NTMWD service area when one or more of the trigger conditions for the respective stage is met. The following actions will be taken when a stage is initiated:

- The public will be notified through local media.
- NTMWD Member Cities and Customers will be notified by e-mail and with a follow-up letter that provides details of the reasons for initiation of the Water Resource Management Stage.
- If any mandatory provisions of the Water Resource and Emergency Management Plan are activated, NTMWD will notify the TCEQ Executive Director within 5 business days.
- The Executive Director may decide not to order the implementation of a Water Resource Management Stage even though one or more of the trigger criteria for the stage is met. Factors that could influence such a decision include, but are not limited to, the time of the year, weather conditions, the anticipation of replenished water supplies, or the anticipation that additional facilities will become available to meet needs.

Termination of a Water Resource Management Stage

The Executive Director, with the concurrence of the NTMWD Board of Directors, may order the termination of a Water Resource Management Stage when the conditions for termination are met or at his/her discretion. The following actions will be taken when a stage is terminated:

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

4.4 WATER RESOURCE MANAGEMENT STAGES, CONDITIONS, AND MEASURES

4.4.1 Stage 1

Initiation and Termination Conditions for Stage 1

Stage 1 may be implemented when one or more of the following conditions is met:

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1.
- Water demand is projected to approach the limit of the permitted supply.
- The storage level in Lavon Lake, as published by the Texas Water Development Board (TWDB)³, is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total 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 has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next 6 months.
- Water demand exceeds 95 percent of the amount that can be delivered to Customers for three (3) consecutive days.
- Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.
- Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.

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

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



- The storage level in Lavon Lake, as published by the TWDB, is greater than 75 percent of the total conservation pool capacity during any of the months of April through October or greater than 65 percent of the total conservation pool capacity during any of the months of November through March.
- Other circumstances that caused the initiation of Stage 1 no longer prevail.

Goal for Use Reduction and Measures Available under Stage 1

The goal for water use reduction under Stage 1 is a reduction of two percent (2%) in the use that would have occurred in the absence of water resource management measures. **If circumstances warrant, the Executive Director can set a goal for greater or lesser water use reduction.** The actions listed below are provided as potential strategies to reduce water demand. Member Cities and Customers are encouraged to adopt any or all of these measures necessary to achieve the designated reduction in use. Measures described as “requires notification to TCEQ” are those that impose mandatory requirements which must be implemented by Member Cities and Customers. NTMWD must notify TCEQ within five business days if these measures are implemented.

- Continue actions described in the Water Conservation Plan.
- Require Member Cities and Customers (including indirect Customers) to initiate Stage 1 restrictions in their respective, independently-adopted Water Resource Management Plans.
- 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 not supplied from treated wastewater effluent.
- Encourage the public to wait until the current drought or water emergency situation has passed before establishing New Landscaping.
- All users are encouraged to reduce the frequency of draining and refilling swimming pools.
- **Requires Notification to TCEQ** – Increase enforcement of the following landscape watering restrictions from the Water Conservation Plan: (1) limit landscape watering with sprinklers or irrigation systems at each service address to no more than two days per week on designated days between April 1 and October 31; and (2) limit landscape watering with sprinklers or

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

- An exception is allowed for New Landscape associated with new construction that may be watered as necessary for 30 days from the installation of new landscape features.
- An exception for additional watering of landscape may be provided by hand held hose with shutoff nozzle, and/or use of dedicated irrigation drip zones, provided no runoff occurs.
- Foundation Watering (within two-feet), New Landscape Watering, water of new plantings (first year) of shrubs, and watering of trees (within a ten-foot radius of its trunk) may occur by a hand-held hose, a soaker hose, or a dedicated zone using a Drip Irrigation system, provided no runoff occurs.
- 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.
- **Requires Notification to TCEQ** – Initiate a rate surcharge for all water use over a certain level.
- **Requires Notification to TCEQ** – 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 which may be hand watered as needed.

4.4.2 Stage 2

Initiation and Termination Conditions for Stage 2

Stage 2 may be implemented when one or more of the following conditions is met:

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2.
- Water demand is projected to approach the limit of NTMWD's permitted supply.
- The storage level in Lavon Lake, as published by the TWDB³, is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less

than 45 percent of the total 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 has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months.
- Water demand exceeds 98 percent of the amount that can be delivered to Customers for three (3) consecutive days.
- Water demand for all or part of the delivery system equals delivery capacity, because delivery capacity is inadequate.
- Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.

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

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the termination of Stage 2.
- The storage level in Lavon Lake, as published by the TWDB³, is greater than 70 percent of the total conservation pool capacity during any of the months of April through October or greater than 60 percent of the total conservation pool capacity during any of the months of November through March.
- Other circumstances that caused the initiation of Stage 2 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 2

The goal for water use reduction under Stage 2 is a reduction of ten percent (10%) in the use that would have occurred in the absence of water resource management measures. **If circumstances warrant, the Executive Director can set a goal for greater or lesser water use reduction.** Member Cities and Customers

are encouraged to adopt any or all measures necessary to achieve the designated reduction in use. Measures described as “requires notification to TCEQ” are those that impose mandatory requirements that must be implemented by NTMWD, Member Cities, and Customers. NTMWD must notify TCEQ within five (5) business days if these measures are implemented.

- Continue or initiate any actions available under the Water Conservation Plan and Stage 1.
- Require Member Cities and Customers (including indirect Customers) to initiate Stage 2 restrictions in their respective, independently-adopted Water Resource Management Plans.
- Implement viable alternative water supply strategies.
- All users are encouraged to reduce the frequency of draining and refilling swimming pools.
- **Requires Notification to TCEQ** – 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.
 - Foundations Watering (within two-feet), watering of new plantings (first year) of shrubs, and watering of trees (within a ten-foot radius of its trunk) occur watered 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** – Prohibit overseeding, sodding, sprigging, broadcasting or plugging with or watering, except for golf courses and athletic fields.
- **Requires Notification to TCEQ** – 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 of this Plan).
- **Requires Notification to TCEQ** – Initiate a rate surcharge for all water use over a certain level.
- **Requires Notification to TCEQ** – Parks and golf courses using potable water for landscape watering are required to meet the same reduction goals and measures outlined in this stage. Exception for golf course greens and tee boxes, which may be hand watered as needed.

4.3.3 Stage 3

Initiation and Termination Conditions for Stage 3

Stage 3 may be implemented when one or more of the following conditions is met:

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3.
- Water demand is projected to approach or exceed the limit of the permitted supply.
- The storage level in Lavon Lake, as published by the TWDB³, is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total 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 3 drought.
- The supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source has become limited in availability.
- Water demand exceeds the amount that can be delivered to Customers.
- Water demand for all or part of the delivery system exceeds delivery capacity, because delivery capacity is inadequate.

- Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.

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

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the termination of Stage 3.
- The storage level in Lavon Lake, as published by the TWDB³, is greater than 55 percent of the total conservation pool capacity during any of the months of April through October or greater than 45 percent of the total conservation pool capacity during any of the months of November through March.
- Other circumstances that caused the initiation of Stage 3 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 3

The goal for water use reduction under Stage 3 is a reduction of thirty percent (30%) percent 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. **If circumstances warrant, the Executive Director can set a goal for greater or lesser water use reduction.** Member Cities and Customers are encouraged to adopt any or all measures necessary to achieve the designated reduction in use. Measures described as “requires notification to TCEQ” are those that impose mandatory requirements which must be implemented by Member Cities and Customers. NTMWD must notify TCEQ within five (5) business days if these measures are implemented.

- Continue or initiate any actions available under the Water Conservation Plan and Stages 1 and 2.
- Require Member Cities and Customers (including indirect Customers) to initiate Stage 3 restrictions in their respective, independently-adopted Water Resource Management Plans.
- Implement viable alternative water supply strategies.
- **Requires Notification to TCEQ** – 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 or water quality.
- **Requires Notification to TCEQ** – Prohibit new sod, overseeding, sodding, sprigging, broadcasting or plugging with or watering.
- **Requires Notification to TCEQ** – Prohibit the use of potable water for the irrigation of New Landscape.
- **Requires Notification to TCEQ** – Prohibit all commercial and residential landscape watering, except that foundations (within two-feet) and trees (within a ten-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** – Prohibit washing of vehicles except at a Commercial Vehicle Wash Facility.
- **Requires Notification to TCEQ** – Landscape watering of parks, golf courses, and Athletic Fields with potable water is prohibited. Exception for golf course greens and tee boxes that may be hand watered as needed. Variances may be granted by the water provider under special circumstances.
- **Requires Notification to TCEQ** – 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** – 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** – Require all commercial water users to reduce water use by a set percentage.
- **Requires Notification to TCEQ** – 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** – Initiate a rate surcharge over normal rates for all water use or for water use over a certain level.

4.5 PROCEDURE FOR CURTAILMENT OF WATER SUPPLIES

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

4.6 PROCEDURE FOR GRANTING VARIANCES TO THE PLAN

The Executive Director may grant temporary variances for existing water uses otherwise prohibited under this Water Resource and Emergency Management Plan to a Member City, Customer, or Retail Customer of NTMWD 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 Executive Director. All petitions for variances should be in writing and should include the following information:
 - Name and address of the petitioner(s).
 - Purpose of water use.
 - Specific provisions from which relief is requested.

- Detailed statement of the adverse effect of the provision from which relief is requested.
- Description of the relief requested.
- Period of time for which the variance is sought.
- Alternative measures that will be taken to reduce water use.
- Other pertinent information.

4.7 PROCEDURES FOR ENFORCING MANDATORY WATER USE RESTRICTIONS

Mandatory water use restrictions may be imposed in all stages of the Water Resource and Emergency Management Plan. These mandatory water use restrictions will be enforced by warnings and penalties as follows:

- On the first violation, the Member City or Customer will be given a written warning that they have violated the mandatory water use restriction.
- After a second violation, NTMWD may monitor and validate the flow in the line and ensure that the appropriate amount of water is delivered to the Member City or Customer.
- NTMWD may charge up to twice the established rate for any water used in violation of mandatory water use restrictions.

Each Member City and Customer will determine and enforce its own set of penalties associated with the mandatory water use restrictions applicable to its retail and wholesale customers.

4.8 COORDINATION WITH THE REGIONAL WATER PLANNING GROUPS

Appendix C of this report includes copies of letters sent to the Chairs of the Region C and Region D water planning groups with this 2019 Water Resource and Emergency Management Plan. NTMWD has fully coordinated with both regional water planning groups regarding development of the WREMP to the extent those groups wished to coordinate.

4.9 REVIEW AND UPDATE OF WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

As required by TCEQ rules, NTMWD will review this Plan every five (5) years. The Plan will be updated as appropriate based on new or updated information.

APPENDIX A
LIST OF REFERENCES

APPENDIX A

LIST OF REFERENCES

1. Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter B, Rules 288.20 and 288.22, downloaded from [http://texreg.sos.state.tx.us/public/readtac\\$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=288&sc_h=B&rl=Y](http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=288&sc_h=B&rl=Y), July 2018.
2. Freese and Nichols, Inc.: 2019 Model Water Resource Management Plan for NTMWD Members Cities and Customers, prepared for the North Texas Municipal Water District, Fort Worth, February 2019.
3. Texas Water Development Board, Water Data for Texas, Lavon Lake, <https://waterdatafortexas.org/reservoirs/individual/lavon>.

APPENDIX B
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
RULES ON DROUGHT CONTINGENCY PLANS

APPENDIX B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES ON DROUGHT CONTINGENCY PLANS

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER B</u>	DROUGHT CONTINGENCY PLANS
RULE §288.20	Drought Contingency Plans for Municipal Uses by Public Water Suppliers

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

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

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

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

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

(D) The drought contingency plan must include a description of the information to be monitored by the water supplier, and specific criteria for the initiation and termination of drought response stages,

accompanied by an explanation of the rationale or basis for such triggering criteria.

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

- (i) reduction in available water supply up to a repeat of the drought of record;
- (ii) water production or distribution system limitations;
- (iii) supply source contamination; or
- (iv) system outage due to the failure or damage of major water system components (e.g., pumps).

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

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

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

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

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

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

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

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

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

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

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

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER B</u>	DROUGHT CONTINGENCY PLANS
RULE §288.22	Drought Contingency Plans for Wholesale Water Suppliers

(a) A drought contingency plan for a wholesale water supplier must include the following minimum elements.

(1) Preparation of the plan shall include provisions to actively inform the public and to affirmatively provide opportunity for user input in the preparation of the plan and for informing wholesale customers about the plan. 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.

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

(3) 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.

(4) The drought contingency plan must include a minimum of three drought or emergency response stages providing for the implementation of measures in response to water supply conditions during a repeat of the drought-of-record.

(5) The drought contingency plan must include the procedures to be followed for the initiation or termination of drought response stages, including procedures for notification of wholesale customers regarding the initiation or termination of drought response stages.

(6) 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 paragraph are not enforceable.

(7) 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:

(A) pro rata curtailment of water deliveries to or diversions by wholesale water customers as provided in Texas Water Code, §11.039; and

(B) utilization of alternative water sources 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.).

(8) The drought contingency plan must include a provision in every wholesale water contract entered into or renewed after adoption of the plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code, §11.039.

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

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

(b) The wholesale public 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 wholesale 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 adoption or revision of the regional water plan.

Source Note: The provisions of this §288.22 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

LETTERS TO REGION C AND REGION D WATER PLANNING GROUPS



Regional. Reliable. Everyday.

January 28, 2019

Mr. Kevin Ward
Chair, Region C Water Planning Group
c/o Trinity River Authority
P.O. Box 60
Arlington, Texas 76004

Re: NTMWD Water Conservation and Water Resource and Emergency Management Plans

Dear Mr. Ward:

Enclosed please find a copy of the following documents:

- 2019 Water Conservation Plan for the North Texas Municipal Water District
- 2019 Water Resource and Emergency Management Plan for the North Texas Municipal Water District
- 2019 Model Water Conservation Plan for North Texas Municipal Water District Member Cities and Customers
- 2019 Model Water Resource and Emergency Management Plan for North Texas Municipal Water District Member Cities and Customers

NTMWD is submitting a copy of these plans to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of Directors of the North Texas Municipal Water District adopted the plans on January 24, 2019.

Sincerely,


THOMAS W. KULA
Executive Director

TWK/DH/bb



Regional. Reliable. Everyday.

January 25, 2019

Mr. Richard LeTourneau
Chair, Region D Water Planning Group
P.O. Box 12071
Longview, Texas 75607

Re: NTMWD Water Conservation and Water Resource and Emergency Management Plans

Dear Mr. LeTourneau:

Enclosed please find a copy of the following documents:

- 2019 Water Conservation Plan for the North Texas Municipal Water District
- 2019 Water Resource and Emergency Management Plan for the North Texas Municipal Water District
- 2019 Model Water Conservation Plan for North Texas Municipal Water District Member Cities and Customers
- 2019 Model Water Resource and Emergency Management Plan for North Texas Municipal Water District Member Cities and Customers

NTMWD is submitting a copy of these plans to the Region D Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of Directors of the North Texas Municipal Water District adopted the plans on January 24, 2019.

Sincerely,

THOMAS W. KULA
Executive Director

TWK/DH/bb

APPENDIX D

NTMWD BOARD MINUTES SHOWING ADOPTION OF THE WATER CONSERVATION AND WATER RESOURCE AND EMERGENCY MANGEMENT PLAN



NORTH TEXAS MUNICIPAL WATER DISTRICT

501 E. Brown Street • Wylie, Texas 75098
(972) 442-5405 – Phone • (972) 295-6440 – Fax

MINUTES REGULAR MEETING OF THE BOARD OF DIRECTORS JANUARY 24, 2019

The North Texas Municipal Water District (NTMWD) Board of Directors met in regular meeting on Thursday, January 24, 2019, at 4:00 p.m. in the NTMWD Administrative Offices located at 501 E. Brown Street, Wylie, Texas. Notice of the meeting was legally posted in accordance with Government Code, Title 551, Open Meetings.

I. CALL TO ORDER

President John Sweeden called the meeting to order at approximately 4:28 p.m.

II. INVOCATION – The invocation was offered by Director Jack May.

III. PLEDGE OF ALLEGIANCE

IV. PLEDGE OF ALLEGIANCE TO THE TEXAS FLAG

V. ANNOUNCEMENT OF QUORUM

Secretary Larry Parks announced a quorum was present. Directors absent are noted below, and any reference to unanimous votes excludes the Directors identified as being absent from the meeting. A special welcome was given to Director Robert Thurman.

1	Anderson, Terry Sam	
2	Carr, John	
3	Crump, George	
4	Dyer, Phil	
5	Farmer, Joe	
6	Fuller, Marvin	
7	Glass, Bill	
8	Gordon, Don	
9	Grooms, Darrell	Absent
10	Hogan, Rod	
11	Hollifield, David	
12	Island, David	Absent
13	Johnson, Blair	
14	Joplin, Joe	

15	Kerr, James	
16	Lofland, Bill	
17	May, Jack	
18	McKissick, Charles	
19	Murphy, John	Absent
20	Parks, Larry	
21	Peasley, Richard	
22	Shuyler, Lynn	
23	Sweeden, John	
24	Thurmond, Robert	
25	Vacant (Mesquite)	

The following NTMWD legal and financial consultants attended the meeting:

Lauren Kalisek – Lloyd Gosselink Rochelle & Townsend
Lewis Isaacks and Mark Walsh – Saunders Walsh & Beard
David Medanich and Nick Bulaich - Hilltop Securities

VI. PUBLIC COMMENTS

There were no public comments.

VII. OPENING REMARKS

A. Presentations of awards, recognitions, achievements, etc., of the District, Board members, and staff

1. Federal Legislators

Resolutions were presented commending the following federal legislators for their assistance with the Bois d'Arc Lake project:

- a. Congresswoman Eddie Bernice Johnson – Resolution accepted by Congresswoman Johnson's representative.
- b. Congressman John Ratcliffe – Resolution accepted by Congressman Ratcliffe's representative.

Congressman Sam Johnson and Congressman Pete Sessions were not in attendance.

2. Board of Directors Service

Board members were presented service pins as follows:

- a. Director David Island – One Year (Executive Director Tom Kula advised that Director Island was absent due to a death in his family.)
- b. Director Joe Joplin – 15 Years
- c. Director Bill Lofland – 20 Years

3. Recognition of Director Robert Thurmond's Service as Board President

Executive Director Kula and President John Sweeden recognized Robert Thurmond for his service as President of the NTMWD Board from 2017-2018, adding that he has in the past also served as Secretary and Vice-President. Director Thurmond was presented with an award recognizing him for his service.

Director Thurmond left following this item and was not present for the remainder of the meeting.

B. President's Remarks concerning current events, conduct of meeting, posted agenda items, committee assignments, and related matters

President Sweeden reviewed the February 2019 Board/Committee meeting and events schedule as follows:

- February 2019 Schedule
 - February 14, 2019
 - Executive Committee at 11:30 a.m.
 - Finance/Audit Committee at 1:00 p.m.
 - February 15, 2019
 - Water Treatment Plant Tour at 1:30 p.m.
 - February 28, 2019
 - Board Luncheon at 11:30 a.m.
 - Solid Waste Committee at 12:30 p.m.
 - Water Committee at 1:30 p.m.
 - Work Session at 3:00 p.m.
 - Regular Board Meeting at 4:00 p.m.

President Sweeden noted that the following documents were included in Board member's folders:

- Board Action Summary
- Director's Logo Shirts (and invoices for those that ordered more than one District shirt)
- Glossary of Terms

President John Sweeden announced that Director Larry Parks will abstain from voting on Agenda Items X.M., N., and O.

C. Executive Director's Status Report concerning legislation and regulatory matters, budgets, current projects and ongoing programs of the District including the Regional Water System, Regional Wastewater System, Regional Solid Waste System, Watershed Protection, and Water Conservation as follows:

Executive Director Kula noted the following:

- Maps of Bois d'Arc Lake zoning map and future land use are available upon request.

- Engineering Activity Report and Construction Progress Report are now included in the Board packet (and FileCloud).
- Introduced new Training and Development Manager, Steve Rummel. Executive Director Tom Kula stated the Steve comes from Raytheon and he is also a 22-year Air Force veteran. Steve will provide training on safety, leadership and ethics.
- Meeting with Member City Managers on 1/27/2019- The following information will be covered in the meeting:
 - PUC Rate Case Status
 - Temporary Disinfectant

VIII. UPDATE ON TEMPORARY CHANGE IN DISINFECTANT (ANNUAL MAINTENANCE)

Watershed Protection Manager Galen Roberts presented this item. He reviewed highlights of the 2018 Free Chlorine Maintenance Period, recent water quality events, and the 2018 Texas Commission on Environmental Quality (TCEQ) investigation and findings. He reviewed the Scopes of Work included in recent studies performed by CDM Smith, Carollo Engineering, and Freese and Nichols, Inc., and the findings of those studies. It was noted that findings are consistent with the TCEQ report. Mr. Roberts further explained the theory regarding the complaints during the 2018 Free Chlorine Maintenance Period, adding that any odor or taste issues were not harmful. For 2019 NTMWD staff members are working to coordinate with Member Cities to educate the public and minimize any potential taste or odor issues. Best Practices have been established for use during the temporary change in disinfectant for 2019, including additional sampling.

Public Relations and Communications Officer Janet Rummel advised that more information on this annual process is available on the NTMWD website under the Water Quality section. She also said that the February 15, 2019 Water Treatment Plant tour for city officials will focus on water quality.

IX. CONSENT AGENDA ITEMS

Upon a motion by Director Rod Hogan and a second by Director Joe Joplin, the Board of Directors unanimously approved the consent agenda items as follows:

- A. Consider approval of Board of Directors Regular Meeting Minutes – December 20, 2018
(Please refer to Consent Agenda Item No. 19-01-01)
- B. Consider approval of Board of Directors Special Meeting Minutes – December 20, 2018
(Please refer to Consent Agenda Item No. 19-01-02)
- C. Consider approval of Monthly Construction Report – December 2018
(Please refer to Consent Agenda Item No. 19-01-03)

X. AGENDA ITEMS FOR INDIVIDUAL CONSIDERATION

- A. Consider authorizing acceptance of Annual Audit Report included in the Comprehensive Annual Financial Report for fiscal year 2017-2018 prepared by Weaver and Tidwell, LLP
(Please refer to Administrative Memorandum No. 5322)
Director Phil Dyer told the Board members that this item was reviewed and approved on January 24, 2019, by the Finance/Audit Committee.

Upon the recommendation of the Finance/Audit Committee, a motion by Director Phil Dyer and a second by Director Joe Farmer, the Board of Directors voted unanimously to authorize the acceptance of the 2017-18 Annual Audit Report included in the Comprehensive Annual Financial Report (CAFR) as presented.

- B. Consider authorizing appointment of Weaver and Tidwell, LLP, as auditors for fiscal year 2018-2019 in the amount of \$127,000
(Please refer to Administrative Memorandum No. 5323)

Director Phil Dyer told the Board members that this item was reviewed and approved on December 6, 2018 by the Finance/Audit Committee.

Upon the recommendation of the Finance/Audit Committee, a motion by Director Phil Dyer and a second by Director Richard Peasley, the Board of Directors voted unanimously to authorize appointment of Weaver and Tidwell, LLP, as auditors for fiscal year 2018-2019.

- C. Consider authorizing amendment to NTMWD Board Policies Manual revising Section IX. Board of Directors Meeting Agenda
(Please refer to Administrative Memorandum No. 5324)

Director Marvin Fuller advised that this item was reviewed on January 10, 2019 by the Policy Committee. Terminology was incorporated into Section IX. to better define the scope and nature of change orders. In addition, referenced engineering reports are being added to the Board packets for easier accessibility and greater transparency.

Upon the recommendation of the Policy Committee a motion was made by Director Marvin Fuller to approve the amendment as presented; motion was seconded by Director Rod Hogan.

Prior to the vote, there was a brief discussion among Board members regarding line item changes not being presented to the Board for approval. It was noted that changes within a fund do not currently require Board approval. President John Sweeden suggested this process could be discussed at a future meeting.

The Board of Directors voted unanimously to approve as presented.

- D. Consider authorizing amendment of NTMWD Conservation Plan; amendment of NTMWD Water Resource and Emergency Management Plan; and amendment of District Policy No. 24, Water Conservation Plan, and Water Resource and Emergency Management Plan
(Please refer to Administrative Memorandum No. 5325)

Director Jack May advised this item was reviewed on January 10, 2019, by the Policy Committee. The Water Committee also reviewed it on January 24, 2019, and voted unanimously to recommend approval as presented.

Prior to the vote, Director Richard Peasley requested that a written explanation be provided to the City of Frisco regarding their comments on the proposed plan amendment.

Upon a recommendation by the Water Committee, a motion by Director Jack May and a second by Director James Kerr, the Board of Directors voted unanimously to approve the amendment as presented.

- E. Consider authorizing execution of inspection services agreement with Mbroh Engineering, Inc., in the amount of \$118,560 for the Wylie Water Treatment Plant Emergency Notification System, Project No. 101-0461-17
(Please refer to Administrative Memorandum No. 5326)

Director James Kerr made a motion to approve as presented; motion was seconded by Director Phil Dyer.

The Board of Directors voted unanimously to approve as presented.

- F. Consider authorizing execution of engineering services agreement with Carollo Engineers in the amount of \$511,984 for preliminary engineering design of the Wylie Water Treatment Plant Biologically Active Filtration, Project No. 101-0390-15
(Please refer to Administrative Memorandum No. 5327)

Director Jack May advised that the Water Committee reviewed this item January 24, 2019 and voted unanimously to authorize execution of this agreement to optimize the implementation of biologically active filtration at the Wylie Water Treatment Plant Complex.

Upon the recommendation of the Water Committee, a motion by Director Jack May and a second by Director Lynn Shuyler, the Board of Directors voted unanimously to approve as presented.

- G. Consider adoption of Resolution No. 19-05 authorizing acquisition of right-of-way in the amount of \$20,000 for the Meter Vault Standardization, Set Point Control Implementation, Phase II, Project No. 101-0338-13
(Please refer to Administrative Memorandum No. 5328)

Director Joe Joplin made a motion to approve; motion was seconded by Director Bill Glass.

Prior to the vote, there was a brief discussion to confirm that the NTMWD owns the property at the Frisco No. 1 delivery point.

The Board of Directors voted unanimously to approve as presented.

- H. Consider authorizing execution of agreement with Fannin County, Texas, concerning policing of the Bois d'Arc Lake project area for the contract term of 10 years with payments over the contract term of \$2,507,500 (Please refer to Administrative Memorandum No. 5329)

Director Jack May told the Board that the Water Committee reviewed this item January 24, 2019 and voted unanimously to approve this agreement and fund two law enforcement personnel with equipment for five years and four personnel for an additional five years and to provide reservoir-related law enforcement infrastructure and equipment.

Upon the recommendation of the Water Committee, a motion by Director Jack May and a second by Director Rod Hogan, the Board of Directors voted unanimously to authorize execution of this agreement as presented.

- I. Consider adoption of Resolution No. 19-01 authorizing execution of agreements for reimbursement of costs for two transmission lines and portions of two substations to provide electric power to Bois d'Arc Lake Raw Water Pump Station and Leonard Water Treatment Plant in the event Rayburn Country Electric Cooperative is not reimbursed from the Public Utility Commission Transmission Cost of Service Program; Project No. 101-0362-14, Bois d'Arc Lake Power Supply (Please refer to Administrative Memorandum No. 5330)

Director Jack May advised that the Water Committee reviewed this item January 24, 2019 and voted unanimously to recommend adoption of Resolution No. 19-01.

Upon the recommendation of the Water Committee, a motion by Director Jack May and a second by Director Lynn Shuyler, the Board of Directors voted unanimously to authorize execution of these agreements.

- J. Consider adoption of Resolution No. 19-02 authorizing the transfer and conveyance of electrical transmission easements and sale of two tracts of land for construction of substations to provide electric power for the Bois d'Arc Lake Raw Water Pump Station and Leonard Water Treatment Plant, Project No. 101-0362-14, Bois d'Arc Lake Power Supply; and authorize execution of all documents and taking all steps necessary to effectuate the conveyance of NTMWD property to Rayburn Country Electric Cooperative, Inc. (Please refer to Administrative Memorandum No. 5331)

Upon a motion by Director Phil Dyer and a second by Director Joe Farmer, the Board of Directors voted unanimously to approve as presented.

- K. Consider adoption of Resolution No. 19-03 authorizing sale of 85.11 acres of property at the Bois d'Arc Lake to prior owners
(Please refer to Administrative Memorandum No. 5332)

Director Jack May advised that the Water Committee reviewed this item January 24, 2019 and voted unanimously to recommend adoption of Resolution No. 19-03.

Upon the recommendation of the Water Committee, a motion by Director Jack May and a second by Director Lynn Shuyler, the Board of Directors voted unanimously to authorize the sale of this property.

- L. Consider authorizing execution of Amendment No. 5 to Construction Manager At-Risk Agreement (CMAR) for Partial Guaranteed Maximum Price with Garney Companies, Inc., in the amount of \$8,867,912.55 for CMAR construction services for raw water pipeline right-of-way preparation, Project No. 101-0424-16, Bois d'Arc Lake Raw Water Pipeline
(Please refer to Administrative Memorandum No. 5333)

Director Jack May told the Board that the Water Committee reviewed this item January 24, 2019 and voted unanimously to authorize execution of Amendment No. 5 to the CMAR for partial GMP for pipeline related work and tunneling for the Bois d'Arc Lake Raw Water Pipeline. Executive Director Tom Kula added that this is GMP No. 2 and that it is within the estimated costs.

Upon the recommendation of the Water Committee, a motion by Director Jack May and a second by Director Joe Joplin, the Board of Directors voted unanimously to authorize execution of this amendment.

- M. Consider authorizing additional inspection services with Freese and Nichols, Inc., in the amount of \$86,130 for Lower Rowlett Creek and Lower Cottonwood Creek Lift Station Improvements, Project No. 501-0319-13
(Please refer to Administrative Memorandum No. 5334)

President John Sweeden told the Board that Director Larry Parks will abstain from voting on this item.

Upon a motion by Director Bill Glass and a second by Director Richard Peasley, the Board of Directors voted unanimously to approve as presented.

- N. Consider authorizing additional inspection services with Freese and Nichols, Inc., in the amount of \$272,690 for Rowlett Creek Regional Wastewater Treatment Plant Peak Flow Management Improvements, Phase 1, Project No. 301-0328-13
(Please refer to Administrative Memorandum No. 5335)

President John Sweeden told the Board that Director Larry Parks will abstain from voting on this item.

Upon a motion by Director Richard Peasley and a second by Director Joe Farmer, the Board of Directors voted unanimously to approve as presented.

- O. Consider authorizing execution of inspection services agreement with Freese and Nichols, Inc., in the amount of \$232,575 for Beck Branch Parallel Interceptor, Project No. 501-0439-16
(Please refer to Administrative Memorandum No. 5336)

President John Sweeden told the Board that Director Larry Parks will abstain from voting on this item.

Upon a motion by Director Terry Sam Anderson and a second by Director Lynn Shuyler, the Board of Directors voted unanimously to approve as presented.

- P. Consider authorizing right-of-way acquisition program with the budget of \$474,000 and adoption of Resolution No. 19-04 authorizing the use of eminent domain to acquire right-of-way for the Buffalo Creek Parallel Interceptor, Phase I, Project No. 507-0484-17, and delegating authority to initiate condemnation proceedings to the Executive Director
(Please refer to Administrative Memorandum No. 5337)

Director Lynn Shuyler made a motion to approve; motion was seconded by Director James Kerr.

Prior to the vote a Board member asked a question regarding the amount of funding being proposed, voicing concern that it may not be sufficient for the required easements. NTMWD staff clarified the location, adding that 62 acres are needed for permanent easements and 16 acres are needed for temporary easements. Further, it was noted that the line will run parallel to an existing line so the location may have affected the cost of the land. It was noted that if this funding amount is not sufficient staff will bring this item back to the Board for further consideration.

Upon a motion by Director Lynn Shuyler and a second by Director James Kerr, the Board of Directors voted unanimously to approve as presented.

XI. DISCUSSION ITEMS

- A. Update on Pending Litigation Involving North Texas Municipal Water District/Advice from Legal Counsel, including:
 - 1. Knight et al. vs. U.S. Army Corps of Engineers, Case No. 18-352-ALM in the U.S. District Court for the Eastern District of Texas, Sherman Division

Item XI. A. 1. was not discussed.

At 5:32 p.m. Board President John Sweeden announced that an Executive Session of the Board of Directors was being called in order to discuss Agenda Items XI. B. in a closed session pursuant to Section 551.072 of the Texas Government Code regarding Real Property.

B. Update on FM 2551 Expansion/Impact to NTMWD Facilities

Open Session reconvened at 5:45 p.m. No action was taken as a result of Executive Session.

C. Review of Items for Follow Up Raised During Meeting

President Sweeden recapped some items mentioned during the Board meeting that may require follow up as follows:

- How to handle line item transfers in the budget.
- Response letter to City of Frisco regarding input provided related to amendment of the Water Resource and Emergency Management Plan
- Provide summary of PUC money spent in a memorandum; staff advised that this information is currently provided in the Board memorandum

Executive Director Kula advised the April Board Meeting will be held at the John Bunker Sands Wetland Center in Seagoville, Texas.

Director Shuyler stated that he likes the committee meeting set up today (moved to Board meeting room.)

Director May shared that he felt the committee meetings were rushed today and he is not comfortable with that. He asked if anyone would like to start the meetings earlier.

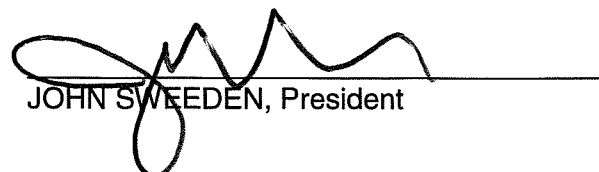
D. Opportunity for Board Members to Request Potential Future Agenda Items
(No substantive discussion of items will take place at this time)

Director John Carr requested a Cost of Service discussion; Executive Director Kula advised this is scheduled for the Executive Committee in February.

XII. ADJOURNMENT

There being no further business, the meeting adjourned at approximately 5:50 p.m. The next regular meeting of the NTMWD Board of Directors will be held Thursday, February 28, at 4:00 p.m. at the North Texas Municipal Water District offices at 501 E. Brown Street, Wylie, Texas.

APPROVED:

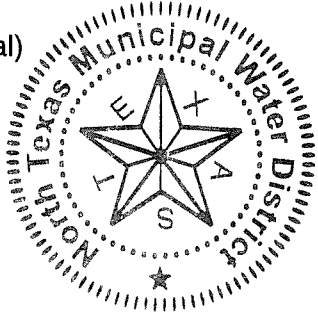

JOHN SWEEDEN, President

ATTEST:



LARRY PARKS, Secretary

(Seal)



APPENDIX E
TEXAS WATER CODE 11.039

APPENDIX E

TEXAS WATER CODE SECTION 11.039

§ 11.039. DISTRIBUTION OF WATER DURING SHORTAGE.

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

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

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

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

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

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

From: [Chris Kozlowski](#)
To: [Sarah Henderson](#)
Subject: Fw: North Texas Municipal Water District Application to Amend Certificate of Adjudication No. 08-2410
Date: Thursday, April 7, 2022 8:29:58 AM
Attachments: [Final-NTMWD-Water-Resource-Management-Plan-01-29-2019.pdf](#)
[Final-Model-Water-Resource-Management-Plan_01-29-19.pdf](#)

From: Lauren Thomas [REDACTED]
Sent: Wednesday, April 6, 2022 9:53 AM
To: WRPT <WRPT@tceq.texas.gov>
Cc: Sara Thornton [REDACTED] Brooke McGregor <brooke.mcgregor@tceq.texas.gov>; Kathy Alexander <kathy.alexander@tceq.texas.gov>; Dubelza Galvan [REDACTED] Helen Dulac [REDACTED]; Jennifer Allis <Jennifer.Allis@tceq.texas.gov>
Subject: RE: North Texas Municipal Water District Application to Amend Certificate of Adjudication No. 08-2410

Good morning,

Please see attached for the Final NTMWD Water Resource Management Plan and Final Model Water Resource Management Plan, as requested.

We apologize for the oversight in not including these documents in the application. Let us know if you have any more questions or if you need anything else.

Best,
Lauren

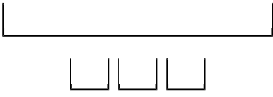
LAUREN C. THOMSON
Attorney
512-322-5850 Direct
Lloyd Gosselink Rochelle & Townsend, P.C.
816 Congress Ave., Suite 1900, Austin, TX 78701
www.lglawfirm.com | 512-322-5800
[News](#) | [vCard](#) | [Bio](#)

From: Dubelza Galvan [REDACTED]
Sent: Wednesday, March 23, 2022 4:02 PM
To: 'WRPT@tceq.texas.gov' <WRPT@tceq.texas.gov>
Cc: Sara Thornton [REDACTED]; Lauren Thomas [REDACTED] [REDACTED] 'brooke.mcgregor@tceq.texas.gov' <brooke.mcgregor@tceq.texas.gov>; 'Kathy.Alexander@tceq.texas.gov' <Kathy.Alexander@tceq.texas.gov>
Subject: North Texas Municipal Water District Application to Amend Certificate of Adjudication No. 08-2410

Good afternoon,

Please see attached North Texas Municipal Water District Application to Amend Certificate of Adjudication No. 08-2410. A hard-copy of the application will be hand-delivered this afternoon.

Thank you,
Dubelza



DUBELZA GALVAN

Paralegal

512-322-5800 Direct

Lloyd Gosselink Rochelle & Townsend, P.C.

816 Congress Ave., Suite 1900, Austin, TX 78701

www.lglawfirm.com | 512-322-5800

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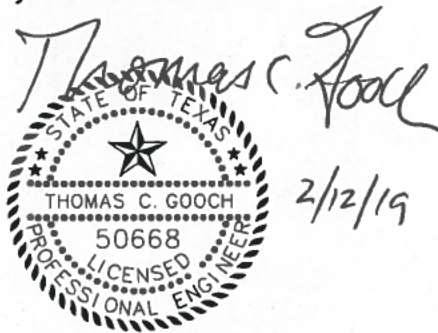
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2019 NORTH TEXAS MUNICIPAL WATER DISTRICT WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

JANUARY 2019



FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

Prepared by:
FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300



FOREWORD

This 2019 Water Resource and Emergency Management Plan (which is an update to the 2014 Water Resource and Emergency Management Plan) was prepared by Freese and Nichols, Inc. for the North Texas Municipal Water District (NTMWD), pursuant to Texas Commission on Environmental Quality (TCEQ) rules governing drought contingency plans. Some material is based on NTMWD's previous water conservation and drought contingency plans listed in Appendix A.

Questions regarding this Water Resource and Emergency Management Plan should be addressed to the following:

Jeremy Rice
Freese and Nichols, Inc.
(817) 735-7300
[REDACTED]

Denise Hickey
North Texas Municipal Water District
(972) 442-5405
[REDACTED]

This Water Resource and Emergency Management Plan is based on the Texas Administrative Code in effect on January 18, 2019.

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APPENDICES

APPENDIX A	List of References
APPENDIX B	Texas Commission on Environmental Quality Rules on Drought Contingency Plans <ul style="list-style-type: none">• Texas Administrative Code Title 30, Chapter 288, Section 288.20 - Drought Contingency Plans for Municipal Uses by Public Water Suppliers (Page B-1)• Texas Administrative Code Title 30, Chapter 288, Section 288.22 - Drought Contingency Plans for Wholesale Water Suppliers (Page B-4)
APPENDIX C	Letters to Region C and Region D Water Planning Groups
APPENDIX D	North Texas Municipal Water District Board Minutes Showing Adoption of the Water Conservation Plan and Water Resource and Emergency Management Plan
APPENDIX E	Texas Water Code Section 11.039

1. INTRODUCTION AND OBJECTIVES

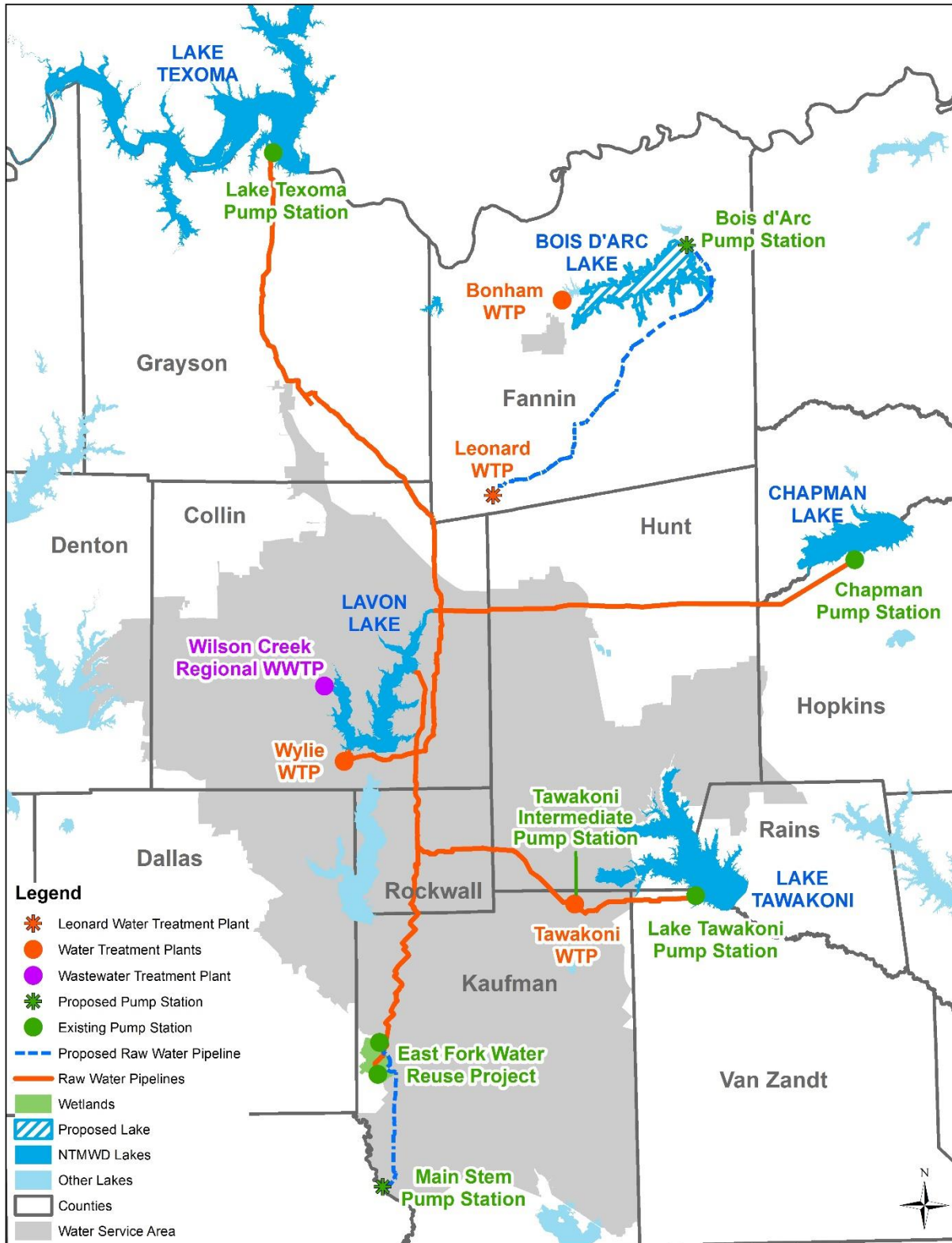
Water supply has always been a key issue in the development of Texas. In recent years, the increasing population and economic development of North Central Texas have led to growing demands for water supplies. At the same time, local and less expensive sources of water supply are already largely developed. Additional supplies to meet future demands will be expensive and difficult to secure. It is therefore important that NTMWD makes efficient use of its existing supplies and makes them last as long as possible. This will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

Recognizing the need for efficient use of existing water supplies, TCEQ has developed guidelines and requirements governing the development of water conservation and drought contingency plans for wholesale water suppliers.¹ The TCEQ drought contingency plan regulations applicable to public water suppliers and wholesale water suppliers are included in Appendix B. NTMWD has developed this Water Resource and Emergency Management Plan (Plan) pursuant to TCEQ guidelines and requirements. NTMWD is a regional wholesale water supplier for 13 Member Cities and numerous other Customers in Collin, Dallas, Denton, Fannin, Grayson, Hopkins, Hunt, Kaufman, Rains, Rockwall, and Van Zandt Counties in North Central Texas. NTMWD currently provides water for approximately 1.7 million people. Figure 1-1 shows the NTMWD service area along with existing and planned water supplies. This Plan has been developed in concert with the Model Water Resource and Emergency Management Plan drafted by NTMWD for use by NTMWD Member Cities and Customers.² This NTMWD Water Resource and Emergency Management Plan will replace the Water Resource and Emergency Management Plan dated April 2014.

The main objective of this Water Resource and Emergency Management Plan is to have mechanisms in place to preserve supplies for essential uses under drought, water supply shortage, water emergency conditions, or other supply interruptions.

¹Superscripted numbers match references listed in Appendix A.

Figure 1-1: NTMWD Service Area with Existing and Planned Raw Water Supplies



2. DEFINITIONS AND ABBREVIATIONS

1. AQUATIC LIFE means a vertebrate organism dependent upon an aquatic environment to sustain its life.
2. 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.
3. COMMERCIAL FACILITY means business or industrial buildings and the associated landscaping, but does not include the fairways, greens, or tees of a golf course.
4. 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.
5. CUSTOMERS include those entities to whom NTMWD provides wholesale water that are not Member Cities of NTMWD.
6. DESIGNATED OUTDOOR WATER USE DAY means a day prescribed by rule on which a person is permitted to irrigate outdoors**.
7. 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.
8. 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.
9. 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.



10. 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.
11. FOUNDATION WATERING means an application of water to the soils directly abutting (within two feet of) the foundation of a building, structure.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. ORNAMENTAL FOUNTAIN means an artificially created structure (up to a certain diameter) from which a jet, stream, or flow of treated water emanates and is not typically utilized for the preservation of aquatic life.
18. NTMWD RETAIL CUSTOMERS include those customers to whom NTMWD provides retail water.
19. 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.
20. SPRINKLER means an above-ground water distribution device that may be attached to a garden hose.



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

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

Abbreviations

Abbreviation	Full Nomenclature
ED	NTMWD Executive Director
NTMWD or District	North Texas Municipal Water District
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
WREMP	NTMWD Water Resource and Emergency Management Plan

3. STATE REQUIREMENTS FOR DROUGHT CONTINGENCY PLANS

3.1 STATE REQUIREMENTS FOR DROUGHT CONTINGENCY PLANS FOR WHOLESALE WATER SUPPLIERS

NTMWD acts primarily as a wholesale water provider, but NTMWD also has 29 retail customers. This section outlines with the state law requirements for wholesale water providers to develop a drought contingency plan. Section 3.2 of this report discusses the requirements that apply to NTMWD as a retail public water supplier regarding a drought contingency plan.

This 2019 Water Resource and Emergency Management Plan is consistent with Texas Commission on Environmental Quality (TCEQ) regulations for the development of drought contingency plans by wholesale water suppliers, contained in Title 30, Chapter 288, Section 288.22 of the Texas Administrative Code, which is included in Appendix B.

Minimum Requirements

TCEQ's minimum requirements for drought contingency plans are addressed in the following subsections of this report:

- 288.22(a)(1) – Provisions to Inform the Public and Provide Opportunity for Public Input – Section 4.2
- 288.22(a)(2) – Coordination with the Regional Water Planning Groups – Section 4.8
- 288.22(a)(3) – Criteria for Initiation and Termination of Drought Stages – Section 4.3
- 288.22(a)(4) – Drought and Emergency Response Stages – Section 4.4
- 288.22(a)(5) – Procedures for Initiation and Termination of Drought Stages – Section 4.3
- 288.22(a)(6) – Specific, Quantified Targets for Water Use Reductions During Water Shortages – Section 4.4
- 288.22(a)(7) – Specific Water Supply or Water Demand Management Measures to be Implemented during Each Drought Stage – Section 4.4
- 288.22(a)(8) – Provision in Wholesale Contracts to Require Water Distribution According to Texas Water Code Section §11.039 – Sections 4.4 and 4.5
- 288.22(a)(9) – Procedures for Granting Variances to the Plan - Section 4.6
- 288.22(a)(10) - Procedures for Enforcement of Mandatory Restrictions – Section 4.7

- 288.22(b) – TCEQ Notification of Implementation of Mandatory Measures – Sections 4.3 and 4.4
- 288.22(c) – Review and Update of the Plan – Section 4.9

3.2 STATE REQUIREMENTS FOR DROUGHT CONTINGENCY PLANS FOR PUBLIC WATER SUPPLIERS

In addition to serving as a wholesale water supplier, NTMWD is also a public water supplier of potable water, providing direct retail service to 29 customers who do not have access to retail service from other sources. The TCEQ has established rules for the development of drought contingency plans for public water suppliers that provide retail service. The rules for drought contingency plans for public water suppliers are contained in Title 30, Chapter 288, Section 288.20 of the Texas Administrative Code, which is included in Appendix B.

Section 3.1 of this report (which addresses rules applicable to wholesale water providers) addresses the majority of the requirements dictated by the regulations applicable to for public water suppliers. This section covers any additional information needed to meet TCEQ requirements for public water suppliers that were not already addressed in the section above.

- 288.20(a)(1)(A) – Provisions to Inform Public and Provide Opportunity for Public Input – Addressed in Section 4.2.
- 288.20(a)(1)(B) – Program for Continuing Public Education and Information – NTMWD shall provide for continuing public education and information by the following measures:
 - Discussing the Water Conservation Plan and Water Resource and Emergency Management Plan when staff speaks to the public on water conservation issues.
 - Including information on the Water Conservation Plan and Water Resources and Emergency Management Plan in bills for its retail Customers.
 - Notification of the public and the media as Water Resource Management Stages are implemented.
- 288.20(a)(1)(C) – Coordination with Regional Water Planning Groups – Addressed in Section 4.8.
- 288.20(a)(1)(D) – Description of Information to Be Monitored and Criteria for the Initiation and Termination of Water Resource Management Stages – Addressed in Sections 4.3 and 4.4.

- 288.20(a)(1)(E) – Stages for Implementation of Measures in Response to Situations – Addressed in Section 4.4.
- 288.20(a)(1)(F) – Specific, Quantified Targets for Water Use Reductions During Water Shortages – Addressed in Section 4.4.
- 288.20(a)(1)(G) – Specific Water Supply or Water Demand Measures to Be Implemented at Each Stage of the Plan – Addressed in Section 4.4.
- 288.20(a)(1)(H) – Procedures for Initiation and Termination of Drought Contingency and Water Emergency Response Stages – Addressed in Section 4.3.
- 288.20(a)(1)(I) – Description of Procedures to Be Followed for Granting Variances to the Plan – Addressed in Section 4.6. Retail Customers may request variances under the same terms as Member Cities and Customers.
- 288.20(a)(1)(J) – Procedures for Enforcement of Mandatory Water Use Restrictions – Addressed in Section 4.7.
- 288.20(b) – TCEQ Notification of Implementation of Mandatory Provisions – Addressed in Section 4.3.
- 288.20(c) – Review of Drought Contingency and Water Emergency Response Plan Every Five (5) Years – Addressed in Section 4.9.

4. NORTH TEXAS MUNICIPAL WATER DISTRICT WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

4.1 INTRODUCTION

The purpose of this 2019 Water Resource and Emergency Management Plan is as follows:

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

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

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

In the fall of 2005, NTMWD began preparing a public education campaign regarding water conservation. In June 2006, NTMWD initiated a major educational campaign using the “Water IQ – Know your water” message originally developed for the state’s Water Conservation Implementation Task Force in 2004. This NTMWD campaign was the first major local campaign based on this message. NTMWD hired Enviromedia Social Marketing of Austin, Texas, to assist in program implementation. Through the end of 2018, NTMWD has invested \$16.6 million since 2006 in this public education campaign. Since 2006, Water IQ has been used for on-going water conservation education and to encourage demands reduction in response to drought and water supply challenges. The Water IQ campaign includes multiple methods to reach and educate the public:

- Television ads
- Radio ads

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

The specifics of the public outreach and education campaign in the future will vary depending on the circumstances of future droughts. The Water IQ program shows NTMWD's commitment to an appropriate drought and water emergency response in addition to the ongoing effort to educate the public in the wise and efficient use of water supplies regardless of weather conditions.

4.2 PROVISIONS TO INFORM THE PUBLIC AND OPPORTUNITY FOR PUBLIC INPUT

NTMWD provided opportunity for public input in the development of this Water Resource and Emergency Management Plan by the following means:

- Providing written notice of the proposed Plan and the opportunity to comment on the Plan by newspaper and posted notice.
- Posting the draft Plan on the NTMWD website and on social media.
- Meeting with representatives of Member Cities and Customers to discuss the draft Plan.
- Providing the draft Plan to anyone requesting a copy.
- Holding a public meeting regarding the Water Resource and Emergency Management Plan at the NTMWD offices in Wylie on January 9, 2019. Public notice of this meeting was provided on the NTMWD website and in local newspapers.

4.3 INITIATION AND TERMINATION OF WATER RESOURCE MANAGEMENT STAGES

Initiation of a Water Resource Management Stage



The Executive Director, with the consent of the NTMWD Board of Directors, may order the implementation of a Water Resource Management Stage for all or part of the NTMWD service area when one or more of the trigger conditions for the respective stage is met. The following actions will be taken when a stage is initiated:

- The public will be notified through local media.
- NTMWD Member Cities and Customers will be notified by e-mail and with a follow-up letter that provides details of the reasons for initiation of the Water Resource Management Stage.
- If any mandatory provisions of the Water Resource and Emergency Management Plan are activated, NTMWD will notify the TCEQ Executive Director within 5 business days.
- The Executive Director may decide not to order the implementation of a Water Resource Management Stage even though one or more of the trigger criteria for the stage is met. Factors that could influence such a decision include, but are not limited to, the time of the year, weather conditions, the anticipation of replenished water supplies, or the anticipation that additional facilities will become available to meet needs.

Termination of a Water Resource Management Stage

The Executive Director, with the concurrence of the NTMWD Board of Directors, may order the termination of a Water Resource Management Stage when the conditions for termination are met or at his/her discretion. The following actions will be taken when a stage is terminated:

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

4.4 WATER RESOURCE MANAGEMENT STAGES, CONDITIONS, AND MEASURES

4.4.1 Stage 1

Initiation and Termination Conditions for Stage 1

Stage 1 may be implemented when one or more of the following conditions is met:

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1.
- Water demand is projected to approach the limit of the permitted supply.
- The storage level in Lavon Lake, as published by the Texas Water Development Board (TWDB)³, is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total 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 has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next 6 months.
- Water demand exceeds 95 percent of the amount that can be delivered to Customers for three (3) consecutive days.
- Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.
- Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.

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

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



- The storage level in Lavon Lake, as published by the TWDB, is greater than 75 percent of the total conservation pool capacity during any of the months of April through October or greater than 65 percent of the total conservation pool capacity during any of the months of November through March.
- Other circumstances that caused the initiation of Stage 1 no longer prevail.

Goal for Use Reduction and Measures Available under Stage 1

The goal for water use reduction under Stage 1 is a reduction of two percent (2%) in the use that would have occurred in the absence of water resource management measures. **If circumstances warrant, the Executive Director can set a goal for greater or lesser water use reduction.** The actions listed below are provided as potential strategies to reduce water demand. Member Cities and Customers are encouraged to adopt any or all of these measures necessary to achieve the designated reduction in use. Measures described as “requires notification to TCEQ” are those that impose mandatory requirements which must be implemented by Member Cities and Customers. NTMWD must notify TCEQ within five business days if these measures are implemented.

- Continue actions described in the Water Conservation Plan.
- Require Member Cities and Customers (including indirect Customers) to initiate Stage 1 restrictions in their respective, independently-adopted Water Resource Management Plans.
- 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 not supplied from treated wastewater effluent.
- Encourage the public to wait until the current drought or water emergency situation has passed before establishing New Landscaping.
- All users are encouraged to reduce the frequency of draining and refilling swimming pools.
- **Requires Notification to TCEQ** – Increase enforcement of the following landscape watering restrictions from the Water Conservation Plan: (1) limit landscape watering with sprinklers or irrigation systems at each service address to no more than two days per week on designated days between April 1 and October 31; and (2) limit landscape watering with sprinklers or

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

- An exception is allowed for New Landscape associated with new construction that may be watered as necessary for 30 days from the installation of new landscape features.
- An exception for additional watering of landscape may be provided by hand held hose with shutoff nozzle, and/or use of dedicated irrigation drip zones, provided no runoff occurs.
- Foundation Watering (within two-feet), New Landscape Watering, water of new plantings (first year) of shrubs, and watering of trees (within a ten-foot radius of its trunk) may occur by a hand-held hose, a soaker hose, or a dedicated zone using a Drip Irrigation system, provided no runoff occurs.
- 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.
- **Requires Notification to TCEQ** – Initiate a rate surcharge for all water use over a certain level.
- **Requires Notification to TCEQ** – 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 which may be hand watered as needed.

4.4.2 Stage 2

Initiation and Termination Conditions for Stage 2

Stage 2 may be implemented when one or more of the following conditions is met:

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2.
- Water demand is projected to approach the limit of NTMWD's permitted supply.
- The storage level in Lavon Lake, as published by the TWDB³, is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less

than 45 percent of the total 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 has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months.
- Water demand exceeds 98 percent of the amount that can be delivered to Customers for three (3) consecutive days.
- Water demand for all or part of the delivery system equals delivery capacity, because delivery capacity is inadequate.
- Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.

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

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the termination of Stage 2.
- The storage level in Lavon Lake, as published by the TWDB³, is greater than 70 percent of the total conservation pool capacity during any of the months of April through October or greater than 60 percent of the total conservation pool capacity during any of the months of November through March.
- Other circumstances that caused the initiation of Stage 2 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 2

The goal for water use reduction under Stage 2 is a reduction of ten percent (10%) in the use that would have occurred in the absence of water resource management measures. **If circumstances warrant, the Executive Director can set a goal for greater or lesser water use reduction.** Member Cities and Customers

are encouraged to adopt any or all measures necessary to achieve the designated reduction in use. Measures described as “requires notification to TCEQ” are those that impose mandatory requirements that must be implemented by NTMWD, Member Cities, and Customers. NTMWD must notify TCEQ within five (5) business days if these measures are implemented.

- Continue or initiate any actions available under the Water Conservation Plan and Stage 1.
- Require Member Cities and Customers (including indirect Customers) to initiate Stage 2 restrictions in their respective, independently-adopted Water Resource Management Plans.
- Implement viable alternative water supply strategies.
- All users are encouraged to reduce the frequency of draining and refilling swimming pools.
- **Requires Notification to TCEQ** – 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.
 - Foundations Watering (within two-feet), watering of new plantings (first year) of shrubs, and watering of trees (within a ten-foot radius of its trunk) occur watered 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** – Prohibit overseeding, sodding, sprigging, broadcasting or plugging with or watering, except for golf courses and athletic fields.
- **Requires Notification to TCEQ** – 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 of this Plan).
- **Requires Notification to TCEQ** – Initiate a rate surcharge for all water use over a certain level.
- **Requires Notification to TCEQ** – Parks and golf courses using potable water for landscape watering are required to meet the same reduction goals and measures outlined in this stage. Exception for golf course greens and tee boxes, which may be hand watered as needed.

4.3.3 Stage 3

Initiation and Termination Conditions for Stage 3

Stage 3 may be implemented when one or more of the following conditions is met:

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3.
- Water demand is projected to approach or exceed the limit of the permitted supply.
- The storage level in Lavon Lake, as published by the TWDB³, is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total 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 3 drought.
- The supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source has become limited in availability.
- Water demand exceeds the amount that can be delivered to Customers.
- Water demand for all or part of the delivery system exceeds delivery capacity, because delivery capacity is inadequate.

- Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.

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

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the termination of Stage 3.
- The storage level in Lavon Lake, as published by the TWDB³, is greater than 55 percent of the total conservation pool capacity during any of the months of April through October or greater than 45 percent of the total conservation pool capacity during any of the months of November through March.
- Other circumstances that caused the initiation of Stage 3 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 3

The goal for water use reduction under Stage 3 is a reduction of thirty percent (30%) percent 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. **If circumstances warrant, the Executive Director can set a goal for greater or lesser water use reduction.** Member Cities and Customers are encouraged to adopt any or all measures necessary to achieve the designated reduction in use. Measures described as “requires notification to TCEQ” are those that impose mandatory requirements which must be implemented by Member Cities and Customers. NTMWD must notify TCEQ within five (5) business days if these measures are implemented.

- Continue or initiate any actions available under the Water Conservation Plan and Stages 1 and 2.
- Require Member Cities and Customers (including indirect Customers) to initiate Stage 3 restrictions in their respective, independently-adopted Water Resource Management Plans.
- Implement viable alternative water supply strategies.
- **Requires Notification to TCEQ** – 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 or water quality.
- **Requires Notification to TCEQ** – Prohibit new sod, overseeding, sodding, sprigging, broadcasting or plugging with or watering.
- **Requires Notification to TCEQ** – Prohibit the use of potable water for the irrigation of New Landscape.
- **Requires Notification to TCEQ** – Prohibit all commercial and residential landscape watering, except that foundations (within two-feet) and trees (within a ten-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** – Prohibit washing of vehicles except at a Commercial Vehicle Wash Facility.
- **Requires Notification to TCEQ** – Landscape watering of parks, golf courses, and Athletic Fields with potable water is prohibited. Exception for golf course greens and tee boxes that may be hand watered as needed. Variances may be granted by the water provider under special circumstances.
- **Requires Notification to TCEQ** – 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** – 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** – Require all commercial water users to reduce water use by a set percentage.
- **Requires Notification to TCEQ** – 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** – Initiate a rate surcharge over normal rates for all water use or for water use over a certain level.

4.5 PROCEDURE FOR CURTAILMENT OF WATER SUPPLIES

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

4.6 PROCEDURE FOR GRANTING VARIANCES TO THE PLAN

The Executive Director may grant temporary variances for existing water uses otherwise prohibited under this Water Resource and Emergency Management Plan to a Member City, Customer, or Retail Customer of NTMWD 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 Executive Director. All petitions for variances should be in writing and should include the following information:
 - Name and address of the petitioner(s).
 - Purpose of water use.
 - Specific provisions from which relief is requested.

- Detailed statement of the adverse effect of the provision from which relief is requested.
- Description of the relief requested.
- Period of time for which the variance is sought.
- Alternative measures that will be taken to reduce water use.
- Other pertinent information.

4.7 PROCEDURES FOR ENFORCING MANDATORY WATER USE RESTRICTIONS

Mandatory water use restrictions may be imposed in all stages of the Water Resource and Emergency Management Plan. These mandatory water use restrictions will be enforced by warnings and penalties as follows:

- On the first violation, the Member City or Customer will be given a written warning that they have violated the mandatory water use restriction.
- After a second violation, NTMWD may monitor and validate the flow in the line and ensure that the appropriate amount of water is delivered to the Member City or Customer.
- NTMWD may charge up to twice the established rate for any water used in violation of mandatory water use restrictions.

Each Member City and Customer will determine and enforce its own set of penalties associated with the mandatory water use restrictions applicable to its retail and wholesale customers.

4.8 COORDINATION WITH THE REGIONAL WATER PLANNING GROUPS

Appendix C of this report includes copies of letters sent to the Chairs of the Region C and Region D water planning groups with this 2019 Water Resource and Emergency Management Plan. NTMWD has fully coordinated with both regional water planning groups regarding development of the WREMP to the extent those groups wished to coordinate.

4.9 REVIEW AND UPDATE OF WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

As required by TCEQ rules, NTMWD will review this Plan every five (5) years. The Plan will be updated as appropriate based on new or updated information.

APPENDIX A
LIST OF REFERENCES

APPENDIX A

LIST OF REFERENCES

1. Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter B, Rules 288.20 and 288.22, downloaded from [http://texreg.sos.state.tx.us/public/readtac\\$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=288&sc_h=B&rl=Y](http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=288&sc_h=B&rl=Y), July 2018.
2. Freese and Nichols, Inc.: 2019 Model Water Resource Management Plan for NTMWD Members Cities and Customers, prepared for the North Texas Municipal Water District, Fort Worth, February 2019.
3. Texas Water Development Board, Water Data for Texas, Lavon Lake, <https://waterdatafortexas.org/reservoirs/individual/lavon>.

APPENDIX B
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
RULES ON DROUGHT CONTINGENCY PLANS

APPENDIX B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES ON DROUGHT CONTINGENCY PLANS

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER B</u>	DROUGHT CONTINGENCY PLANS
RULE §288.20	Drought Contingency Plans for Municipal Uses by Public Water Suppliers

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

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

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

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

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

(D) The drought contingency plan must include a description of the information to be monitored by the water supplier, and specific criteria for the initiation and termination of drought response stages,

accompanied by an explanation of the rationale or basis for such triggering criteria.

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

- (i) reduction in available water supply up to a repeat of the drought of record;
- (ii) water production or distribution system limitations;
- (iii) supply source contamination; or
- (iv) system outage due to the failure or damage of major water system components (e.g., pumps).

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

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

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

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

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

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

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

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

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

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

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

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER B</u>	DROUGHT CONTINGENCY PLANS
RULE §288.22	Drought Contingency Plans for Wholesale Water Suppliers

(a) A drought contingency plan for a wholesale water supplier must include the following minimum elements.

(1) Preparation of the plan shall include provisions to actively inform the public and to affirmatively provide opportunity for user input in the preparation of the plan and for informing wholesale customers about the plan. 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.

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

(3) 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.

(4) The drought contingency plan must include a minimum of three drought or emergency response stages providing for the implementation of measures in response to water supply conditions during a repeat of the drought-of-record.

(5) The drought contingency plan must include the procedures to be followed for the initiation or termination of drought response stages, including procedures for notification of wholesale customers regarding the initiation or termination of drought response stages.

(6) 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 paragraph are not enforceable.

(7) 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:

(A) pro rata curtailment of water deliveries to or diversions by wholesale water customers as provided in Texas Water Code, §11.039; and

(B) utilization of alternative water sources 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.).

(8) The drought contingency plan must include a provision in every wholesale water contract entered into or renewed after adoption of the plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code, §11.039.

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

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

(b) The wholesale public 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 wholesale 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 adoption or revision of the regional water plan.

Source Note: The provisions of this §288.22 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

LETTERS TO REGION C AND REGION D WATER PLANNING GROUPS



Regional. Reliable. Everyday.

January 28, 2019

Mr. Kevin Ward
Chair, Region C Water Planning Group
c/o Trinity River Authority
P.O. Box 60
Arlington, Texas 76004

Re: NTMWD Water Conservation and Water Resource and Emergency Management Plans

Dear Mr. Ward:

Enclosed please find a copy of the following documents:

- 2019 Water Conservation Plan for the North Texas Municipal Water District
- 2019 Water Resource and Emergency Management Plan for the North Texas Municipal Water District
- 2019 Model Water Conservation Plan for North Texas Municipal Water District Member Cities and Customers
- 2019 Model Water Resource and Emergency Management Plan for North Texas Municipal Water District Member Cities and Customers

NTMWD is submitting a copy of these plans to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of Directors of the North Texas Municipal Water District adopted the plans on January 24, 2019.

Sincerely,


THOMAS W. KULA
Executive Director

TWK/DH/bb



Regional. Reliable. Everyday.

January 25, 2019

Mr. Richard LeTourneau
Chair, Region D Water Planning Group
P.O. Box 12071
Longview, Texas 75607

Re: NTMWD Water Conservation and Water Resource and Emergency Management Plans

Dear Mr. LeTourneau:

Enclosed please find a copy of the following documents:

- 2019 Water Conservation Plan for the North Texas Municipal Water District
- 2019 Water Resource and Emergency Management Plan for the North Texas Municipal Water District
- 2019 Model Water Conservation Plan for North Texas Municipal Water District Member Cities and Customers
- 2019 Model Water Resource and Emergency Management Plan for North Texas Municipal Water District Member Cities and Customers

NTMWD is submitting a copy of these plans to the Region D Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of Directors of the North Texas Municipal Water District adopted the plans on January 24, 2019.

Sincerely,

THOMAS W. KULA
Executive Director

TWK/DH/bb

APPENDIX D

**NTMWD BOARD MINUTES SHOWING ADOPTION OF THE WATER
CONSERVATION AND WATER RESOURCE AND EMERGENCY MANGEMENT
PLAN**

APPENDIX D

NORTH TEXAS MUNICIPAL WATER DISTRICT BOARD MINUTES SHOWING ADOPTION OF THE WATER CONSERVATION AND WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

APPENDIX E
TEXAS WATER CODE 11.039

APPENDIX E

TEXAS WATER CODE SECTION 11.039

§ 11.039. DISTRIBUTION OF WATER DURING SHORTAGE.

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

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

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

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

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

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

**2019 MODEL WATER RESOURCE AND
EMERGENCY MANAGEMENT PLAN
NORTH TEXAS MUNICIPAL WATER DISTRICT
MEMBER CITIES AND CUSTOMERS**

JANUARY 2019

Thomas C. Gooch



2/12/19

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144


Prepared by:

FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300

FOREWORD

This 2019 Model Water Resource and Emergency Management Plan (WREMP) (which is an update to 2014 Model Water Resource and Emergency Management Plan) was prepared by Freese and Nichols, Inc. for the North Texas Municipal Water District (NTMWD). It is intended to be used by NTMWD Member Cities and Customers as a guide as they develop their own Water Resource and Emergency Management Plans. This plan was prepared pursuant to Texas Commission on Environmental Quality (TCEQ) rules. Some material is based on the existing drought contingency plans listed in Appendix A.

Questions regarding this Model WREMP should be addressed to the following:

Jeremy Rice
Freese and Nichols, Inc.
(817) 735-7300


Denise Hickey
North Texas Municipal Water District
(972) 442-5405


This Model WREMP plan is based on the Texas Administrative Code in effect on January 18, 2019.

**2019 WATER RESOURCE AND EMERGENCY
MANAGEMENT PLAN
[INSERT ENTITY NAME]**

JANUARY 2019



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- Municipal Utility District Order Adopting Water Resource and Emergency Management Plan
- Special Utility District Order Adopting Water Resource and Emergency Management Plan
- Water Supply Corporation Resolution Adopting Water Resource and Emergency Management Plan



1. INTRODUCTION AND OBJECTIVES

This document has been prepared as a Model Water Resource and Emergency Management Plan (Model WREMP), intended to be available for use by North Texas Municipal Water District (NTMWD) Member Cities and Customers as they develop their own respective WREMPs. This Model WREMP addresses all of the current TCEQ requirements for a drought contingency plan.¹ This Model WREMP will replace the plans dated August 2004, April 2006, March 2008, and April 2014.

The measures included in this Model WREMP are intended to provide short-term water savings during drought or emergency conditions. Water savings associated with ongoing, long-term strategies are discussed in the document entitled *Model Water Conservation Plan for North Texas Municipal Water District Member Cities and Customers*.²

The purpose of this Model WREMP is as follows:

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

NTMWD supplies treated potable water to its Member Cities and Customers. This Model WREMP was developed by NTMWD in consultation with its Member Cities and Customers. In order to adopt this Model WREMP, each NTMWD Member City and Customer will need to adopt ordinance(s) or regulation(s) implementing the WREMP, including the establishment of fines and enforcement procedures. The Model WREMP calls for each Member City and Customer to adopt Water Resource Management Stages initiated by NTMWD during a drought or water supply emergency. Member Cities and Customers may also adopt more stringent Water Resource Management Stages than NTMWD if conditions so warrant.

In the absence of drought response measures, water demands tend to increase during a drought due to increased outdoor irrigation. The severity of a drought depends on the degree of depletion of supplies



and on the relationship of demand to available supplies. NTMWD considers a drought to end when all of NTMWD's supply reservoirs refill to conservation storage pool levels.

¹ Superscripted numbers match references listed in Appendix A.

2. DEFINITIONS AND ABBREVIATIONS

1. AQUATIC LIFE means a vertebrate organism dependent upon an aquatic environment to sustain its life.
2. 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.
3. COMMERCIAL FACILITY means business or industrial buildings and the associated landscaping, but does not include the fairways, greens, or tees of a golf course.
4. 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.
5. CUSTOMERS include those entities to whom NTMWD provides wholesale water that are not Member Cities of NTMWD.
6. DESIGNATED OUTDOOR WATER USE DAY means a day prescribed by rule on which a person is permitted to irrigate outdoors **.
7. 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.
8. 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.
9. 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.



10. EXECUTIVE DIRECTOR means the Executive Director of the 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.
11. FOUNDATION WATERING means an application of water to the soils directly abutting (within 2 feet) the foundation of a building, structure .
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. ORNAMENTAL FOUNTAIN means an artificially created structure (up to a certain diameter) from which a jet, stream, or flow of treated water emanates and is not typically utilized for the preservation of aquatic life.
18. RETAIL CUSTOMERS include those customers to whom the Supplier provides retail water from a water meter.
19. 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.



- 20. SPRINKLER means an above-ground water distribution device that may be attached to a garden hose.
- 21. SUPPLIER means a Member City or Customer that purchases wholesale water from NTMWD and provides water to retail and/or wholesale customers.
- 22. SWIMMING POOL means any structure, basin, chamber, or tank including hot tubs, containing an artificial body of water for swimming, diving, or recreational bathing, and having a depth of two (2) feet or more at any point.
- 23. WATER RESOURCE MANAGEMENT PLAN means a strategy or combination of strategies for temporary supply management and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies required by Texas Administrative Code Title 30, Chapter 288, Subchapter B. This is sometimes called a drought contingency plan.

Abbreviations

Abbreviation	Full Nomenclature
ED	NTMWD Executive Director
NTMWD or District	North Texas Municipal Water District
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
Model WREMP	Model Water Resource and Emergency Management Plan for Member Cities and Customers

3. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

The TCEQ rules governing development of drought contingency plans for public water suppliers are contained in Title 30, Chapter 288, Section 288.20 of the Texas Administrative Code, a current copy of which is included in Appendix B. For the purpose of these rules, a drought contingency 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.”¹

Minimum Requirements

TCEQ’s minimum requirements for drought contingency plans are addressed in the following subsections of this report:

- 288.20(a)(1)(A) – Provisions to Inform the Public and Provide Opportunity for Public Input – Section 4.1
- 288.20(a)(1)(B) – Program for Continuing Public Education and Information – Section 4.2
- 288.20(a)(1)(C) – Coordination with the Regional Water Planning Group – Section 4.6
- 288.20(a)(1)(D) – Description of Information to be Monitored and Criteria for the Initiation and Termination of Water Resource Management Stages – Section 4.3
- 288.20(a)(1)(E) – Water Resource Management Stages – Section 4.3
- 288.20(a)(1)(F) – Specific, Quantified Targets for Water Use Reductions During Water Shortages – Section 4.3
- 288.20(a)(1)(G) – Water Supply and Demand Management Measures for Each Stage – Section 4.3
- 288.20(a)(1)(H) – Procedures for Initiation and Termination of Water Resource Management Stages – Section 4.3
- 288.20(a)(1)(I) - Procedures for Granting Variances – Section 4.4
- 288.20(a)(1)(J) - Procedures for Enforcement of Mandatory Restrictions – Section 4.5
- 288.20(a)(3) – Consultation with Wholesale Water Supplier – Sections 1 and 4.3
- 288.20(b) – TCEQ Notification of Implementation of Mandatory Measures – Section 4.3
- 288.20(c) – Review and Update of WREMP – Section 4.7

4. WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

4.1 PROVISIONS TO INFORM THE PUBLIC AND OPPORTUNITY FOR PUBLIC INPUT

Member Cities and Customers will provide opportunity for public input in the development of this WREMP by the following means:

- Providing written notice of the proposed WREMP and the opportunity to comment on the WREMP by newspaper, posted notice, and notice on the utility's web site and social media (if available).
- Making the draft WREMP available on the supplier's web site (if available).
- Providing the draft WREMP to anyone that requests a copy.
- Supplier may hold a public meeting providing advance public notice of such meeting.

4.2 PROGRAM FOR CONTINUING PUBLIC EDUCATION AND INFORMATION

Member Cities and Customers will inform and educate the public about the Water Resource and Emergency Management Plan by the following means:

- Preparing a bulletin describing the plan and making it available at City Hall and other appropriate locations.
- Making the plan available to the public through the supplier's web site (if available).
- Including information about the Water Resource and Emergency Management Plan on the supplier's web site (if available).
- Notifying local organizations, schools, and civic groups that utility staff are available to make presentations on the Water Resource and Emergency Management Plan (usually in conjunction with presentations on water conservation programs).
- At any time that the Water Resource and Emergency Management Plan is activated or changes, Member Cities and Customers 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 supplier's web site (if available). Billing inserts will also be used as appropriate.



4.3 CRITERIA FOR INITIATION AND TERMINATION OF WATER RESOURCE AND EMERGENCY MANAGEMENT STAGES AND TARGETS FOR WATER USE REDUCTIONS

Initiation of a Water Resource Management Stage

The City Manager, General Manager, Mayor, Chief Executive, or official designee may order the implementation of a Water Resource Management Stage when one or more of the trigger conditions for that stage is met.

- Water Resource and Emergency Management Plan stages imposed by NTMWD action must be initiated by Member Cities and Customers.
- For other trigger conditions internal to a city or water supply entity, the City Manager, General Manager, Mayor, Chief Executive, or official designee may decide not to order the implementation of a Water Resource Management Stage or Water Emergency even though one or more of the trigger criteria for the stage are met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, the anticipation of replenished water supplies, or the anticipation that additional facilities will become available to meet needs. The reason for this decision should be documented.

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 web site (if available) as described in Section 4.2.
- Wholesale customers (if any) and NTMWD will be notified by e-mail with a follow-up letter that provides details of the reasons for initiation of the Water Resource Management Stage.
- If any mandatory provisions of the Water Resource and Emergency Management Plan are activated, Member Cities and Customers will notify the TCEQ Executive Director and the NTMWD Executive Director within 5 business days.

Termination of a Water Resource Management Stage

WREMP stages initiated by NTMWD may be terminated after NTMWD has terminated the stage. For WREMP stages initiated by the Supplier, the City Manager, General Manager, Mayor, Chief Executive, or



official designee 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 web site (if available) as described in Section 4.2.
- Wholesale customers (if any) and NTMWD will be notified by e-mail with a follow-up letter.
- If any mandatory provisions of the Water Resource and Emergency Management Plan that have been activated are terminated, Member Cities and Customers will notify the TCEQ Executive Director and the NTMWD Executive Director within 5 business days.

The City Manager, General Manager, Mayor, Chief Executive, or official designee may decide not to order the termination of a Water Resource Management Stage even though the conditions for termination of the stage are met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, or the anticipation of potential changed conditions that warrant the continuation of the Water Resource Management Stage. The reason for this decision should be documented.

Water Resource and Emergency Management Plan Stages and Corresponding Measures

4.3.1 Stage 1

Initiation and Termination Conditions for Stage 1

NTMWD has initiated Stage 1, which may be initiated due to one or more of the following:

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1.
- Water demand is projected to approach the limit of NTMWD's permitted supply.
- The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB),³ is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total 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 has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months.
- Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days.
- Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.
- Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted.

Supplier has initiated Stage 1 due to one or more of the following reasons:

- Supplier's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days.
- Supplier's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.
- Supplier's water system is unable to deliver water due to the failure or damage of major water system components.
- Supplier's individual plan may be implemented if other criteria dictate.

NTMWD has terminated Stage 1, which may be terminated due to one or more of the following:

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



- The storage level in Lavon Lake, as published by the TWDB,³ is greater than 75 percent of the total conservation pool capacity during any of the months of April through October or greater than 65 percent of the total conservation pool capacity during any of the months of November through March.
- Other circumstances that caused NTMWD initiation of Stage 1 no longer prevail.

The circumstances that caused the Supplier’s initiation of Stage 1 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 1

The goal for water use reduction under Stage 1 is a two percent (2%) reduction in the amount of water produced by NTMWD from the previous corresponding annual payment period prior to institution of drought restrictions. **If circumstances warrant, or if required by NTMWD, the City Manager, General Manager, Mayor, Chief Executive, or official designee can set a goal for greater or lesser water use reduction under Stage 1.** The City Manager, General Manager, Mayor, Chief Executive, or official designee may order the implementation of any or all of the actions listed below, as deemed necessary, to achieve a two-percent reduction. Measures described as “requires notification to TCEQ” are those that impose mandatory requirements on customers. The supplier must notify TCEQ and NTMWD within five (5) business days if such mandatory measures are implemented.

- Continue actions established by the Water Conservation Plan.
- Notify any wholesale customers of actions being taken and request that they implement similar procedures.
- Initiate engineering studies to evaluate alternative water sources and/or alternative delivery mechanisms should conditions worsen.
- Further accelerate public education efforts on ways to reduce water use.
- Halt non-essential city government water use. Examples include street cleaning, vehicle washing, operation of ornamental fountains, etc.
- Encourage the public to wait until the current drought or emergency situation has passed before establishing New Landscape.
- Encourage all users to reduce the frequency of draining and refilling swimming pools.

- **Requires Notification to TCEQ** – Increase enforcement of the following landscape watering restrictions established by the Water Conservation Plan: (1) limit landscape watering with sprinklers or irrigation systems at each service address to no more than two (2) days per week, on designated days, between April 1 and October 31; and (2) limit landscape watering with sprinklers or irrigation systems at each service address to once every week, on designated days, between November 1 and March 31. Exceptions are as follows:
 - An exception is allowed for New Landscape associated with new construction that may be watered as necessary for 30 days from the date of installation of new landscape features.
 - An exception for additional watering of landscape may be provided by hand-held hose with shutoff nozzle, and/or use of dedicated irrigation drip zones provided no runoff occurs.
 - Foundation (within 2 feet), New Landscape Watering, watering of new plantings (first year) of shrubs, and watering of trees (within a ten foot radius of its trunk) may occur by a hand-held hose, a soaker hose, or a dedicated zone using a Drip Irrigation system provided no runoff occurs.
 - Locations using alternative sources of water supply only for irrigation may irrigate without day of the week restrictions provided proper signage is employed. However, irrigation using alternative sources of supply is subject all other restrictions applicable to this stage. If the alternative supply source is a well, proper proof of well registration with the North Texas Groundwater Conservation District or Red River Ground Water Conservation District is required. Other sources of water supply may not include imported treated water.
- **Requires Notification to TCEQ** – Initiate a rate surcharge for all water use over a certain level.
- **Requires Notification to TCEQ** – 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. Exception for golf course greens and tee boxes that may be hand-watered as needed.

4.3.2 Stage 2

Initiation and Termination Conditions for Stage 2

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

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2.
- Water demand is projected to approach the limit of NTMWD's permitted supply.
- The storage level in Lavon Lake, as published by the TWDB,³ is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total 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 has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months.
- Water demand exceeds 98 percent of the amount that can be delivered to Customers for three (3) consecutive days.
- Water demand for all or part of the delivery system equals delivery capacity, because delivery capacity is inadequate.
- Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.

Supplier has initiated Stage 2 due to one or more of the following reasons:

- Supplier's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days.



- Supplier's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.
- Supply source is interrupted or unavailable due to invasive species.
- Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components.
- Supplier's individual plan may be implemented if other criteria dictate.

NTMWD has terminated Stage 2, which may be terminated due to one or more of the following:

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the termination of Stage 2.
- The storage level in Lavon Lake, as published by the TWDB,³ is greater than 70 percent of the total conservation pool capacity during any of the months of April through October or greater than 60 percent of the total conservation pool capacity during any of the months of November through March.
- Other circumstances that caused the NTMWD's initiation of Stage 2 no longer prevail.

The circumstances that caused the Supplier's initiation of Stage 2 no longer prevail.

Goals for Use Reduction and Actions Available under Stage 2

The goal for water use reduction under Stage 2 is a reduction of ten percent (10%) in the amount of water obtained from NTMWD from the previous corresponding annual payment period prior to the institution of drought restrictions. **If circumstances warrant, or if required by NTMWD, the City Manager, General Manager, Mayor, Chief Executive, or official designee can set a goal for greater or lesser water use reduction.** The City Manager, General Manager, Mayor, Chief Executive, or official designee may order the implementation of any or all of the actions listed below, as deemed necessary to achieve a ten percent reduction. Measures described as "requires notification to TCEQ" are those that impose mandatory requirements on customers. The supplier must notify TCEQ and NTMWD within five (5) business days if such mandatory measures are implemented.



- Continue or initiate any actions available under the Water Conservation Plan and Stage 1.
- Notify any wholesale customers of actions being taken and request that they implement similar procedures.
- Implement viable alternative water supply strategies.
- Encourage all users to reduce the frequency of draining and refilling swimming pools.
- **Requires Notification to TCEQ** – 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 Landscape may be watered as necessary for 30 days from the date of the installation of new landscape features.
 - Foundation Watering (within 2 feet), New Landscape Watering, watering of new plantings (first year) of shrubs, and watering of trees (within a ten foot radius of its trunk) may occur for up to two hours on any day by a hand-held hose, a dedicated zone using a Drip Irrigation system and/or Soaker Hose, 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 alternative water source(s) being used. However, irrigation using alternative sources of supply is subject all other restrictions applicable to this stage. If the alternative supply source is a well, proper proof of well registration with the North Texas Groundwater Conservation District or Red River Groundwater Conservation District is required. Alternative sources of water supply may not include imported treated water.
 - An exemption is allowed 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.
 - Hand watering with shutoff nozzle, drip lines, and Soaker Hoses are allowed before 10 am and after 6 pm, provided no runoff occurs.



- **Requires Notification to TCEQ** – Prohibit hydro seeding, hydro mulching, and sprigging.
- **Requires Notification to TCEQ** – Initiate a rate surcharge as requested by NTMWD.
- **Requires Notification to TCEQ** – Initiate a rate surcharge for all water use over a certain level.
- **Requires Notification to TCEQ** – If NTMWD has imposed a reduction in water available to Member Cities and Customers, impose the same percent reduction on any wholesale customers.
- **Requires Notification to TCEQ** – Parks and golf courses using potable water for landscape watering are required to meet the same reduction goals and measures outlined in this stage. Exception for golf course greens and tee boxes which may be hand watered as needed.

4.3.3 Stage 3

Initiation and Termination Conditions for Stage 3

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

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3.
- Water demand is projected to approach or exceed the limit of the permitted supply.
- The storage level in Lavon Lake, as published by the TWDB,³ is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total 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 3 drought.
- The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD water source has become limited in availability.
- Water demand exceeds the amount that can be delivered to Customers.
- Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.



- Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.

Supplier has initiated Stage 3 due to one or more of the following reasons:

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

NTMWD has terminated Stage 3, which may be terminated due to one or more of the following:

- The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the termination of Stage 3.
- The storage level in Lavon Lake, as published by the TWDB,³ in Lavon Lake is greater than 55 percent of the total conservation pool capacity during any of the months of April through October or greater than 45 percent of the total conservation pool capacity during any of the months of November through March.
- Other circumstances that caused the NTMWD's initiation of Stage 3 no longer prevail.

When other circumstances that caused the Supplier's initiation of Stage 3 no longer prevail.

Goals for Use Reduction and Actions Available under Stage 3

The goal for water use reduction under Stage 3 is a reduction of whatever amount is designated by NTMWD in the amount of water obtained from NTMWD from the corresponding previous annual



payment period prior to institution of drought restrictions. **If circumstances warrant or if required by NTMWD, the City Manager, General Manager, Mayor, Chief Executive, or official designee can set a goal for greater or lesser water use reduction.** The City Manager, General Manager, Mayor, Chief Executive, or official designee may order the implementation of any or all of the actions listed below, as deemed necessary. Measures described as “requires notification to TCEQ” are those that impose mandatory requirements on Member Cities and Customers. The supplier must notify TCEQ and NTMWD within five (5) business days if such mandatory measures are implemented.

- Continue or initiate any actions available under the Water Conservation Plan and Stages 1 and 2.
- Notify any wholesale customers of actions being taken and request them to implement similar procedures.
- Implement viable alternative water supply strategies.
- **Requires Notification to TCEQ** – Initiate mandatory water use restrictions as follows:
 - 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 or water quality.
- **Requires Notification to TCEQ** – Prohibit new sod, hydro-seeding, hydro-mulching, and sprigging.
- **Requires Notification to TCEQ** – Prohibit the use of potable water for the irrigation of New Landscape.
- **Requires Notification to TCEQ** – Prohibit all commercial and residential landscape watering, except that Foundation Watering (within 2 feet) and watering of trees (within a ten foot radius of its trunk) may occur for two hours one day per week with a hand-held hose or with a dedicated zone using a Drip Irrigation system and/or Soaker Hose, provided no runoff occurs. Drip Irrigation systems are not exempt from this requirement.
- **Requires Notification to TCEQ** – Prohibit washing of vehicles except at a Commercial Vehicle Wash Facility.



- **Requires Notification to TCEQ** – Landscape watering of parks, golf courses, and Athletic Fields with potable water is prohibited. Exception for golf course greens and tee boxes that may be hand watered as needed. Variances may be granted by the water provider under special circumstances.
- **Requires Notification to TCEQ** – 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** – 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** – Require all commercial water users to reduce water use by a percentage established by the City Manager, General Manager, Mayor, Chief Executive, or official designee.
- **Requires Notification to TCEQ** – If NTMWD has imposed a reduction in water available to Member Cities and Customers, impose the same percent reduction on any wholesale customers.
- **Requires Notification to TCEQ** – Initiate a rate surcharge over normal rates for all water use or for water use over a certain level.

4.4 PROCEDURES FOR GRANTING VARIANCES TO THE PLAN

The City Manager, General Manager, Mayor, Chief Executive, or official designee may grant temporary variances for existing water uses otherwise prohibited under this Water Resource and Emergency Management 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.

Variations shall be granted or denied at the discretion of the City Manager, General Manager, Mayor, Chief Executive, or official designee. All petitions for variations 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.

4.5 PROCEDURES FOR ENFORCING MANDATORY WATER USE RESTRICTIONS

Mandatory water use restrictions may be imposed in Stage 1, Stage 2 and Stage 3. The penalties associated with the mandatory water use restrictions will be determined by each entity and will be laid out in each entity's WREMP.

Appendix D contains potential ordinances, resolutions, and orders that may be adopted by the city council, board, or governing body approving the Water Resource and Emergency Management plan, including enforcement of same.

4.6 COORDINATION WITH THE REGIONAL WATER PLANNING GROUP AND NTMWD

Appendix C includes a copy of a letter sent to the Chairs of the Region C Water Planning Group and the Chairs of the North East Texas Water Planning Group in conjunction with this model Water Resource and Emergency Management Plan.



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

4.7 REVIEW AND UPDATE OF WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

As required by TCEQ rules, Member Cities and Customers must review their respective Water Resource and Emergency Management plans every five years. The plan will be updated as appropriate based on new or updated information, such as the revision of the regional water plans.



APPENDIX A

LIST OF REFERENCES

APPENDIX A

LIST OF REFERENCES

1. Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter B, Rules 288.20 and 288.22, downloaded from [http://texreg.sos.state.tx.us/public/readtac\\$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=288&sc_h=B&r=Y](http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=288&sc_h=B&r=Y), July 2018.
2. Freese and Nichols, Inc.: 2019 Model Water Resource Management Plan for NTMWD Members Cities and Customers, prepared for the North Texas Municipal Water District, Fort Worth, February 2019.
3. Texas Water Development Board, Water Data for Texas, Lavon Lake, <https://waterdatafortexas.org/reservoirs/individual/lavon>.



APPENDIX B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES ON DROUGHT CONTINGENCY PLANS

APPENDIX B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES ON DROUGHT CONTINGENCY PLANS

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER B</u>	DROUGHT CONTINGENCY PLANS
RULE §288.20	Drought Contingency Plans for Municipal Uses by Public Water Suppliers

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

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

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

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

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

(D) The drought contingency plan must include a description of the information to be monitored by the water supplier, and specific criteria for the initiation and termination of drought response stages,

accompanied by an explanation of the rationale or basis for such triggering criteria.

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

- (i) reduction in available water supply up to a repeat of the drought of record;
- (ii) water production or distribution system limitations;
- (iii) supply source contamination; or
- (iv) system outage due to the failure or damage of major water system components (e.g., pumps).

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

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

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

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

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

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

(2) Privately-owned water utilities. Privately-owned water utilities shall prepare a drought contingency

plan in accordance with this section and incorporate such plan into their tariff.

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

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

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

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



APPENDIX C

LETTERS TO REGION C AND REGION D WATER PLANNING GROUPS



APPENDIX C

LETTERS TO REGION C AND REGION D WATER PLANNING GROUPS

Date

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

Dear Sir:

Enclosed please find a copy of the Model Water Resource and Emergency Management Plan for Member Cities and Customers of the North Texas Municipal Water 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 Board of the North Texas Municipal Water District adopted the updated model plan on _____, 2019.

Sincerely,

Insert Entity Contact Name
Insert Entity Name



Date

Mr. Richard LeTourneau
Chair, Region D Water Planning Group
P.O. Box 12071
Longview, TX 75607

Dear Mr. LeTourneau:

Enclosed please find a copy of the recently updated Model Water Resource and Emergency Management Plan for Member Cities and Customers of the North Texas Municipal Water 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 Board of the North Texas Municipal Water District adopted the updated model plan on _____, 2019.

Sincerely,

Insert Entity Contact Name
Insert Entity Name



APPENDIX D

ADOPTION OF WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN



APPENDIX D

ADOPTION OF WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN

Municipal Ordinance

Adopting Water Resource and Emergency Management Plan

Ordinance No. _____

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

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

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

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the "Commission") require that the City adopt a Water Resource and Emergency Management Plan; and

WHEREAS, the City has determined an urgent need in the best interest of the public to adopt a Water Resource and Emergency Management Plan; and

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



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

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

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

Section 2. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a fine of up to two thousand dollars (\$2,000.00) and/or discontinuance of water service by the City. Proof of a culpable mental state is not required for a conviction of an offense under this section. Each day a customer fails to comply with the Plan is a separate violation. The City's authority to seek injunctive or other civil relief available under the law is not limited by this section.

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

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

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



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

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

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

Mayor

Attest:

City Secretary



Municipal Utility District Order

Adopting Water Resource and Emergency Management Plan

Order No. _____

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

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

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

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

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

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

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



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

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

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

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

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

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

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



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

President, Board of Directors

Attest:

Secretary



Special Utility District Order

Adopting Water Resource and Emergency Management Plan

Order No. _____

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

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

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

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

WHEREAS, the District has determined an urgent need in the best interest of the public to adopt a Water Resource and Emergency Management 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 Resource and Emergency Management Plan as official District policy for the conservation of water.



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

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

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

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

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

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

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



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

President, Board of Directors

Attest:

Secretary



Water Supply Corporation Resolution

Adopting Water Resource and Emergency Management Plan

Resolution No. _____

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

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

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

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the "Commission") require that the WSC adopt a Water Resource and Emergency Management Plan; and

WHEREAS, the WSC has determined an urgent need in the best interest of the public to adopt a Water Resource and Emergency Management Plan; and

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

WHEREAS, the Board of Directors of the WSC desires to adopt the North Texas Municipal Water District (the "NTMWD") Model Water Resource and Emergency Management Plan as official WSC policy for the conservation of water.



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

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

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

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

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

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

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

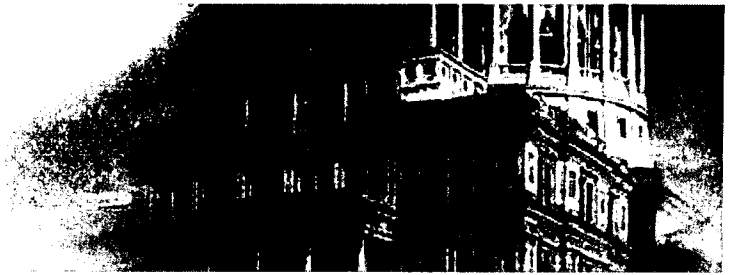


Approved and adopted by the _____ on this ___ day of _____, ____.

President, Board of Directors

Attest:

Secretary



NORTH TEXAS MUNICIPAL WATER DISTRICT

APPLICATION TO AMEND CERTIFICATE OF ADJUDICATION No. 08-2410

Lloyd Gosselink Rochelle & Townsend, P.C.

816 Congress Avenue, Suite 1900

Austin, Texas 78701

Phone (512) 322-5800 Fax (512) 472-0532

www.lglawfirm.com

Ms. Thornton's Direct Line: (512) 322-5876
[REDACTED]

March 23, 2022

Ms. Sarah Henderson
Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability (MC 160)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

VIA HAND DELIVERY
AND ELECTRONIC TRANSMISSION
WRPT@tceq.texas.gov

Re: Application for an Amendment to Certificate of Adjudication No. 08-2410
Pursuant to Texas Water Code §§11.122, 11.042(c)
North Texas Municipal Water District (446-12)

Dear Sarah:

Please find enclosed one hard copy of an application for an amendment to Certificate of Adjudication No. 08-2410 filed on behalf of my client, North Texas Municipal Water District (the "District"). Enclosed herein is a check in the amount of \$51,025.00. The District will remit payment for any additional fees for mailing of notice upon notification from TCEQ of such fees. On behalf of the District, please consider me your contact for processing this application.

We look forward to working with you and your staff in processing this application. Should you have any questions, please do not hesitate to contact me at (512) 322-5876 or
[REDACTED]

Sincerely,



Sara R. Thornton

SRT/dxg
8331821
ENCLOSURES

cc: *(via electronic mail only)*
Ms. Brooke McGregor
Ms. Kathy Alexander
Mr. Billy George
Ms. Lauren Thomas
Ms. Dubelza Galvan

Texas Commission on Environmental Quality

Application for a Water Use Permit

North Texas Municipal Water District



**TEXAS COMMISSION
ON ENVIRONMENTAL QUALITY**

March 2022

Texas Commission on Environmental Quality

Application for a Water Use Permit

North Texas Municipal Water District

Submitted to:

Texas Commission on Environmental Quality
Water Supply Division, Water Rights Permitting (MC-160)
12100 Park 35 Circle
Austin, Texas 78753

Prepared for:

North Texas Municipal Water District
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**North Texas Municipal Water District
Application for a Water Use Permit**

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TCEQ WATER RIGHTS PERMITTING APPLICATION

ADMINISTRATIVE INFORMATION CHECKLIST

Complete and submit this checklist for each application. See Instructions Page. 5.

APPLICANT(S): North Texas Municipal Water District

Indicate whether the following items are included in your application by writing either Y (for yes) or N (for no) next to each item (all items are not required for every application).

Y/N		Y/N	
<u>Y</u>	Administrative Information Report	<u>Y</u>	Worksheet 3.0
<u>N</u>	Additional Co-Applicant Information	<u>N</u>	Additional W.S 3.0 for each Point
<u>N</u>	Additional Co-Applicant Signature Pages	<u>N</u>	Recorded Deeds for Diversion Points
<u>Y</u>	Written Evidence of Signature Authority	<u>N</u>	Consent For Diversion Access
<u>Y</u>	Technical Information Report	<u>Y</u>	Worksheet 4.0
<u>Y</u>	USGS Map (or equivalent)	<u>Y</u>	TPDES Permit(s)
<u>Y</u>	Map Showing Project Details	<u>N</u>	WWTP Discharge Data
<u>N</u>	Original Photographs	<u>N</u>	24-hour Pump Test
<u>N</u>	Water Availability Analysis	<u>N</u>	Groundwater Well Permit
<u>Y</u>	Worksheet 1.0	<u>N</u>	Signed Water Supply Contract
<u>N</u>	Recorded Deeds for Irrigated Land	<u>Y</u>	Worksheet 4.1
<u>N</u>	Consent For Irrigation Land	<u>Y</u>	Worksheet 5.0
<u>N</u>	Worksheet 1.1	<u>N</u>	Addendum to Worksheet 5.0
<u>N</u>	Addendum to Worksheet 1.1	<u>Y</u>	Worksheet 6.0
<u>N</u>	Worksheet 1.2	<u>Y</u>	Water Conservation Plan(s)
<u>N</u>	Addendum to Worksheet 1.2	<u>Y</u>	Drought Contingency Plan(s)
<u>Y</u>	Worksheet 2.0	<u>Y</u>	Documentation of Adoption
<u>N</u>	Additional W.S 2.0 for Each Reservoir	<u>Y</u>	Worksheet 7.0
<u>N</u>	Dam Safety Documents	<u>Y</u>	Accounting Plan
<u>N</u>	Notice(s) to Governing Bodies	<u>Y</u>	Worksheet 8.0
<u>N</u>	Recorded Deeds for Inundated Land	<u>Y</u>	Fees
<u>N</u>	Consent For Inundation Land		

For Commission Use Only:

Proposed/Current Water Right Number: _____

Basin: _____ Watermaster area Y/N: _____

ADMINISTRATIVE INFORMATION REPORT

The following information is required for all new applications and amendments.

***** Applicants are strongly encouraged to schedule a pre-application meeting with TCEQ Staff to discuss Applicant's needs prior to submitting an application. Call the Water Rights Permitting Team to schedule a meeting at (512) 239-4600.**

1. TYPE OF APPLICATION (Instructions, Page. 6)

Indicate, by marking X, next to the following authorizations you are seeking.

- New Appropriation of State Water
- Amendment to a Water Right *
- Bed and Banks

**If you are seeking an amendment to an existing water rights authorization, you must be the owner of record of the authorization. If the name of the Applicant in Section 2, does not match the name of the current owner(s) of record for the permit or certificate or if any of the co-owners is not included as an applicant in this amendment request, your application could be returned. If you or a co-applicant are a new owner, but ownership is not reflected in the records of the TCEQ, submit a change of ownership request (Form TCEQ-10204) prior to submitting the application for an amendment. See Instructions page. 6. Please note that an amendment application may be returned, and the Applicant may resubmit once the change of ownership is complete.*

Please summarize the authorizations or amendments you are seeking in the space below or attach a narrative description entitled "Summary of Request."

See Addendum Summary of Request, Tab 4.

2. APPLICANT INFORMATION (Instructions, Page. 6)

a. Applicant

Indicate the number of Applicants/Co-Applicants 1
(Include a copy of this section for each Co-Applicant, if any)

What is the Full Legal Name of the individual or entity (applicant) applying for this permit?

North Texas Municipal Water District

(If the Applicant is an entity, the legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal documents forming the entity.)

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)?

You may search for your CN on the TCEQ website at

<http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch>

CN: 601365448 (leave blank if you do not yet have a CN).

What is the name and title of the person or persons signing the application? Unless an application is signed by an individual applicant, the person or persons must submit written evidence that they meet the signatory requirements in 30 TAC § 295.14.

First/Last Name: Jennafer P. Covington

Title: Executive Director

Have you provided written evidence meeting the signatory requirements in 30 TAC § 295.14, as an attachment to this application? **Yes, see Tab 9.**

What is the applicant's mailing address as recognized by the US Postal Service (USPS)? You may verify the address on the USPS website at

<https://tools.usps.com/go/ZipLookupAction!input.action>.

Name: NTMWD

Mailing Address: P.O. Box 2408

City: Wylie

State: Texas

ZIP Code: 75908

Indicate an X next to the type of Applicant:

Individual Sole Proprietorship-D.B.A.

Partnership Corporation

Trust Estate

Federal Government State Government

County Government City Government

Other Government Other _____

For Corporations or Limited Partnerships, provide:

State Franchise Tax ID Number: N/A SOS Charter (filing) Number: N/A

3. APPLICATION CONTACT INFORMATION (Instructions, Page. 9)

If the TCEQ needs additional information during the review of the application, who should be contacted? Applicant may submit their own contact information if Applicant wishes to be the point of contact.

First and Last Name: Sara Thornton

Title: Attorney

Organization Name: Lloyd Gosselink

Mailing Address: 816 Congress Ave. Ste 1900

City: Austin

State: Texas

ZIP Code: 78701

Phone No.: 512-322-5876

Extension:

Fax No.: 512-472-0532

E-mail Address: [REDACTED]

4. WATER RIGHT CONSOLIDATED CONTACT INFORMATION
(Instructions, Page. 9)

N/A

This section applies only if there are multiple Owners of the same authorization. Unless otherwise requested, Co-Owners will each receive future correspondence from the Commission regarding this water right (after a permit has been issued), such as notices and water use reports. Multiple copies will be sent to the same address if Co-Owners share the same address. Complete this section if there will be multiple owners and **all** owners agree to let one owner receive correspondence from the Commission. Leave this section blank if you would like all future notices to be sent to the address of each of the applicants listed in section 2 above.

I/We authorize all future notices be received on my/our behalf at the following:

First and Last Name:

Title:

Organization Name:

Mailing Address:

City:

State:

ZIP Code:

Phone No.:

Extension:

Fax No.:

E-mail Address:

5. MISCELLANEOUS INFORMATION (Instructions, Page. 9)

a. The application will not be processed unless all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol by all applicants/co-applicants. If you need assistance determining whether you owe delinquent penalties or fees, please call the Water Rights Permitting Team at (512) 239-4600, prior to submitting your application.

1. Does Applicant or Co-Applicant owe any fees to the TCEQ? **Yes / No No**

If **yes**, provide the following information:

Account number:

Amount past due:

2. Does Applicant or Co-Applicant owe any penalties to the TCEQ? **Yes / No No**

If **yes**, please provide the following information:

Enforcement order number:

Amount past due:

b. If the Applicant is a taxable entity (corporation or limited partnership), the Applicant must be in good standing with the Comptroller or the right of the entity to transact business in the State may be forfeited. See Texas Tax Code, Subchapter F. Applicant's may check their status with the Comptroller at <https://mycpa.cpa.state.tx.us/coa/>

Is the Applicant or Co-Applicant in good standing with the Comptroller? **Yes / No N/A**

c. The commission will not grant an application for a water right unless the applicant has submitted all Texas Water Development Board (TWDB) surveys of groundwater and surface water use - if required. See TWC §16.012(m) and 30 TAC § 297.41(a)(5).

Applicant has submitted all required TWDB surveys of groundwater and surface water? **Yes / No Yes**

6. SIGNATURE PAGE (Instructions, Page. 11)

Applicant:

I, Jennafer P. Covington
(Typed or printed name)

Executive Director
(Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under Title 30 Texas Administrative Code §295.14 to sign and submit this document and I have submitted written evidence of my signature authority.

Signature: Jennafer Covington Date: 2/7/2022
(Use blue ink)

Subscribed and Sworn to before me by the said

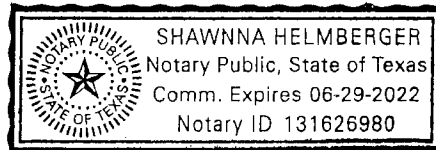
on this 7th day of February, 20 22.

My commission expires on the 29th day of June, 20 22.

Shawanna HelMBERGER
Notary Public

[SEAL]

Collin
County, Texas



If the Application includes Co-Applicants, each Applicant and Co-Applicant must submit an original, separate signature page

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TECHNICAL INFORMATION REPORT

WATER RIGHTS PERMITTING

This Report is required for applications for new or amended water rights. Based on the Applicant's responses below, Applicant are directed to submit additional Worksheets (provided herein). A completed Administrative Information Report is also required for each application.

Applicants are strongly encouraged to schedule a pre-application meeting with TCEQ Permitting Staff to discuss Applicant's needs and to confirm information necessary for an application prior to submitting such application. Please call Water Availability Division at (512) 239-4600 to schedule a meeting. Applicant attended a pre-application meeting with TCEQ Staff for this Application? Y / NY _____ (If yes, date : _____).

1. New or Additional Appropriations of State Water. Texas Water Code (TWC) § 11.121 (Instructions, Page. 12)

State Water is: *The water of the ordinary flow, underflow, and tides of every flowing river, natural stream, and lake, and of every bay or arm of the Gulf of Mexico, and the storm water, floodwater, and rainwater of every river, natural stream, canyon, ravine, depression, and watershed in the state. TWC § 11.021.*

- a. Applicant requests a new appropriation (diversion or impoundment) of State Water? Y / NY _____
- b. Applicant requests an amendment to an existing water right requesting an increase in the appropriation of State Water or an increase of the overall or maximum combined diversion rate? Y / NY _____ (If yes, indicate the Certificate or Permit number: 08-2410E)

If Applicant answered yes to (a) or (b) above, does Applicant also wish to be considered for a term permit pursuant to TWC § 11.1381? Y / NN _____

- c. Applicant requests to extend an existing Term authorization or to make the right permanent? Y / NN _____ (If yes, indicate the Term Certificate or Permit number: _____)

If Applicant answered yes to (a), (b) or (c), the following worksheets and documents are required:

- **Worksheet 1.0 – Quantity, Purpose, and Place of Use Information Worksheet**
- **Worksheet 2.0 - Impoundment/Dam Information Worksheet** (submit one worksheet for each impoundment or reservoir requested in the application)
- **Worksheet 3.0 - Diversion Point Information Worksheet** (submit one worksheet for each diversion point and/or one worksheet for the upstream limit and one worksheet for the downstream limit of each diversion reach requested in the application)
- **Worksheet 5.0 – Environmental Information Worksheet**
- **Worksheet 6.0 – Water Conservation Information Worksheet**
- **Worksheet 7.0 – Accounting Plan Information Worksheet**
- **Worksheet 8.0 – Calculation of Fees**
- **Fees calculated on Worksheet 8.0 – see instructions Page. 34.**
- **Maps – See instructions Page. 15.**
- **Photographs - See instructions Page. 30.**

Additionally, if Applicant wishes to submit an alternate source of water for the project/authorization, see Section 3, Page 3 for Bed and Banks Authorizations (Alternate sources may include groundwater, imported water, contract water or other sources).

Additional Documents and Worksheets may be required (see within).

2. Amendments to Water Rights. TWC § 11.122 (Instructions, Page. 12)

This section should be completed if Applicant owns an existing water right and Applicant requests to amend the water right. *If Applicant is not currently the Owner of Record in the TCEQ Records, Applicant must submit a Change of Ownership Application (TCEQ-10204) prior to submitting the amendment Application or provide consent from the current owner to make the requested amendment. If the application does not contain consent from the current owner to make the requested amendment, TCEQ will not begin processing the amendment application until the Change of Ownership has been completed and will consider the Received Date for the application to be the date the Change of Ownership is completed. See instructions page. 6.*

Water Right (Certificate or Permit) number you are requesting to amend: 08-2410E

Applicant requests to sever and combine existing water rights from one or more Permits or Certificates into another Permit or Certificate? Y / N N (if yes, complete chart below):

List of water rights to sever	Combine into this ONE water right
N/A	N/A

a. Applicant requests an amendment to an existing water right to increase the amount of the appropriation of State Water (diversion and/or impoundment)? Y / N Y

If yes, application is a new appropriation for the increased amount, complete Section 1 of this Report (PAGE. 1) regarding New or Additional Appropriations of State Water.

b. Applicant requests to amend existing Term authorization to extend the term or make the water right permanent (remove conditions restricting water right to a term of years)? Y / N N

If yes, application is a new appropriation for the entire amount, complete Section 1 of this Report (PAGE. 1) regarding New or Additional Appropriations of State Water.

c. Applicant requests an amendment to change the purpose or place of use or to add an additional purpose or place of use to an existing Permit or Certificate? Y / N N

If yes, submit:

- **Worksheet 1.0 – Quantity, Purpose, and Place of Use Information Worksheet**
- **Worksheet 1.2 - Notice: “Marshall Criteria”**

d. Applicant requests to change: diversion point(s); or reach(es); or diversion rate? Y / N N

If yes, submit:

- **Worksheet 3.0 - Diversion Point Information Worksheet** (submit one worksheet for each diversion point or one worksheet for the upstream limit and one worksheet for the downstream limit of each diversion reach)
- **Worksheet 5.0 – Environmental Information** (Required for any new diversion points that are not already authorized in a water right)

e. Applicant requests amendment to add or modify an impoundment, reservoir, or dam? Y / N N

If yes, submit: Worksheet 2.0 - Impoundment/Dam Information Worksheet (submit one worksheet for each impoundment or reservoir)

- f. Other - Applicant requests to change any provision of an authorization not mentioned above? Y / N N *If yes, call the Water Availability Division at (512) 239-4600 to discuss.*

Additionally, all amendments require:

- **Worksheet 8.0 - Calculation of Fees; and Fees calculated - see instructions Page. 34**
- **Maps - See instructions Page. 15.**
- **Additional Documents and Worksheets may be required (see within).**

3. Bed and Banks. TWC § 11.042 (Instructions, Page 13)

- a. Pursuant to contract, Applicant requests authorization to convey, stored or conserved water to the place of use or diversion point of purchaser(s) using the bed and banks of a watercourse? TWC § 11.042(a). Y/N N

If yes, submit a signed copy of the Water Supply Contract pursuant to 30 TAC §§ 295.101 and 297.101. Further, if the underlying Permit or Authorization upon which the Contract is based does not authorize Purchaser's requested Quantity, Purpose or Place of Use, or Purchaser's diversion point(s), then either:

1. *Purchaser must submit the worksheets required under Section 1 above with the Contract Water identified as an alternate source; or*
2. *Seller must amend its underlying water right under Section 2.*

- b. Applicant requests to convey water imported into the state from a source located wholly outside the state using the bed and banks of a watercourse? TWC § 11.042(a-1). Y / N N

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, Maps and fees from the list below.

- c. Applicant requests to convey Applicant's own return flows derived from privately owned groundwater using the bed and banks of a watercourse? TWC § 11.042(b). Y / N N

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, Maps, and fees from the list below.

- d. Applicant requests to convey Applicant's own return flows derived from surface water using the bed and banks of a watercourse? TWC § 11.042(c). Y / N Y

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, Maps, and fees from the list below.

****Please note, if Applicant requests the reuse of return flows belonging to others, the Applicant will need to submit the worksheets and documents under Section 1 above, as the application will be treated as a new appropriation subject to termination upon direct or indirect reuse by the return flow discharger/owner.***

- e. Applicant requests to convey water from any other source, other than (a)-(d) above, using the bed and banks of a watercourse? TWC § 11.042(c). Y / N N

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, Maps, and fees from the list below.

Worksheets and information:

- **Worksheet 1.0 - Quantity, Purpose, and Place of Use Information Worksheet**
- **Worksheet 2.0 - Impoundment/Dam Information Worksheet** (submit one worksheet for each impoundment or reservoir owned by the applicant through which water will be conveyed or diverted)
- **Worksheet 3.0 - Diversion Point Information Worksheet** (submit one worksheet for the downstream limit of each diversion reach for the proposed conveyances)
- **Worksheet 4.0 - Discharge Information Worksheet** (for each discharge point)

- Worksheet 5.0 – Environmental Information Worksheet
- Worksheet 6.0 – Water Conservation Information Worksheet
- Worksheet 7.0 – Accounting Plan Information Worksheet
- Worksheet 8.0 – Calculation of Fees; and Fees calculated – see instructions Page. 34
- Maps – See instructions Page. 15.
- Additional Documents and Worksheets may be required (see within).

4. General Information, Response Required for all Water Right Applications (Instructions, Page 15)

- a. Provide information describing how this application addresses a water supply need in a manner that is consistent with the state water plan or the applicable approved regional water plan for any area in which the proposed appropriation is located or, in the alternative, describe conditions that warrant a waiver of this requirement (*not required for applications to use groundwater-based return flows*). Include citations or page numbers for the State and Regional Water Plans, if applicable. Provide the information in the space below or submit a supplemental sheet entitled “Addendum Regarding the State and Regional Water Plans”:

See Addendum Consistency with State and Regional Water Plans, Tab 5.

- b. Did the Applicant perform its own Water Availability Analysis? Y / N N

If the Applicant performed its own Water Availability Analysis, provide electronic copies of any modeling files and reports.

- c. Does the application include required Maps? (Instructions Page. 15) Y / N Y

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WORKSHEET 1.0

Quantity, Purpose and Place of Use

1. New Authorizations (Instructions, Page. 16)

Submit the following information regarding quantity, purpose and place of use for requests for new or additional appropriations of State Water or Bed and Banks authorizations:

Quantity (acre- feet) <i>(Include losses for Bed and Banks)</i>	State Water Source (River Basin) or Alternate Source <i>*each alternate source (and new appropriation based on return flows of others) also requires completion of Worksheet 4.0</i>	Purpose(s) of Use	Place(s) of Use <i>*requests to move state water out of basin also require completion of Worksheet 1.1 Interbasin Transfer</i>
71,882	Return flows from TPDES permit No. WQ0015693001	Municipal and Industrial	Collin, Grayson, Fannin, Hunt, Hopkins, Denton, Dallas, Rockwall, Van Zandt, Kaufman

71,882 Total amount of water (in acre-feet) to be used annually (*include losses for Bed and Banks applications*)

If the Purpose of Use is Agricultural/Irrigation for any amount of water, provide:

N/A

a. Location Information Regarding the Lands to be Irrigated

i) Applicant proposes to irrigate a total of _____ acres in any one year. This acreage is all of or part of a larger tract(s) which is described in a supplement attached to this application and contains a total of _____ acres in _____ County, TX.

ii) Location of land to be irrigated: In the _____ Original Survey No. _____, Abstract No. _____.

A copy of the deed(s) or other acceptable instrument describing the overall tract(s) with the recording information from the county records must be submitted. Applicant's name must match deeds.

If the Applicant is not currently the sole owner of the lands to be irrigated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

Water Rights for Irrigation may be appurtenant to the land irrigated and convey with the land unless reserved in the conveyance. 30 TAC § 297.81.

2. Amendments - Purpose or Place of Use (Instructions, Page. 12)

N/A

a. Complete this section for each requested amendment changing, adding, or removing Purpose(s) or Place(s) of Use, complete the following:

Quantity (acre-feet)	Existing Purpose(s) of Use	Proposed Purpose(s) of Use*	Existing Place(s) of Use	Proposed Place(s) of Use**

*If the request is to add additional purpose(s) of use, include the existing and new purposes of use under "Proposed Purpose(s) of Use."

**If the request is to add additional place(s) of use, include the existing and new places of use under "Proposed Place(s) of Use."

Changes to the purpose of use in the Rio Grande Basin may require conversion. 30 TAC § 303.43.

b. For any request which adds Agricultural purpose of use or changes the place of use for Agricultural rights, provide the following location information regarding the lands to be irrigated:

i. Applicant proposes to irrigate a total of _____ acres in any one year. This acreage is all of or part of a larger tract(s) which is described in a supplement attached to this application and contains a total of _____ acres in _____ County, TX.

ii. Location of land to be irrigated: In the _____ Original Survey No. _____, Abstract No. _____.

A copy of the deed(s) describing the overall tract(s) with the recording information from the county records must be submitted. Applicant's name must match deeds. If the Applicant is not currently the sole owner of the lands to be irrigated, Applicant must submit documentation evidencing consent or other legal right for Applicant to use the land described.

Water Rights for Irrigation may be appurtenant to the land irrigated and convey with the land unless reserved in the conveyance. 30 TAC § 297.81.

c. Submit Worksheet 1.1, Interbasin Transfers, for any request to change the place of use which moves State Water to another river basin.

d. See Worksheet 1.2, Marshall Criteria, and submit if required.

e. See Worksheet 6.0, Water Conservation/Drought Contingency, and submit if required.

**WORKSHEET 1.1
INTERBASIN TRANSFERS, TWC § 11.085**

Submit this worksheet for an application for a new or amended water right which requests to transfer State Water from its river basin of origin to use in a different river basin. A river basin is defined and designated by the Texas Water Development Board by rule pursuant to TWC § 16.051.

Applicant requests to transfer State Water to another river basin within the State? Y / N_____

1. Interbasin Transfer Request (Instructions, Page. 20)

- a. Provide the Basin of Origin._____
- b. Provide the quantity of water to be transferred (acre-feet)._____
- c. Provide the Basin(s) and count(y/ies) where use will occur in the space below:

2. Exemptions (Instructions, Page. 20), TWC § 11.085(v)

Certain interbasin transfers are exempt from further requirements. Answer the following:

- a. The proposed transfer, which in combination with any existing transfers, totals less than 3,000 acre-feet of water per annum from the same water right. Y/N__
- b. The proposed transfer is from a basin to an adjoining coastal basin? Y/N__
- c. The proposed transfer from the part of the geographic area of a county or municipality, or the part of the retail service area of a retail public utility as defined by Section 13.002, that is within the basin of origin for use in that part of the geographic area of the county or municipality, or that contiguous part of the retail service area of the utility, not within the basin of origin? Y/N__
- d. The proposed transfer is for water that is imported from a source located wholly outside the boundaries of Texas, except water that is imported from a source located in the United Mexican States? Y/N__

3. Interbasin Transfer Requirements (Instructions, Page. 20)

For each Interbasin Transfer request that is not exempt under any of the exemptions listed above Section 2, provide the following information in a supplemental attachment titled "Addendum to Worksheet 1.1, Interbasin Transfer":

- a. the contract price of the water to be transferred (if applicable) (also include a copy of the contract or adopted rate for contract water);
- b. a statement of each general category of proposed use of the water to be transferred and a detailed description of the proposed uses and users under each category;
- c. the cost of diverting, conveying, distributing, and supplying the water to, and treating the water for, the proposed users (example - expert plans and/or reports documents may be provided to show the cost);

- d. describe the need for the water in the basin of origin and in the proposed receiving basin based on the period for which the water supply is requested, but not to exceed 50 years (the need can be identified in the most recently approved regional water plans. The state and regional water plans are available for download at this website: <http://www.twdb.texas.gov/waterplanning/swp/index.asp>);
- e. address the factors identified in the applicable most recently approved regional water plans which address the following:
 - (i) the availability of feasible and practicable alternative supplies in the receiving basin to the water proposed for transfer;
 - (ii) the amount and purposes of use in the receiving basin for which water is needed;
 - (iii) proposed methods and efforts by the receiving basin to avoid waste and implement water conservation and drought contingency measures;
 - (iv) proposed methods and efforts by the receiving basin to put the water proposed for transfer to beneficial use;
 - (v) the projected economic impact that is reasonably expected to occur in each basin as a result of the transfer; and
 - (vi) the projected impacts of the proposed transfer that are reasonably expected to occur on existing water rights, instream uses, water quality, aquatic and riparian habitat, and bays and estuaries that must be assessed under Sections 11.147, 11.150, and 11.152 in each basin (*if applicable*). If the water sought to be transferred is currently authorized to be used under an existing permit, certified filing, or certificate of adjudication, such impacts shall only be considered in relation to that portion of the permit, certified filing, or certificate of adjudication proposed for transfer and shall be based on historical uses of the permit, certified filing, or certificate of adjudication for which amendment is sought;
- f. proposed mitigation or compensation, if any, to the basin of origin by the applicant; and
- g. the continued need to use the water for the purposes authorized under the existing Permit, Certified Filing, or Certificate of Adjudication, if an amendment to an existing water right is sought.

WORKSHEET 1.2

NOTICE. "THE MARSHALL CRITERIA"

This worksheet assists the Commission in determining notice required for certain **amendments** that do not already have a specific notice requirement in a rule for that type of amendment, and *that do not change the amount of water to be taken or the diversion rate*. The worksheet provides information that Applicant **is required** to submit for such amendments which include changes in use, changes in place of use, or other non-substantive changes in a water right (such as certain amendments to special conditions or changes to off-channel storage). These criteria address whether the proposed amendment will impact other water right holders or the on-stream environment beyond and irrespective of the fact that the water right can be used to its full authorized amount.

*This worksheet is **not required** for Applications in the Rio Grande Basin requesting changes in the purpose of use, rate of diversion, point of diversion, and place of use for water rights held in and transferred within and between the mainstems of the Lower Rio Grande, Middle Rio Grande, and Amistad Reservoir. See 30 TAC § 303.42.*

*This worksheet is **not required** for amendments which are only changing or adding diversion points, or request only a bed and banks authorization or an IBT authorization. However, Applicants may wish to submit the Marshall Criteria to ensure that the administrative record includes information supporting each of these criteria*

1. The "Marshall Criteria" (Instructions, Page. 21)

Submit responses on a supplemental attachment titled "Marshall Criteria" in a manner that conforms to the paragraphs (a) – (g) below:

- a. Administrative Requirements and Fees. Confirm whether application meets the administrative requirements for an amendment to a water use permit pursuant to TWC Chapter 11 and Title 30 Texas Administrative Code (TAC) Chapters 281, 295, and 297. An amendment application should include, but is not limited to, a sworn application, maps, completed conservation plan, fees, etc.
- b. Beneficial Use. Discuss how proposed amendment is a beneficial use of the water as defined in TWC § 11.002 and listed in TWC § 11.023. Identify the specific proposed use of the water (e.g., road construction, hydrostatic testing, etc.) for which the amendment is requested.
- c. Public Welfare. Explain how proposed amendment is not detrimental to the public welfare. Consider any public welfare matters that might be relevant to a decision on the application. Examples could include concerns related to the well-being of humans and the environment.
- d. Groundwater Effects. Discuss effects of proposed amendment on groundwater or groundwater recharge.

- e. State Water Plan. Describe how proposed amendment addresses a water supply need in a manner that is consistent with the state water plan or the applicable approved regional water plan for any area in which the proposed appropriation is located or, in the alternative, describe conditions that warrant a waiver of this requirement. The state and regional water plans are available for download at: <http://www.twdb.texas.gov/waterplanning/swp/index.asp>.
- f. Waste Avoidance. Provide evidence that reasonable diligence will be used to avoid waste and achieve water conservation as defined in TWC § 11.002. Examples of evidence could include, but are not limited to, a water conservation plan or, if required, a drought contingency plan, meeting the requirements of 30 TAC Chapter 288.
- g. Impacts on Water Rights or On-stream Environment. Explain how proposed amendment will not impact other water right holders or the on-stream environment beyond and irrespective of the fact that the water right can be used to its full authorized amount.

WORKSHEET 2.0

Impoundment/Dam Information

N/A

This worksheet is **required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

1. Storage Information (Instructions, Page. 21)

- a. Official USGS name of reservoir, if applicable: _____
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: _____.
- c. The impoundment is on-channel _____ or off-channel _____ (mark one)
 - i. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4600? Y / N _____
 - ii. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? Y / N _____
- d. Is the impoundment structure already constructed? Y / N _____
 - i. For already constructed **on-channel** structures:
 1. Date of Construction: _____
 2. Was it constructed to be an exempt structure under TWC § 11.142? Y / N _____
 - a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N _____
 - b. If No, has the structure been issued a notice of violation by TCEQ? Y / N _____
 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N _____
 - a. If yes, provide the Site No. _____ and watershed project name _____;
 - b. Authorization to close "ports" in the service spillway requested? Y / N _____
 - ii. For **any** proposed new structures or modifications to structures:
 1. Applicant **must** contact TCEQ Dam Safety Section at (512) 239-0326, *prior to submitting an Application*. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC, Ch. 299? Y / N _____
Provide the date and the name of the Staff Person _____
 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y / N _____
 - b. Plans (with engineer's seal) for the structure required. Y / N _____
 - c. Engineer's signed and sealed hazard classification required. Y / N _____
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. Y / N _____

3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? Y / N_____

iii. Additional information required for **on-channel** storage:

1. Surface area (in acres) of on-channel reservoir at normal maximum operating level:_____.
2. Based on the Application information provided, Staff will calculate the drainage area above the on-channel dam or reservoir. If Applicant wishes to also calculate the drainage area they may do so at their option. Applicant has calculated the drainage area. Y/N_____ If yes, the drainage area is_____sq. miles. (If assistance is needed, call the Surface Water Availability Team prior to submitting the application, (512) 239-4600).

2. Structure Location (Instructions, Page. 23)

N/A

- a. On Watercourse (if on-channel) (USGS name):_____
- b. Zip Code: _____
- c. In the _____ Original Survey No. _____, Abstract No. _____, _____ County, Texas.

**** A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.***

*****If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.***

- d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude _____°N, Longitude _____°W.

****Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places***

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program):_____
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. Y / N_____

WORKSHEET 3.0 DIVERSION POINT (OR DIVERSION REACH) INFORMATION

This worksheet is **required** for each diversion point or diversion reach. Submit one Worksheet 3.0 for **each** diversion point and two Worksheets for **each** diversion reach (one for the upstream limit and one for the downstream limit of each diversion reach).

The numbering of any points or reach limits should be consistent throughout the application and on supplemental documents (e.g. maps).

1. Diversion Information (Instructions, Page. 24)

a. This Worksheet is to add new (select 1 of 3 below):

1. 1 Diversion Point No.
2. N/A Upstream Limit of Diversion Reach No.
3. N/A Downstream Limit of Diversion Reach No.

COA 08-2410, as amended, authorizes diversion anywhere along the perimeter of Lavon Lake.

b. Maximum Rate of Diversion for **this new point** N/A _____ cfs (cubic feet per second) or N/A _____ gpm (gallons per minute)

c. Does this point share a diversion rate with other points? Y / N Y
*If yes, submit Maximum **Combined** Rate of Diversion for all points/reaches* 1,821 _____ cfs or 817,265 _____ gpm

d. For amendments, is Applicant seeking to increase combined diversion rate? Y / N N

*** An increase in diversion rate is considered a new appropriation and would require completion of Section 1, New or Additional Appropriation of State Water.*

e. Check (✓) the appropriate box to indicate diversion location and indicate whether the diversion location is existing or proposed):

Check one		Write: Existing or Proposed
	Directly from stream	
X	From an on-channel reservoir	Existing
	From a stream to an on-channel reservoir	
	Other method (explain fully, use additional sheets if necessary)	

f. Based on the Application information provided, Staff will calculate the drainage area above the diversion point (or reach limit). If Applicant wishes to also calculate the drainage area, you may do so at their option.

Applicant has calculated the drainage area. Y / N N

If yes, the drainage area is _____ sq. miles.

(If assistance is needed, call the Surface Water Availability Team at (512) 239-4600, prior to submitting application)

2. Diversion Location (Instructions, Page 25)

- a. On watercourse (USGS name): Lavon Lake
- b. Zip Code: 75908
- c. Location of point: In the _____ Original Survey No. _____, Abstract No. _____, _____ County, Texas.

COA
08-2410, as
amended,
authorizes
diversion
anywhere
along the
perimeter of
Lavon Lake.
See maps.

A copy of the deed(s) with the recording information from the county records must be submitted describing tract(s) that include the diversion structure.

For diversion reaches, the Commission cannot grant an Applicant access to property that the Applicant does not own or have consent or a legal right to access, the Applicant will be required to provide deeds, or consent, or other documents supporting a legal right to use the specific points when specific diversion points within the reach are utilized. Other documents may include, but are not limited to: a recorded easement, a land lease, a contract, or a citation to the Applicant's right to exercise eminent domain to acquire access.

- d. Point is at:
Latitude _____°N, Longitude _____°W.
Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places
- e. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): _____
- f. Map submitted must clearly identify each diversion point and/or reach. See instructions Page. 38.
- g. If the Plan of Diversion is complicated and not readily discernable from looking at the map, attach additional sheets that fully explain the plan of diversion.

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26. Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.**

- a. The purpose of use for the water being discharged will be Municipal and Industrial.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses 0% and explain the method of calculation: The distance between the discharge and headwaters is very short; there will be negligible channel losses over this distance

Is the source of the discharged water return flows? Y / N Y If yes, provide the following information:

1. The TPDES Permit Number(s) WQ0015693001 (attach a copy of the current TPDES permit(s)) See Tab 6.
2. Applicant is the owner/holder of each TPDES permit listed above? Y / N Y

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0"). N/A - this is a new WWTP that has not discharged yet.
 4. The percentage of return flows from groundwater 0%, surface water 100%?
 5. If any percentage is surface water, provide the base water right number(s) 08-2410.
- c. Is the source of the water being discharged groundwater? Y / N N If yes, provide the following information:
1. Source aquifer(s) from which water will be pumped: N/A
 2. Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <http://www.twdb.texas.gov/groundwater/data/gwdbbrpt.asp>. Additionally, provide well numbers or identifiers N/A.
 3. Indicate how the groundwater will be conveyed to the stream or reservoir.
N/A
 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required.
- ci. Is the source of the water being discharged a surface water supply contract? Y / N N
If yes, provide the signed contract(s).
- cii. Identify any other source of the water N/A

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps).
Instructions, Page 27.

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is 71,882 acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of _____ cfs or 177,777 gpm.
- c. Name of Watercourse as shown on Official USGS maps: Stiff Creek, thence to Sister Grove Creek
- d. Zip Code 75071
- f. Location of point: In the Thomas Rhodes Original Survey No. Sheet 2, Abstract No. A0741, Collin County, Texas.
- g. Point is at:
Latitude 33.227511 °N, Longitude 96.494442 °W.
****Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places***
- h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program): TCEQ records for WWTP discharge point.

Map submitted must clearly identify each discharge point. See instructions Page. 15.

WORKSHEET 5.0

ENVIRONMENTAL INFORMATION

1. Impingement and Entrainment

This section is required for any new diversion point that is not already authorized. Indicate the measures the applicant will take to avoid impingement and entrainment of aquatic organisms (ex. Screens on any new diversion structure that is not already authorized in a water right). **Instructions, Page 29.**

No new diversion point.

2. New Appropriations of Water (Canadian, Red, Sulphur, and Cypress Creek Basins only) and Changes in Diversion Point(s)

N/A

This section is required for new appropriations of water in the Canadian, Red, Sulphur, and Cypress Creek Basins and in all basins for requests to change a diversion point. **Instructions, Page 30.**

Description of the Water Body at each Diversion Point or Dam Location. (Provide an Environmental Information Sheet for each location),

a. Identify the appropriate description of the water body.

Stream

Reservoir

Average depth of the entire water body, in feet: _____

Other, specify: _____

b. Flow characteristics

If a stream, was checked above, provide the following. For new diversion locations, check one of the following that best characterize the area downstream of the diversion (check one).

Intermittent - dry for at least one week during most years

Intermittent with Perennial Pools - enduring pools

Perennial - normally flowing

Check the method used to characterize the area downstream of the new diversion location.

USGS flow records

Historical observation by adjacent landowners

Personal observation

Other, specify: _____

c. Waterbody aesthetics

Check one of the following that best describes the aesthetics of the stream segments affected by the application and the area surrounding those stream segments.

Wilderness: outstanding natural beauty; usually wooded or unpastured area; water clarity exceptional

Natural Area: trees and/or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

Common Setting: not offensive; developed but uncluttered; water may be colored or turbid

Offensive: stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

d. Waterbody Recreational Uses

Are there any known recreational uses of the stream segments affected by the application?

Primary contact recreation (swimming or direct contact with water)

Secondary contact recreation (fishing, canoeing, or limited contact with water)

Non-contact recreation

Submit the following information in a Supplemental Attachment, labeled Addendum to Worksheet 5.0:

1. Photographs of the stream at the diversion point or dam location. Photographs should be in color and show the proposed point or reservoir and upstream and downstream views of the stream, including riparian vegetation along the banks. Include a description of each photograph and reference the photograph to the map submitted with the application indicating the location of the photograph and the direction of the shot.
2. If the application includes a proposed reservoir, also include:
 - i. A brief description of the area that will be inundated by the reservoir.
 - ii. If a United States Army Corps of Engineers (USACE) 404 permit is required, provide the project number and USACE project manager.
 - iii. A description of how any impacts to wetland habitat, if any, will be mitigated if the reservoir is greater than 5,000 acre-feet.

3. Alternate Sources of Water and/or Bed and Banks Applications

This section is required for applications using an alternate source of water and bed and banks applications in any basins. **Instructions, page 31.**

- a. For all bed and banks applications: **N/A. New WWTP discharge.**
- i. Submit an assessment of the adequacy of the quantity and quality of flows remaining after the proposed diversion to meet instream uses and bay and estuary freshwater inflow requirements.
- b. For all alternate source applications: **The District will be diverting what is actually discharged out of 71,882 gallons or 64 MGD.**
- i. If the alternate source is treated return flows, provide the TPDES permit number WQ0015693001
- ii. If groundwater is the alternate source, or groundwater or other surface water will be discharged into a watercourse provide:
Reasonably current water chemistry information including but not limited to the following parameters in the table below. Additional parameters may be requested if there is a specific water quality concern associated with the aquifer from which water is withdrawn. If data for onsite wells are unavailable; historical data collected from similar sized wells drawing water from the same aquifer may be provided. However, onsite data may still be required when it becomes available. Provide the well number or well identifier. Complete the information below for each well and provide the Well Number or identifier.

Parameter	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
Sulfate, mg/L					
Chloride, mg/L					
Total Dissolved Solids, mg/L					
pH, standard units					
Temperature*, degrees Celsius					

* Temperature must be measured onsite at the time the groundwater sample is collected.

- iii. If groundwater will be used, provide the depth of the well _____ and the name of the aquifer from which water is withdrawn _____.

WORKSHEET 6.0

Water Conservation/Drought Contingency Plans

This form is intended to assist applicants in determining whether a Water Conservation Plan and/or Drought Contingency Plans is required and to specify the requirements for plans. **Instructions, Page 31.**

The TCEQ has developed guidance and model plans to help applicants prepare plans. Applicants may use the model plan with pertinent information filled in. For assistance submitting a plan call the Resource Protection Team (Water Conservation staff) at 512-239-4600, or e-mail wras@tceq.texas.gov. The model plans can also be downloaded from the TCEQ webpage. Please use the most up-to-date plan documents available on the webpage.

1. Water Conservation Plans

a. The following applications must include a completed Water Conservation Plan (30 TAC § 295.9) for each use specified in 30 TAC, Chapter 288 (municipal, industrial or mining, agriculture - including irrigation, wholesale):

1. Request for a new appropriation or use of State Water.
2. Request to amend water right to increase appropriation of State Water.
3. Request to amend water right to extend a term.
4. Request to amend water right to change a place of use.
**does not apply to a request to expand irrigation acreage to adjacent tracts.*
5. Request to amend water right to change the purpose of use.
**applicant need only address new uses.*
6. Request for bed and banks under TWC § 11.042(c), when the source water is State Water
**including return flows, contract water, or other State Water.*

b. If Applicant is requesting any authorization in section (1)(a) above, indicate each use for which Applicant is submitting a Water Conservation Plan as an attachment:

1. Y Municipal Use. See 30 TAC § 288.2. **
2. Y Industrial or Mining Use. See 30 TAC § 288.3.
3. N Agricultural Use, including irrigation. See 30 TAC § 288.4.
4. Y Wholesale Water Suppliers. See 30 TAC § 288.5. **

**If Applicant is a water supplier, Applicant must also submit documentation of adoption of the plan. Documentation may include an ordinance, resolution, or tariff, etc. See 30 TAC §§ 288.2(a)(1)(J)(i) and 288.5(1)(H). Applicant has submitted such documentation with each water conservation plan? Y / N

c. Water conservation plans submitted with an application must also include data and information which: supports applicant's proposed use with consideration of the plan's water conservation goals; evaluates conservation as an alternative to the proposed

appropriation; and evaluates any other feasible alternative to new water development.
See 30 TAC § 288.7.

Applicant has included this information in each applicable plan? Y / N Y See Tab 10.

2. Drought Contingency Plans

- a. A drought contingency plan is also required for the following entities if Applicant is requesting any of the authorizations in section (1) (a) above - indicate each that applies:
1. Y Municipal Uses by public water suppliers. See 30 TAC § 288.20.
 2. N Irrigation Use/ Irrigation water suppliers. See 30 TAC § 288.21.
 3. Y Wholesale Water Suppliers. See 30 TAC § 288.22.
- b. If Applicant must submit a plan under section 2(a) above, Applicant has also submitted documentation of adoption of drought contingency plan (*ordinance, resolution, or tariff, etc. See 30 TAC § 288.30*) Y / N Y See Tab 10.

WORKSHEET 7.0

ACCOUNTING PLAN INFORMATION WORKSHEET

The following information provides guidance on when an Accounting Plan may be required for certain applications and if so, what information should be provided. An accounting plan can either be very simple such as keeping records of gage flows, discharges, and diversions; or, more complex depending on the requests in the application. Contact the Surface Water Availability Team at 512-239-4600 for information about accounting plan requirements, if any, for your application. **Instructions, Page 34.** See Tab 11.

1. Is Accounting Plan Required

Accounting Plans are generally required:

- For applications that request authorization to divert large amounts of water from a single point where multiple diversion rates, priority dates, and water rights can also divert from that point;
- For applications for new major water supply reservoirs;
- For applications that amend a water right where an accounting plan is already required, if the amendment would require changes to the accounting plan;
- For applications with complex environmental flow requirements;
- For applications with an alternate source of water where the water is conveyed and diverted; and
- For reuse applications.

2. Accounting Plan Requirements

- a. A **text file** that includes:
 1. an introduction explaining the water rights and what they authorize;
 2. an explanation of the fields in the accounting plan spreadsheet including how they are calculated and the source of the data;
 3. for accounting plans that include multiple priority dates and authorizations, a section that discusses how water is accounted for by priority date and which water is subject to a priority call by whom; and
 4. Should provide a summary of all sources of water.
- b. A **spreadsheet** that includes:
 1. Basic daily data such as diversions, deliveries, compliance with any instream flow requirements, return flows discharged and diverted and reservoir content;
 2. Method for accounting for inflows if needed;
 3. Reporting of all water use from all authorizations, both existing and proposed;
 4. An accounting for all sources of water;
 5. An accounting of water by priority date;
 6. For bed and banks applications, the accounting plan must track the discharged water from the point of delivery to the final point of diversion;
 7. Accounting for conveyance losses;
 8. Evaporation losses if the water will be stored in or transported through a reservoir. Include changes in evaporation losses and a method for measuring reservoir content resulting from the discharge of additional water into the reservoir;
 9. An accounting for spills of other water added to the reservoir; and
 10. Calculation of the amount of drawdown resulting from diversion by junior rights or diversions of other water discharged into and then stored in the reservoir.

WORKSHEET 8.0 CALCULATION OF FEES

This worksheet is for calculating required application fees. Applications are not Administratively Complete until all required fees are received. **Instructions, Page. 34**

1. NEW APPROPRIATION

	Description	Amount (\$)
Filing Fee	Circle fee correlating to the total amount of water* requested for any new appropriation and/or impoundment. Amount should match total on Worksheet 1, Section 1. Enter corresponding fee under Amount (\$) . <u>In Acre-Feet</u>	\$1,000.00
	a. Less than 100	\$100.00
	b. 100 - 5,000	\$250.00
	c. 5,001 - 10,000	\$500.00
	d. 10,001 - 250,000	\$1,000.00
	e. More than 250,000	\$2,000.00
Recording Fee		\$25.00
Agriculture Use Fee	<i>Only for those with an Irrigation Use.</i> Multiply 50¢ x _____ Number of acres that will be irrigated with State Water. **	
Use Fee	<i>Required for all Use Types, excluding Irrigation Use.</i> Multiply \$1.00 x ⁷¹⁸⁸² _____ Maximum annual diversion of State Water in acre-feet. **	\$50,000
Recreational Storage Fee	<i>Only for those with Recreational Storage.</i> Multiply \$1.00 x _____ acre-feet of in-place Recreational Use State Water to be stored at normal max operating level.	
Storage Fee	<i>Only for those with Storage, excluding Recreational Storage.</i> Multiply 50¢ x _____ acre-feet of State Water to be stored at normal max operating level.	
Mailed Notice	Cost of mailed notice to all water rights in the basin. Contact Staff to determine the amount (512) 239-4600.	\$0
TOTAL		\$ 51,025.00

2. AMENDMENT OR SEVER AND COMBINE

	Description	Amount (\$)
Filing Fee	Amendment: \$100	0.00
	OR Sever and Combine: \$100 x _____ of water rights to combine	
Recording Fee		\$12.50
Mailed Notice	Additional notice fee to be determined once application is submitted.	
TOTAL INCLUDED		\$ 0

3. BED AND BANKS

	Description	Amount (\$)
Filing Fee		\$100.00
Recording Fee		\$12.50
Mailed Notice	Additional notice fee to be determined once application is submitted.	
TOTAL INCLUDED		\$ 0.00

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TAB 4

SUMMARY OF REQUEST

North Texas Municipal Water District (the “District”) submits this application (the “Application”) to amend Certificate of Adjudication No. 08-2410, as amended, (“CA 2410”) to authorize the diversion and use of return flows from the Sister Grove Regional Water Resource Recovery Facility (“Sister Grove RWRRF”) from anywhere along the perimeter of Lake Lavon for municipal and industrial purposes of use within the District’s service area.

CA 2410 authorizes the District to store 443,800 acre-feet of water in Lake Lavon on the East Fork Trinity River, tributary of the Trinity River, Trinity River Basin (Lake Lavon is owned and operated by the U.S. Army Corps of Engineers). See Tab 7 for a copy of CA 2410, as amended through Amendment J. The District is also currently pursuing Amendment K to CA 2410 that has not yet been issued by TCEQ. CA 2410 authorizes the District to divert from anywhere along the perimeter of Lake Lavon for industrial and municipal purposes. See Tab 7.

Sister Grove RWRRF is a regional wastewater treatment plant currently under construction by the District. Pursuant to Texas Pollutant Discharge Elimination System (“TPDES”) Permit No. WQ0015693001 (“TPDES Permit”), NTMWD is permitted to discharge up to 64 million gallons per day (71,882 acre-feet per year) of return flows from Sister Grove RWRRF. Once in operation, Sister Grove RWRRF will discharge to Stiff Creek, thence to Sister Grove Creek, thence to Lake Lavon in Segment No. 0821 of the Trinity River Basin. See Tab 6 for a copy of the TPDES Permit. Because Sister Grove RWRRF is not yet constructed, and has not yet commenced discharging, the District is requesting to divert and use up to 71,882 acre-feet per year of Sister Grove RWRRF return flows as these are all considered future return flows for which there has not been any reliance upon by the environment or other water rights holders. These return flows will only be used within the District’s service area located in the Trinity River Basin.

Sister Grove RWRRF is virtually identical to the Wilson Creek Regional Wastewater Treatment Plant (“Wilson Creek WWTP”) both of which are authorized to discharge up to 71,882 acre-feet of return flows per year almost directly to Lake Lavon. By this Application, the District specifically requests to amend Use Provision 2.A.5 of Amendment E of CA 2410 (“CA 2410E”) to collectively authorize the diversion and use of the combined discharges of Sister Grove RWRRF and Wilson Creek WWTP return flows. CA 2410E currently provides:

In lieu of the diversion previously authorized from Lake Lavon, the District may now divert and use within its service area not to exceed: 71,882 acre-feet of water per year discharged into Lake Lavon from the District’s Wilson Creek WWTP.

If this Application is granted, the District requests that the CA 2410 amendment issued (Amendment L to CA 2410) replace and supersede Use Provision 2.A.5 of CA 2410E with the following Use provision:

In lieu of the diversion previously authorized from Lake Lavon, the District may now divert and use within its service area not to exceed 143,764 acre-feet of water per year discharged into Lake Lavon from the District's Wilson Creek WWTP and Sister Grove RWRRF.

As part of this Application to divert and use Sister Grove RWRRF return flows, the District is also seeking an authorization to use the bed and banks of Stiff Creek, Sister Grove Creek, and Lake Lavon to transport Sister Grove RWRRF return flows for diversion and use from anywhere along the perimeter of Lake Lavon. There are no channel losses associated with this requested bed and banks authorization.

Additionally, by this Application, the District further requests that TCEQ explicitly recognize in CA 2410 the District's existing authorization to use the bed and banks of Lake Lavon to transport Wilson Creek WWTP return flows, which are directly discharged to Lake Lavon, for diversion and use from anywhere along the perimeter of Lake Lavon.

The District is not seeking to change the current diversion point or diversion rate for CA 2410 by this Application.

The District will submit the accounting plan for this Application during technical review.

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TAB 5

ADDENDUM REGARDING CONSISTENCY WITH STATE AND REGIONAL WATER PLANS

North Texas Municipal Water District (the “District”) submits this application (the “Application”) to amend Certificate of Adjudication No. 08-2410, as amended, (“CA 2410”) to authorize the diversion and use of return flows from the Sister Grove Regional Water Resource Recovery Facility (“Sister Grove RWRRF”) from anywhere along the perimeter of Lake Lavon for municipal and industrial purposes of use within the District’s service area. The Application is consistent with the approved 2021 Region C Water Plan and the 2022 State Water Plan.

Under Texas Water Code § 11.134, an appropriation of water must address a water supply need in a manner that is “consistent” with the “state water plan and the relevant approved regional plan.”¹ Lavon Lake, and the area for which NTMWD will divert water pursuant to this Application for use, are both located within the Region C Planning Area (“Region C”). According to the State Water Plan, *Water for Texas 2022*, the population in Region C is expected to increase by ninety-two percent (92%) from 2020 to 2070.² This population growth is predicted to increase demands for water by sixty-seven percent (67%) between 2020 and 2070, from 1,734,000 acre-feet to 2,899,000 acre-feet.³ The Region C Water Plan and State Water Plan also recommend increased water reuse projects as a water management strategy in order to meet future water needs.⁴

The Sister Grove RWRRF return flows sought for diversion and use by the Application will be used to meet a portion of NTMWD’s municipal and industrial water demands as identified in the 2021 Region C Water Plan and the 2022 State Water Plan.⁵ As such, the Application is consistent with both the approved 2021 Region C Water Plan and the 2022 State Water Plan.

¹ Texas Water Code § 11.134(b)(3)(E).

² Texas Water Development Board (“TWDB”), *2022 State Water Plan – Water for Texas* at A-49 (2021).

³ TWDB, *2022 State Water Plan – Water for Texas* at A-55 (2021).

⁴ TWDB, *2022 State Water Plan – Water for Texas* at A-106 (2021); Region C Water Planning Group (“Region C WPG”), *2021 Region C Water Plan* at 3.8 (2021).

⁵ Region C WPG, *2021 Region C Water Plan* at 5D.19–20 (2021).

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TPDES PERMIT NO.
WQ0015693001
[For TCEQ office use only - EPA I.D.
No. TX0138584]

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

North Texas Municipal Water District

whose mailing address is

P.O. Box 2408
Wylie, Texas 75098

is authorized to treat and discharge wastes from the Sister Grove Regional Water Resource Recovery Facility, SIC Code 4952

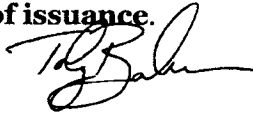
located one mile east of the intersection of County Road 336 and Farm-to-Market Road 2933 in Collin County, Texas 75071

to Stiff Creek, thence to Sister Grove Creek, thence to Lavon Lake in Segment No. 0821 of the Trinity River Basin

only according to effluent limitations, monitoring requirements, and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation, or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight, **five years from the date of issuance.**

ISSUED DATE: **March 11, 2020**



For the Commission

INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

1. During the period beginning upon the date of issuance and lasting through the completion of expansion to the 32 million gallons per day (MGD) facility, the permittee is authorized to discharge subject to the following effluent limitations:

The annual average flow of effluent shall not exceed 16 MGD, nor shall the average discharge during any two-hour period (2-hour peak) exceed 44,444 gallons per minute (gpm).

Effluent Characteristic	Discharge Limitations			Min. Self-Monitoring Requirements	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)					
April-September	5 (667)	10	20	One/day	Composite
October - March	10 (1,334)	15	25	One/day	Composite
Total Suspended Solids	5 (667)	10	20	One/day	Composite
Ammonia Nitrogen					
April - September	1.3 (173)	3	6	One/day	Composite
October - March	3 (400)	6	10	One/day	Composite
Total Phosphorus*	Report (Report)	N/A	N/A	One/day	Composite
<i>E. coli</i> , CFU or MPN/100 ml	126	N/A	399	Daily	Grab

*The daily mass loadings calculated for each day of the month shall be summed to determine the total pounds of total phosphorus discharged during the calendar month. The annual mass loading for the discharge shall not exceed 53,576 pounds per year for total phosphorus. The rolling annual mass loading shall be calculated each month by dropping the oldest month's mass loading data from the past twelve-months and adding the most recent month's mass loading data. The total monthly and rolling annual mass loadings shall be reported on a monthly basis.

2. The permittee shall utilize an Ultraviolet Light (UV) system for disinfection purposes. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per day by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 6.0 mg/l and shall be monitored once per day by grab sample. Samples for dissolved oxygen may be collected at the plant site following the final treatment unit unless samples are collected at the outfall. If samples are collected at the outfall, only the samples collected at the outfall shall be reported.
7. The annual average flow and maximum 2-hour peak flow shall be reported monthly.

INTERIM II EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

1. During the period beginning upon the completion of the expansion to the 32 million gallons per day (MGD) facility and lasting through the completion of the expansion to the 48 MGD facility, the permittee is authorized to discharge subject to the following effluent limitations:
 The annual average flow of effluent shall not exceed 32 MGD, nor shall the average discharge during any two-hour period (2-hour peak) exceed 88,888 gallons per minute (gpm).

Effluent Characteristic	Discharge Limitations			Min. Self-Monitoring Requirements	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)					
April - September	5 (1,334)	10	20	One/day	Composite
October - March	10 (2,669)	15	25	One/day	Composite
Total Suspended Solids	5 (1,334)	10	20	One/day	Composite
Ammonia Nitrogen					
April - September	1.7 (454)	3	6	One/day	Composite
October - March	3 (801)	6	10	One/day	Composite
Total Phosphorus*	Report (Report)	N/A	N/A	One/day	Composite
<i>E. coli</i> , CFU or MPN/100 ml	126	N/A	399	Daily	Grab

* The daily mass loadings calculated for each day of the month shall be summed to determine the total pounds of total phosphorus discharged during the calendar month. The annual mass loading for the discharge shall not exceed 50,654 pounds per year for total phosphorus. The rolling annual mass loading shall be calculated each month by dropping the oldest month's mass loading data from the past twelve-months and adding the most recent month's mass loading data. The total monthly and rolling annual mass loadings shall be reported on a monthly basis.

2. The permittee shall utilize an Ultraviolet Light (UV) system for disinfection purposes. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per day by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 6.0 mg/l and shall be monitored once per day by grab sample. Samples for dissolved oxygen may be collected at the plant site following the final treatment unit unless samples are collected at the outfall. If samples are collected at the outfall, only the samples collected at the outfall shall be reported.
7. The annual average flow and maximum 2-hour peak flow shall be reported monthly.

INTERIM III EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

1. During the period beginning upon the completion of the expansion to the 48 million gallons per day (MGD) facility and lasting through the completion of the expansion to the 64 MGD facility, the permittee is authorized to discharge subject to the following effluent limitations:
 The annual average flow of effluent shall not exceed 48 MGD, nor shall the average discharge during any two-hour period (2-hour peak) exceed 133,333 gpm.

Effluent Characteristic	Discharge Limitations			Min. Self-Monitoring Requirements		
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)						
April - September	5 (2,002)	10	20	30	One/day	Composite
October - March	10 (4,003)	15	25	35	One/day	Composite
Total Suspended Solids	5 (2,002)	10	20	30	One/day	Composite
Ammonia Nitrogen						
April - September	1.5 (600)	3	6	10	One/day	Composite
October - March	2 (801)	5	10	15	One/day	Composite
Total Phosphorus*	Report (Report)	N/A	N/A	N/A	One/day	Composite
<i>E. coli</i> , CFU or MPN/100 ml	126	N/A	399	N/A	Daily	Grab

* The daily mass loadings calculated for each day of the month shall be summed to determine the total pounds of total phosphorus discharged during the calendar month. The annual mass loading for the discharge shall not exceed 49,679 pounds per year for total phosphorus. The rolling annual mass loading shall be calculated each month by dropping the oldest month's mass loading data from the past twelve-months and adding the most recent month's mass loading data. The total monthly and rolling annual mass loadings shall be reported on a monthly basis.

2. The permittee shall utilize an Ultraviolet Light (UV) system for disinfection purposes. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per day by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 6.0 mg/l and shall be monitored once per day by grab sample. Samples for dissolved oxygen may be collected at the plant site following the final treatment unit unless samples are collected at the outfall. If samples are collected at the outfall, only the samples collected at the outfall shall be reported.
7. The annual average flow and maximum 2-hour peak flow shall be reported monthly.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

1. During the period beginning upon the completion of the expansion to the 64 million gallons per day (MGD) facility and lasting through the date of expiration, the permittee is authorized to discharge subject to the following effluent limitations:

The annual average flow of effluent shall not exceed 64 MGD, nor shall the average discharge during any two-hour period (2-hour peak) exceed 177,777 gpm.

Effluent Characteristic	Discharge Limitations			Min. Self-Monitoring Requirements		
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)						
April-September	5 (2,669)	10	20	30	One/day	Composite
October - March	10 (5,338)	15	25	35	One/day	Composite
Total Suspended Solids	5 (2,669)	10	20	30	One/day	Composite
Ammonia Nitrogen						
April - September	1.2 (641)	3	6	10	One/day	Composite
October - March	2 (1,068)	5	10	15	One/day	Composite
Total Phosphorus*	Report (Report)	N/A	N/A	N/A	One/day	Composite
E. coli, CFU or MPN/100 ml	126	N/A	399	N/A	Daily	Grab

*The daily mass loadings calculated for each day of the month shall be summed to determine the total pounds of total phosphorus discharged during the calendar month. The annual mass cap for the discharge shall not exceed 48,706 pounds per year for total phosphorus. The annual rolling mass cap shall be calculated each month by dropping the oldest month's mass loading data from the past twelve-month series and adding the most recent month's mass loading data. Both the total monthly and rolling mass cap shall be reported on a monthly basis.

2. The permittee shall utilize an Ultraviolet Light (UV) system for disinfection purposes. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per day by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 6.0 mg/l and shall be monitored once per day by grab sample. Samples for dissolved oxygen may be collected at the plant site following the final treatment unit unless samples are collected at the outfall. If samples are collected at the outfall, only the samples collected at the outfall shall be reported.
7. The annual average flow and maximum 2-hour peak flow shall be reported monthly.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC § 305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§ 5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§ 361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in TWC § 26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

- a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder and limited to major domestic wastewater discharge facilities with one million gallons per day or greater permitted flow.
- b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.
- c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.
- d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.
- e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.
- f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

- a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.
 - i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.

- ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.
- b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.
- c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.
- d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the sampling day.

The daily discharge determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily discharge determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

- e. Bacteria concentration (*E. coli* or Enterococci) - Colony Forming Units (CFU) or Most Probable Number (MPN) of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the n th root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or, computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of bacteria equaling zero, a substituted value of one shall be made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.
 - f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as (Flow, MGD x Concentration, mg/l x 8.34).
 - g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.
3. Sample Type
- a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (b).

- b. Grab sample - an individual sample collected in less than 15 minutes.
- 4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.
- 5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes.
- 6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§ 319.4 - 319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the Compliance Monitoring Team of the Enforcement Division (MC 224), by the 20th day of the following month for each discharge which is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act (CWA); TWC §§ 26, 27, and 28; and THSC § 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

- a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§ 319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.
- b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC § 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

- a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.
- b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period

of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR § 264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.

c. Records of monitoring activities shall include the following:

- i. date, time and place of sample or measurement;
- ii. identity of individual who collected the sample or made the measurement.
- iii. date and time of analysis;
- iv. identity of the individual and laboratory who performed the analysis;
- v. the technique or method of analysis; and
- vi. the results of the analysis or measurement and quality assurance/quality control records.

The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site and/or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the Regional Office and the Compliance Monitoring Team of the Enforcement Division (MC 224).

7. Noncompliance Notification

- a. In accordance with 30 TAC § 305.125(9) any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Except as allowed by 30 TAC § 305.132, report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Compliance Monitoring Team of the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. For Publicly Owned Treatment Works (POTWs), effective September 1, 2020, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
 - b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:
 - i. Unauthorized discharges as defined in Permit Condition 2(g).
 - ii. Any unanticipated bypass that exceeds any effluent limitation in the permit.
 - iii. Violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.
 - c. In addition to the above, any effluent violation which deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Compliance Monitoring Team of the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.
 - d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Compliance Monitoring Team of the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.
8. In accordance with the procedures described in 30 TAC §§ 35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.
9. Changes in Discharges of Toxic Substances
- All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the Regional Office, orally or by facsimile transmission within 24 hours, and both the Regional Office and the Compliance Monitoring Team of the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:
- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D,

Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- i. One hundred micrograms per liter (100 µg/L);
 - ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. The level established by the TCEQ.
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- i. Five hundred micrograms per liter (500 µg/L);
 - ii. One milligram per liter (1 mg/L) for antimony;
 - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. The level established by the TCEQ.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

11. All POTWs must provide adequate notice to the Executive Director of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to CWA § 301 or § 306 if it were directly discharging those pollutants;
- b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and
- c. For the purpose of this paragraph, adequate notice shall include information on:
 - i. The quality and quantity of effluent introduced into the POTW; and
 - ii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS

1. General

- a. When the permittee becomes aware that it failed to submit any relevant facts in a permit

application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

- b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:
 - i. Violation of any terms or conditions of this permit;
 - ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

- a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.
- b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.
- c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.
- e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.
- f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§ 305.62 and 305.66 and TWC§ 7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- g. There shall be no unauthorized discharge of wastewater or any other waste. For the

purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.

- h. In accordance with 30 TAC § 305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility which does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.
- i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under TWC §§ 7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§ 301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA § 402, or any requirement imposed in a pretreatment program approved under the CWA §§ 402 (a)(3) or 402 (b)(8).

3. Inspections and Entry

- a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC § 361.
- b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC § 7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment and/or Renewal

- a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for

determining whether a facility is a new source in accordance with 30 TAC § 305.534 (relating to New Sources and New Dischargers); or

- ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or
 - iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.
 - c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.
 - d. Prior to accepting or generating wastes which are not described in the permit application or which would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.
 - e. In accordance with the TWC § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.
 - f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA § 307(a) for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA § 307(a) for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

- a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of

facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.

- b. A permit may be transferred only according to the provisions of 30 TAC § 305.64 (relating to Transfer of Permits) and 30 TAC § 50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to TWC Chapter 11.

8. Property Rights

A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy

- a. Each permittee shall notify the Executive Director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:
 - i. the permittee;
 - ii. an entity (as that term is defined in 11 USC, § 101(14)) controlling the permittee or listing the permit or permittee as property of the estate; or
 - iii. an affiliate (as that term is defined in 11 USC, § 101(2)) of the permittee.
- b. This notification must indicate:
 - i. the name of the permittee and the permit number(s);
 - ii. the bankruptcy court in which the petition for bankruptcy was filed; and

- iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.
2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§ 319.21 - 319.29 concerning the discharge of certain hazardous metals.
3. Domestic wastewater treatment facilities shall comply with the following provisions:
 - a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.
 - b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment and/or other treatment unit regulated by this permit.
4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.
5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.
6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC § 7.302(b)(6).
7. Documentation

For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for

information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §§ 1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words confidential business information on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.
 - a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility which reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 219) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.
 - c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be

made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.
10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.
11. Facilities that generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:
 - a. Any solid waste, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.
 - b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
 - c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.8(b)(1), to the Corrective Action Section (MC 221) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.
 - d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335.5.
 - e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.
 - f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC § 335 and must include the following, as it pertains to wastewater treatment and discharge:

- i. Volume of waste and date(s) generated from treatment process;
- ii. Volume of waste disposed of on-site or shipped off-site;
- iii. Date(s) of disposal;
- iv. Identity of hauler or transporter;
- v. Location of disposal site; and
- vi. Method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

12. For industrial facilities to which the requirements of 30 TAC § 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC § 361.

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SLUDGE PROVISIONS

The permittee is authorized to dispose of sludge only at a Texas Commission on Environmental Quality (TCEQ) authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge. **The disposal of sludge by land application on property owned, leased or under the direct control of the permittee is a violation of the permit unless the site is authorized with the TCEQ. This provision does not authorize Distribution and Marketing of Class A or Class AB Sewage Sludge. This provision does not authorize the permittee to land apply sludge on property owned, leased or under the direct control of the permittee.**

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE LAND APPLICATION

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC § 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.
2. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge to assure compliance with these regulations.
3. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.

B. Testing Requirements

1. Sewage sludge shall be tested annually in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I [Toxicity Characteristic Leaching Procedure (TCLP)] or other method that receives the prior approval of the TCEQ for the contaminants listed in 40 CFR Part 261.24, Table 1. Sewage sludge failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal. Following failure of any TCLP test, the management or disposal of sewage sludge at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 4) within seven (7) days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 4) and the Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30th of each year. Effective September 1, 2020, the permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

2. Sewage sludge shall not be applied to the land if the concentration of the pollutants exceeds the pollutant concentration criteria in Table 1. The frequency of testing for pollutants in Table 1 is found in Section I.C. of this permit.

TABLE 1

<u>Pollutant</u>	<u>Ceiling Concentration</u> <u>(Milligrams per kilogram)*</u>
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
PCBs	49
Selenium	100
Zinc	7500

* Dry weight basis

3. Pathogen Control

All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A, Class AB or Class B pathogen requirements.

- a. For sewage sludge to be classified as Class A with respect to pathogens, the density of fecal coliform in the sewage sludge must be less than 1,000 most probable number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge must be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met:

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(2)(A) for specific information;

Alternative 5 (PFRP) - Sewage sludge that is used or disposed of must be treated in one of the Processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion; or

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5.

- b. For sewage sludge to be classified as Class AB with respect to pathogens, the density of fecal coliform in the sewage sludge must be less than 1,000 MPN per gram of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met:

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge shall be above 52° Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50%; or

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC § 312.82(a)(2)(C)(i-iii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC § 312.82(a)(2)(C)(iv-vi) for specific information; or

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

- c. Sewage sludge that meets the requirements of Class AB sewage sludge may be classified a Class A sewage sludge if a variance request is submitted in writing that is supported by substantial documentation demonstrating equivalent methods for reducing odors and written approval is granted by the executive director. The executive director may deny the variance request or revoke that approved variance if it is determined that the variance may potentially endanger human health or the environment, or create nuisance odor conditions.
- d. Three alternatives are available to demonstrate compliance with Class B criteria for

sewage sludge.

Alternative 1

- i. A minimum of seven random samples of the sewage sludge shall be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
- ii. The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge that is used or disposed of shall be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. An independent Texas Licensed Professional Engineer must make a certification to the generator of a sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification shall include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;
- iv. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the PSRP, and shall meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 - Sewage sludge shall be treated in an equivalent process that has been approved by the U.S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a

single location, except as provided in paragraph v. below;

- ii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;
- iii. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;
- iv. The Executive Director will accept from the U.S. Environmental Protection Agency a finding of equivalency to the defined PSRP; and
- v. If the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the Processes to Significantly Reduce Pathogens, and shall meet the certification, operation, and record keeping requirements of this paragraph.

In addition to the Alternatives 1 – 3, the following site restrictions must be met if Class B sludge is land applied:

- i. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge.
- ii. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil.
- iii. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil.
- iv. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge.
- v. Animals shall not be allowed to graze on the land for 30 days after application of sewage sludge.
- vi. Turf grown on land where sewage sludge is applied shall not be harvested for 1 year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn.

- vii. Public access to land with a high potential for public exposure shall be restricted for 1 year after application of sewage sludge.
- viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.
- ix. Land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC § 312.44.

4. Vector Attraction Reduction Requirements

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following Alternatives 1 through 10 for vector attraction reduction.

Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38%.

Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30° and 37° Celsius. Volatile solids must be reduced by less than 17% to demonstrate compliance.

Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20° Celsius. Volatile solids must be reduced by less than 15% to demonstrate compliance.

Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20° Celsius.

Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40° Celsius and the average temperature of the sewage sludge shall be higher than 45° Celsius.

Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container.

Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75% based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are

defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 8 - The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90% based on the moisture content and total solids prior to mixing with other materials at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

- Alternative 9 -
- i. Sewage sludge shall be injected below the surface of the land.
 - ii. No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected.
 - iii. When sewage sludge that is injected below the surface of the land is Class A or Class AB with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

- Alternative 10-
- i. Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.
 - ii. When sewage sludge that is incorporated into the soil is Class A or Class AB with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

C. Monitoring Requirements

- Toxicity Characteristic Leaching Procedure (TCLP) Test - annually
- PCBs - annually

All metal constituents and fecal coliform or *Salmonella* sp. bacteria shall be monitored at the appropriate frequency shown below, pursuant to 30 TAC § 312.46(a)(1):

<u>Amount of sewage sludge (*) metric tons per 365-day period</u>	<u>Monitoring Frequency</u>
0 to less than 290	Once/Year
290 to less than 1,500	Once/Quarter
1,500 to less than 15,000	Once/Two Months
15,000 or greater	Once/Month

(*) *The amount of bulk sewage sludge applied to the land (dry wt. basis).*

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC § 312.7

Identify each of the analytic methods used by the facility to analyze enteric viruses, fecal coliforms, helminth ova, *Salmonella* sp., and other regulated parameters.

Identify in the following categories (as applicable) the sewage sludge treatment process or processes at the facility: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.

Identify the nature of material generated by the facility (such as a biosolid for beneficial use or land-farming, or sewage sludge for disposal at a monofill) and whether the material is ultimately conveyed off-site in bulk or in bags.

SECTION II. REQUIREMENTS SPECIFIC TO BULK SEWAGE SLUDGE FOR APPLICATION TO THE LAND MEETING CLASS A, CLASS AB or B PATHOGEN REDUCTION AND THE CUMULATIVE LOADING RATES IN TABLE 2, OR CLASS B PATHOGEN REDUCTION AND THE POLLUTANT CONCENTRATIONS IN TABLE 3

For those permittees meeting Class A, Class AB or B pathogen reduction requirements and that meet the cumulative loading rates in Table 2 below, or the Class B pathogen reduction requirements and contain concentrations of pollutants below listed in Table 3, the following conditions apply:

A. Pollutant Limits

Table 2

<u>Pollutant</u>	Cumulative Pollutant Loading Rate (pounds per acre)*
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

<u>Pollutant</u>	Monthly Average Concentration (milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

*Dry weight basis

B. Pathogen Control

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, shall be treated by either Class A, Class AB or Class B pathogen reduction requirements as defined above in Section I.B.3.

C. Management Practices

1. Bulk sewage sludge shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters in the State.
2. Bulk sewage sludge not meeting Class A requirements shall be land applied in a manner which complies with Applicability in accordance with 30 TAC §312.41 and the Management Requirements in accordance with 30 TAC § 312.44.
3. Bulk sewage sludge shall be applied at or below the agronomic rate of the cover crop.
4. An information sheet shall be provided to the person who receives bulk sewage sludge sold or given away. The information sheet shall contain the following information:
 - a. The name and address of the person who prepared the sewage sludge that is sold or given away in a bag or other container for application to the land.
 - b. A statement that application of the sewage sludge to the land is prohibited except in accordance with the instruction on the label or information sheet.
 - c. The annual whole sludge application rate for the sewage sludge application rate for the sewage sludge that does not cause any of the cumulative pollutant loading rates in Table 2 above to be exceeded, unless the pollutant concentrations in Table 3 found in Section II above are met.

D. Notification Requirements

1. If bulk sewage sludge is applied to land in a State other than Texas, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk sewage sludge is proposed to be applied. The notice shall include:
 - a. The location, by street address, and specific latitude and longitude, of each land application site.
 - b. The approximate time period bulk sewage sludge will be applied to the site.
 - c. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk sewage sludge.
2. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.

E. Record keeping Requirements

The sludge documents will be retained at the facility site and/or shall be readily available for review by a TCEQ representative. The person who prepares bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information at

the facility site and/or shall be readily available for review by a TCEQ representative for a period of five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply.

1. The concentration (mg/kg) in the sludge of each pollutant listed in Table 3 above and the applicable pollutant concentration criteria (mg/kg), or the applicable cumulative pollutant loading rate and the applicable cumulative pollutant loading rate limit (lbs/ac) listed in Table 2 above.
2. A description of how the pathogen reduction requirements are met (including site restrictions for Class AB and Class B sludge, if applicable).
3. A description of how the vector attraction reduction requirements are met.
4. A description of how the management practices listed above in Section II.C are being met.
5. The following certification statement:

“I certify, under penalty of law, that the applicable pathogen requirements in 30 TAC § 312.82(a) or (b) and the vector attraction reduction requirements in 30 TAC § 312.83(b) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.”
6. The recommended agronomic loading rate from the references listed in Section II.C.3. above, as well as the actual agronomic loading rate shall be retained. The person who applies bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply:
 - a. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii), as applicable, and to the permittee’s specific sludge treatment activities.
 - b. The location, by street address, and specific latitude and longitude, of each site on which sludge is applied.
 - c. The number of acres in each site on which bulk sludge is applied.
 - d. The date and time sludge is applied to each site.

- e. The cumulative amount of each pollutant in pounds/acre listed in Table 2 applied to each site.
- f. The total amount of sludge applied to each site in dry tons.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

F. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 4) and Compliance Monitoring Team (MC 224) of the Enforcement Division, by September 30th of each year the following information. Effective September 1, 2020, the permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

1. Identify in the following categories (as applicable) the sewage sludge treatment process or processes at the facility: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. Identify the nature of material generated by the facility (such as a biosolid for beneficial use or land-farming, or sewage sludge for disposal at a monofill) and whether the material is ultimately conveyed off-site in bulk or in bags.
3. Results of tests performed for pollutants found in either Table 2 or 3 as appropriate for the permittee's land application practices.
4. The frequency of monitoring listed in Section I.C. that applies to the permittee.
5. Toxicity Characteristic Leaching Procedure (TCLP) results.
6. PCB concentration in sludge in mg/kg.
7. Identity of hauler(s) and TCEQ transporter number.
8. Date(s) of transport.
9. Texas Commission on Environmental Quality registration number, if applicable.
10. Amount of sludge disposal dry weight (lbs/acre) at each disposal site.
11. The concentration (mg/kg) in the sludge of each pollutant listed in Table 1 (defined as a monthly average) as well as the applicable pollutant concentration criteria (mg/kg) listed in Table 3 above, or the applicable pollutant loading rate limit (lbs/acre) listed in Table 2 above if it exceeds 90% of the limit.
12. Level of pathogen reduction achieved (Class A, Class AB or Class B).
13. Alternative used as listed in Section I.B.3.(a. or b.). Alternatives describe how the pathogen reduction requirements are met. If Class B sludge, include information on how site restrictions were met.

14. Identify each of the analytic methods used by the facility to analyze enteric viruses, fecal coliforms, helminth ova, *Salmonella* sp., and other regulated parameters.
15. Vector attraction reduction alternative used as listed in Section I.B.4.
16. Amount of sludge transported in dry tons/year.
17. The certification statement listed in either 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii) as applicable to the permittee's sludge treatment activities, shall be attached to the annual reporting form.
18. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2, the permittee shall report the following information as an attachment to the annual reporting form.
 - a. The location, by street address, and specific latitude and longitude.
 - b. The number of acres in each site on which bulk sewage sludge is applied.
 - c. The date and time bulk sewage sludge is applied to each site.
 - d. The cumulative amount of each pollutant (i.e., pounds/acre) listed in Table 2 in the bulk sewage sludge applied to each site.
 - e. The amount of sewage sludge (i.e., dry tons) applied to each site.

The above records shall be maintained on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

**SECTION III. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE
DISPOSED IN A MUNICIPAL SOLID WASTE LANDFILL**

- A. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC § 330 and all other applicable state and federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present. The permittee shall ensure that the sewage sludge meets the requirements in 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
- B. If the permittee generates sewage sludge and supplies that sewage sludge to the owner or operator of a municipal solid waste landfill (MSWLF) for disposal, the permittee shall provide to the owner or operator of the MSWLF appropriate information needed to be in compliance with the provisions of this permit.
- C. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.
- D. Sewage sludge shall be tested annually in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I (Toxicity Characteristic Leaching Procedure) or other method, which receives the prior approval of the TCEQ for contaminants listed in Table 1 of 40 CFR § 261.24. Sewage sludge failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal.

Following failure of any TCLP test, the management or disposal of sewage sludge at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 4) of the appropriate TCEQ field office within 7 days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 4) and the Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30 of each year.

- E. Sewage sludge shall be tested as needed, in accordance with the requirements of 30 TAC Chapter 330.
- F. Record keeping Requirements

The permittee shall develop the following information and shall retain the information for five years.

1. The description (including procedures followed and the results) of all liquid Paint Filter Tests performed.
2. The description (including procedures followed and results) of all TCLP tests performed.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

G. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 4) and Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30th of each year the following information. Effective September 1, 2020, the permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

1. Identify in the following categories (as applicable) the sewage sludge treatment process or processes at the facility: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. Toxicity Characteristic Leaching Procedure (TCLP) results.
3. Annual sludge production in dry tons/year.
4. Amount of sludge disposed in a municipal solid waste landfill in dry tons/year.
5. Amount of sludge transported interstate in dry tons/year.
6. A certification that the sewage sludge meets the requirements of 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
7. Identity of hauler(s) and transporter registration number.
8. Owner of disposal site(s).
9. Location of disposal site(s).
10. Date(s) of disposal.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

SECTION IV. REQUIREMENTS APPLYING TO SLUDGE TRANSPORTED TO ANOTHER FACILITY FOR FURTHER PROCESSING

These provisions apply to sludge that is transported to another wastewater treatment facility or facility that further processes sludge. These provisions are intended to allow transport of sludge to facilities that have been authorized to accept sludge. These provisions do not limit the ability of the receiving facility to determine whether to accept the sludge, nor do they limit the ability of the receiving facility to request additional testing or documentation.

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.
2. Sludge may only be transported using a registered transporter or using an approved pipeline.

B. Record Keeping Requirements

1. For sludge transported by an approved pipeline, the permittee must maintain records of the following:
 - a. the amount of sludge transported;
 - b. the date of transport;
 - c. the name and TCEQ permit number of the receiving facility or facilities;
 - d. the location of the receiving facility or facilities;
 - e. the name and TCEQ permit number of the facility that generated the waste; and
 - f. copy of the written agreement between the permittee and the receiving facility to accept sludge.
2. For sludge transported by a registered transporter, the permittee must maintain records of the completed trip tickets in accordance with 30 TAC § 312.145(a)(1)-(7) and amount of sludge transported.
3. The above records shall be maintained on-site on a monthly basis and shall be made available to the TCEQ upon request. These records shall be retained for at least five years.

C. Reporting Requirements

The permittee shall report the following information annually to the TCEQ Regional Office (MC Region 4) and Compliance Monitoring Team (MC 224) of the Enforcement Division, by September 30th of each year. Effective September 1, 2020, the permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

1. Identify in the following categories (as applicable) the sewage sludge treatment process or processes at the facility: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. the annual sludge production;
3. the amount of sludge transported;
4. the owner of each receiving facility;
5. the location of each receiving facility; and
6. the date(s) of disposal at each receiving facility.

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OTHER REQUIREMENTS

1. Within 120 days from the start-up of the facility, the permittee shall complete Attachment A with the analytical results for Outfall 001. The completed tables with the results of these analysis and laboratory reports shall be submitted to the Municipal Permits Team, Wastewater Permitting Section MC 148, TCEQ Water Quality Division. Based on a technical review of the submitted analytical results, an amendment may be initiated by TCEQ staff to include additional effluent limitations and/or monitoring requirements. Test methods utilized to complete the tables shall be according to the test procedures specified in the Definitions and Standard Permit Conditions section of this permit and sensitive enough to detect the parameters listed in Attachment A at the minimum analytical level (MAL).
2. Monitoring and reporting requirements according to 30 TAC §§ 319.1-319.11 and any additional effluent reporting requirements contained in this permit are suspended from the effective date of the permit until plant startup or discharge from the facility described by this permit, whichever occurs first. The permittee shall provide written notice to the TCEQ Regional Office (MC Region 4) and the Applications Review and Processing Team (MC 148) of the Water Quality Division at least forty-five days prior to plant startup or anticipated discharge, whichever occurs first, and prior to completion of each additional phase on Notification of Completion Form 20007.
3. The permittee shall employ or contract with one or more licensed wastewater treatment facility operators or wastewater system operations companies holding a valid license or registration according to the requirements of 30 TAC Chapter 30, Occupational Licenses and Registrations, and, in particular, 30 TAC Chapter 30, Subchapter J, Wastewater Operators and Operations Companies.

This Category A facility must be operated by a chief operator or an operator holding a Category A license or higher. The facility must be operated a minimum of five days per week by the licensed chief operator or an operator holding the required level of license or higher. The licensed chief operator or operator holding the required level of license or higher must be available by telephone or pager seven days per week. Where shift operation of the wastewater treatment facility is necessary, each shift that does not have the on-site supervision of the licensed chief operator must be supervised by an operator in charge who is licensed not less than one level below the category for the facility.

4. The facility is not located in the Coastal Management Program boundary.
5. There is no mixing zone established for this discharge to an intermittent stream with perennial pools. Chronic toxic criteria apply at the point of discharge.
6. The permittee shall comply with the requirements of 30 TAC § 309.13(a) through (d). In addition, by ownership of the required buffer zone area and the use of restrictive covenants with adjacent properties as described in correspondence from the permittee dated October 4, 2018, the permittee shall comply with the requirements of 30 TAC § 309.13(e) (See Attachment B).
7. The permittee shall provide facilities for the protection of its wastewater treatment facility from a 100-year flood.
8. In accordance with 30 TAC § 319.9, a permittee that has at least twelve months of

uninterrupted compliance with its bacteria limit may notify the commission in writing of its compliance and request a less frequent measurement schedule. To request a less frequent schedule, the permittee shall submit a written request to the TCEQ Wastewater Permitting Section (MC 148) for each phase that includes a different monitoring frequency. The request must contain all of the reported bacteria values (Daily Avg. and Daily Max/Single Grab) for the twelve consecutive months immediately prior to the request. If the Executive Director finds that a less frequent measurement schedule is protective of human health and the environment, the permittee may be given a less frequent measurement schedule. For this permit, daily may be reduced to 5/week in all phases of the permit. **A violation of any bacteria limit by a facility that has been granted a less frequent measurement schedule will require the permittee to return to the standard frequency schedule and submit written notice to the TCEQ Wastewater Permitting Section (MC 148).** The permittee may not apply for another reduction in measurement frequency for at least 24 months from the date of the last violation. The Executive Director may establish a more frequent measurement schedule if necessary to protect human health or the environment.

9. Prior to construction of the Interim I, Interim II, Interim III, and Final phase treatment facilities, the permittee shall submit to the TCEQ Wastewater Permitting Section (MC 148) a summary transmittal letter in accordance with the requirements in 30 TAC § 217.6(d). If requested by the Wastewater Permitting Section, the permittee shall submit plans, specifications, and a final engineering design report which comply with 30 TAC Chapter 217, Design Criteria for Domestic Wastewater Systems. The permittee shall clearly show how the treatment system will meet the effluent limitations required on Pages 2-2g of this permit. A copy of the summary transmittal letter shall be available at the plant site for inspection by authorized representatives of the TCEQ.

CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

1. The following pollutants may not be introduced into the treatment facility:
 - a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit (60 degrees Celsius) using the test methods specified in 40 CFR §261.21;
 - b. Pollutants which will cause corrosive structural damage to the POTW, but in no case shall there be discharges with pH lower than 5.0 standard units, unless the works are specifically designed to accommodate such discharges;
 - c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in interference;
 - d. Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;
 - e. Heat in amounts which will inhibit biological activity in the POTW resulting in interference, but in no case shall there be heat in such quantities that the temperature at the POTW treatment plant exceeds 104 degrees Fahrenheit (40 degrees Celsius) unless the Executive Director, upon request of the POTW, approves the alternate temperature limit;
 - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and
 - h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.
2. The permittee shall comply with the pretreatment requirements in 40 CFR Part 403, as amended, and as specified in the following schedule of compliance. The permittee is required to develop a pretreatment program; the final complete submission is due two (2) months from the date the permittee receives notification from the TCEQ Pretreatment Team (MC148) of the Water Quality Division indicating completion of the permittee's Activity Nos. 1- 6. (See Activity No. 7)

The permittee has submitted a substantial modification to its approved pretreatment program to the TCEQ on February 25, 2011, as required by the NTMWD – Wilson Creek WWTP's TPDES Permit No. WQ0012446001, issued on February 26, 2010, in order to combine all of the permittee's currently approved pretreatment programs into the one pretreatment program: Buffalo Creek, Stewart Creek West, Floyd Branch, South Mesquite Creek, Rowlett Creek, Wilson Creek, and Wylie. The combined pretreatment program will also include the developing pretreatment program from the Sabine Creek WWTP. The substantial modification includes the redevelopment of the technically-based local limits (TBLLs) for all of the permittee's wastewater treatment plants within

the service areas of the TPDES combined pretreatment program (WQ0010221001, WQ0010363001, WQ0010384001, WQ0012047001, WQ0010257001, WQ0012446001, WQ0014008001, WQ0014216001, WQ0014245001, and WQ0014469001), revisions to the Legal Authority, Enforcement Response Plan, and Standard Operating Procedures for each customer city for the combined pretreatment program. The narrative components portion of the submittal were replaced on November 9, 2011. The Executive Director is currently reviewing this substantial modification/new combined program submission. Substantial modifications will be approved in accordance with 40 CFR §403.18, and the modification will become effective upon approval by the Executive Director in accordance with §403.18.

- a. If the permittee does not complete any of the activities according to the following schedule, the permittee shall submit a letter signed by the permittee [according to 40 CFR §122.41(k)] to the TCEQ Pretreatment Team (MC 148) of the Water Quality Division within 14 days of the activity due date, including, at a minimum, the date on which the required activity will be submitted, the reason for the delay, and the steps taken to return to the established schedule. The permittee may request one 60-day extension of the due date for Activity Nos. 1 and 7. These requests for extensions shall be made in writing to the Executive Director, care of the Pretreatment Team (MC 148), no later than 14 days prior to the due date. The Executive Director may grant an extension of the deadlines of Activity Nos. 1 and 7 submitted pursuant to these permit requirements, upon a written and substantiated showing of good cause. The determination of what constitutes good cause rests solely with the Executive Director. Extensions are not effective until the permittee receives written approval from the Executive Director.
- b. If after review of the submission, the Executive Director determines that the submission does not comply with the applicable requirements of 40 CFR §§403.8 and 403.9, the Executive Director will notify the permittee in writing. The notification will identify any defects in the submission and advise the permittee of the means by which the permittee can comply with the applicable requirements of 40 CFR §§403.8 and 403.9. In such a case, revised information will be necessary for the Executive Director to make a determination on whether to approve or deny the permittee's submission.
- c. A new pretreatment program will proceed through the approval process in accordance with 40 CFR §§403.9 and 403.11 [*rev. Federal Register/ Vol. 70/ No. 198/ Friday, October 14, 2005/ Rules and Regulations, pages 60134-60798*]. The submission will become effective upon approval by the Executive Director in accordance with 40 CFR §403.11. Upon approval of a pretreatment program by the Executive Director, this permit will be modified or amended to incorporate that pretreatment program.
- d. The permittee may develop and submit a complete pretreatment program at any time before the deadline established in Activity No. 7.
- e. The permittee may apply for authority to revise categorical pretreatment standards to reflect POTW removal of pollutants in accordance with the requirements of 40 CFR §403.7 [*rev. 10/14/05*] at any time.
- f. The permittee shall require any indirect discharger to the treatment works to

comply with the reporting requirements of Sections 204(b), 307, and 308 of the Clean Water Act, including any requirements established under 40 CFR Part 403.

- g. The permittee shall provide adequate written notification to the Executive Director, care of the Pretreatment Team (MC148) of the Water Quality Division, within 30 days subsequent to the permittee's knowledge of the following:
- (1) Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Clean Water Act if it were directly discharging those pollutants; and
 - (2) Any substantial change in the volume or character of pollutants being introduced into the treatment works.

Adequate notice shall include information on the quality and quantity of effluent to be introduced into the treatment works, and any anticipated impact of such change in the quality or quantity of effluent to be discharged from the POTW.

Revised April 2019

SCHEDULE OF COMPLIANCE FOR PRETREATMENT PROGRAM DEVELOPMENT

ACTIVITY NUMBER	ACTIVITY	DATE
	<p>Submissions required by the Activity Nos. 2-6 listed below shall be made to the TCEQ Pretreatment Team (MC 148) of the Water Quality Division. Initially, Activity Nos. 3, 4, 5, and 6 should be submitted in draft form.</p>	
1.	<p>Submit an industrial user (IU) survey which consists of a qualitative analysis of pollutants being contributed by IUs in its entire municipal system (including all treatment plants). In accordance with 40 Code of Federal Regulations (CFR) §§403.8(f)(2)(i)-(ii) and 403.12(i)(1), the IUs should be asked to provide, the names, addresses, contact person, and information on the type and approximate quantity of pollutants discharged into the system. For guidance on the procedures see the U.S. Environmental Protection Agency's <i>Guidance Manual for POTW Pretreatment Program Development</i>, October 1983, Chapter 2 and Appendix H. This information may be derived from knowledge of the facility's process and should not require any sampling at the source.</p>	<p>2 months from the issued date of the permit</p>
	<p>The IU survey must identify significant industrial users (SIUs), including those categorical industrial users (CIUs) subject to categorical pretreatment standards under 40 CFR Chapter I, Subchapter N, and specifying the citations, categories, and subcategories from the 40 CFR which are applicable to such CIUs. The permittee should submit the information in tabular form, using the example table format provided.</p>	
	<p>The TCEQ Pretreatment Team will notify the permittee regarding the results of the IU survey, and whether the permittee will be required to continue the program development beyond Activity No. 1. If pretreatment program development is necessary, the permittee will be required to continue the program development upon receiving notification from the TCEQ.</p>	
	<p>If notified that a TPDES pretreatment program is not necessary, the permittee will submit an update of its IU survey with Worksheet 6.0 of the Domestic Technical Report, as part of the TCEQ Domestic Wastewater Permit Application, when next reapplying for this TPDES permit. The IU survey must include documented changes in industrial flow and/or characteristics of existing industries and any new contributing industries.</p>	

SCHEDULE OF COMPLIANCE FOR PRETREATMENT PROGRAM DEVELOPMENT

ACTIVITY NUMBER	ACTIVITY	DATE
2.	<p>Submit a sampling plan describing the monitoring to take place at the influent and effluent (and other points, as applicable) of each wastewater treatment plant to be covered under the TPDES pretreatment program, domestic/commercial background, and sewage sludge for the technically based local limits (TBLLs) development.</p> <p>Submit the analytical results and related quality assurance/quality control (QA/QC) information of an influent pollutant scan of a 24-hour composite sample to determine all pollutants being contributed to the system. The type of scan to be performed is the initial priority pollutant scan of the 126 pollutants from 40 CFR Part 122, Appendix D, Tables II and III plus any other additional pollutants designated in the TCEQ Texas Surface Water Quality Standards, 30 TAC Chapter 307. Submit information derived from Items (a) and (b) in this section below.</p> <p>All sampling, analyses, and method detection limits must be performed in accordance with 40 CFR Part 136, as amended; as approved by the EPA through the application for alternate test procedures; or as suggested in Tables E-1 and E-2 of the <i>Procedures to Implement the Texas Surface Water Quality Standards</i> (February 2018), as amended and adopted by the TCEQ. This initial pollutant scan will be used by the permittee for developing the TBLLs as specified in Activity No. 5.</p> <p>(a) Using the qualitative information supplied by the IUs in Activity No. 1, and the quantitative information collected in the initial pollutant scan, the permittee shall determine which IUs may be discharging pollutants of concern which may affect the operation of the POTW(s) or pass through untreated.</p> <p>(b) Sampling and analyses shall be completed to quantify the pollutants of concern discharged by the IUs identified in the investigation of (a) above.</p>	<p>3 months from the effective date of notification to continue pretreatment program development</p>

SCHEDULE OF COMPLIANCE FOR PRETREATMENT PROGRAM DEVELOPMENT

ACTIVITY NUMBER	ACTIVITY	DATE
3.	<p>Submit a design of a sampling, inspection, permitting, reporting, and data management program which will implement the requirements of 40 CFR §§403.8 and 403.12, including all proposed forms.</p> <p>The permittee is required to design the program in order to inspect and sample the effluent from each SIU at least once per year, except as specified in 40 CFR §403.8(f)(2)(v).</p> <p>The permittee shall design the program in order to control through permit, order, or similar means, the contribution to the POTW by each IU to ensure compliance with applicable pretreatment standards and requirements. In the case of SIUs (identified as significant under 40 CFR §403.3(v)), this control shall be achieved through individual or general control mechanisms, in accordance with 40 CFR §403.8(f)(1)(iii).</p>	<p>5 months from the effective date of notification to continue pretreatment program development</p>
4.	<p>Submit a description of the financial programs, revenue sources, equipment, staffing, and organizational chart of those positions which will be employed to implement the pretreatment program (as required by 40 CFR §§403.8(f)(3) and 403.9(b)(3) and (b)(4)).</p>	<p>6 months from the effective date of notification to continue pretreatment program development</p>

SCHEDULE OF COMPLIANCE FOR PRETREATMENT PROGRAM DEVELOPMENT

ACTIVITY NUMBER	ACTIVITY	DATE
5.	<p>Submit a complete TBLs submission as required by 40 CFR §§403.5(c) and 403.8(f)(4). The technical development of the TBLs should be developed in accordance with the EPA's <i>Local Limits Development Guidance</i>, July 2004, and EPA Region 6's <i>Technically Based Local Limits Development Guidance</i>, October 12, 1993. Include the results of a current Texas Toxicity Modeling Program (TexTox) report for each wastewater treatment plant. This report must be run subsequent to the effective date of the TCEQ notification to continue TPDES pretreatment program development.</p> <p>The technical development must demonstrate that the TBLs attain the Texas Surface Water Quality Standards [30 TAC Chapter 307] in water in the state and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination. This submission must include the TBLs certification statement signed by the permittee [according to 40 CFR §122.41(k)].</p>	<p>9 months from the effective date of notification to continue pretreatment program development</p>

SCHEDULE OF COMPLIANCE FOR PRETREATMENT PROGRAM DEVELOPMENT

ACTIVITY NUMBER	ACTIVITY	DATE
6.	<p>The POTW is required to apply and enforce the pretreatment standards and requirements established by §§307(b) and (c), and 402(b)(8) and (9) of the Clean Water Act and any regulations implementing those sections, including 40 CFR §403.9(b). Submit the following:</p> <p>(a) a statement from the City Solicitor, a city official acting in a comparable capacity, or the city's independent counsel, that the POTW has the adequate authority to carry out the program;</p> <p>(b) a copy of any statute, ordinance, regulation, contract, agreement, or other authority that will be relied on by the POTW to administer the program;</p> <p>(c) a statement reflecting the endorsement of or approval by the local boards or bodies responsible for supervising and/or funding the program;</p> <p>(d) additional documents and agreements required in multi-jurisdictional situations for administration of the program; and</p> <p>(e) an enforcement response plan (ERP) that shall contain detailed procedures indicating how the POTW will investigate and respond to instances of IU noncompliance. The ERP, enforcement response guide (ERG), and other documents and forms shall, at a minimum, contain the aspects defined in 40 CFR §403.8(f)(5).</p>	<p>10 months from the effective date of notification to continue pretreatment program development</p>
7.	<p>Upon notification by the TCEQ Pretreatment Team of a completeness determination of the submitted program in accordance with 40 CFR §403.9, the permittee is required to submit an official request to the Executive Director care of the Pretreatment Team (MC148) of the Water Quality Division for program approval, including four (4) copies (three (3) bound and one (1) unbound) of the program deemed by the Executive Director to be complete.</p> <p>Submit a complete pretreatment program as required by 40 CFR §403.9. The complete pretreatment program shall include the final compilation of all previously submitted pretreatment program activities as amended and supplemented (e.g. Activity Nos. 1- 6).</p>	<p>The Executive Director will notify the permittee of the due date of Activity No. 7 with the notification of completion of the permittee's Activity Nos. 1 – 6 for the Sister Grove Regional Water Resource Recovery Facility and the new combined NTMWD pretreatment program substantial modification.</p>

Revised April 2019

BIOMONITORING REQUIREMENTS**CHRONIC BIOMONITORING REQUIREMENTS: FRESHWATER**

The provisions of this section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency, and Methodology

- a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival, reproduction, or growth of the test organisms.
- b. The permittee shall conduct the following toxicity tests using the test organisms, procedures and quality assurance requirements specified in this part of this permit and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," fourth edition (EPA-821-R-02-013) or its most recent update:
 - 1) Chronic static renewal survival and reproduction test using the water flea (*Ceriodaphnia dubia*) (Method 1002.0). This test should be terminated when 60% of the surviving adults in the control produce three broods or at the end of eight days, whichever occurs first. This test shall be conducted once per quarter.
 - 2) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (*Pimephales promelas*) (Method 1000.0). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

- c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These effluent dilution concentrations are 32%, 42%, 56%, 75%, and 100% effluent. The critical dilution, defined as 100% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions.
- d. This permit may be amended to require a WET limit, a chemical-specific effluent limit, a best management practice, or other appropriate actions to address toxicity. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.
- e. **Testing Frequency Reduction**
 - 1) If none of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee may submit this information in writing

and, upon approval, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species.

- 2) If one or more of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee shall continue quarterly testing for that species until this permit is reissued. If a testing frequency reduction had been previously granted and a subsequent test demonstrates significant toxicity, the permittee shall resume a quarterly testing frequency for that species until this permit is reissued.

2. Required Toxicity Testing Conditions

- a. Test Acceptance – The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fail to meet the following criteria:
 - 1) a control mean survival of 80% or greater;
 - 2) a control mean number of water flea neonates per surviving adult of 15 or greater;
 - 3) a control mean dry weight of surviving fathead minnow larvae of 0.25 mg or greater;
 - 4) a control coefficient of variation percent (CV%) of 40 or less in between replicates for the young of surviving females in the water flea test; and the growth and survival endpoints in the fathead minnow test;
 - 5) a critical dilution CV% of 40 or less for young of surviving females in the water flea test; and the growth and survival endpoints for the fathead minnow test, unless statistically significant toxicity is demonstrated at the critical dilution, in which case the test shall be considered valid;
 - 6) a percent minimum significant difference of 47 or less for water flea reproduction; and
 - 7) a PMSD of 30 or less for fathead minnow growth.
- b. Statistical Interpretation
 - 1) For the water flea survival and reproduction test, the statistical analyses used to determine the inhibition concentration of effluent that would cause a 25% reduction (IC₂₅) in survival or mean young per female shall be as described in the methods manual referenced in Part 1.b.
 - 2) For the fathead minnow larval survival and growth tests, the statistical analyses used to determine the IC₂₅ in survival or growth shall be as described in the methods manual referenced in Part 1.b.
 - 3) The permittee is responsible for reviewing test concentration-response relationships to ensure that calculated test-results are interpreted and

reported correctly. The document entitled "Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)" (EPA 821-B-00-004) provides guidance on determining the validity of test results.

- 4) Most point estimates are derived from a mathematical model that assumes a continuous dose-response relationship. For any test result that demonstrates a non-continuous (threshold) response, or a non-monotonic dose-response relationship, the IC25 should be determined based on the method guidance manual referenced in Item 3.
- 5) Pursuant to the responsibility assigned to the permittee in Part 2.b.3), test results that demonstrate a non-monotonic dose-response relationship may be submitted, prior to the due date, for technical review of test validity and acceptability. The method guidance manual referenced in Item 3 will be used as the basis, along with best professional judgement, for making a determination of test validity and acceptability.

c. Dilution Water

- 1) Dilution water used in the toxicity tests shall be the receiving water collected at a point upstream of the discharge as close as possible to the discharge point but unaffected by the discharge. Where the toxicity tests are conducted on effluent discharges to receiving waters that are classified as intermittent streams, or where the toxicity tests are conducted on effluent discharges where no receiving water is available due to zero flow conditions, the permittee shall:
 - a) substitute a synthetic dilution water that has a pH, hardness, and alkalinity similar to that of the closest downstream perennial water unaffected by the discharge; or
 - b) use the closest downstream perennial water unaffected by the discharge.
- 2) Where the receiving water proves unsatisfactory as a result of pre-existing instream toxicity (i.e. fails to fulfill the test acceptance criteria of Part 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
 - a) a synthetic lab water control was performed (in addition to the receiving water control) which fulfilled the test acceptance requirements of Part 2.a;
 - b) the test indicating receiving water toxicity was carried out to completion (i.e., 7 days);
 - c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3.

- 3) The synthetic dilution water shall consist of standard, moderately hard, reconstituted water. Upon approval, the permittee may substitute other appropriate dilution water with chemical and physical characteristics similar to that of the receiving water.

d. Samples and Composites

- 1) The permittee shall collect a minimum of three composite samples from Outfall 001. The second and third composite samples will be used for the renewal of the dilution concentrations for each toxicity test.
- 2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged on an intermittent basis.
- 3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first composite sample. The holding time for any subsequent composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
- 4) If Outfall 001 ceases discharging during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions, and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with renewal of the effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report.
- 5) The effluent samples shall not be dechlorinated after sample collection.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

- a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated whether carried to completion or not.
- b. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit.
 - 1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12-month period.

- 2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.
 - 3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th for biomonitoring conducted during the previous calendar quarter.
 - 4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.
- c. Enter the following codes for the appropriate parameters for valid tests only:
- 1) For the water flea, Parameter T4P3B, enter a "1" if the IC25 for survival is less than the critical dilution; otherwise, enter a "0."
 - 2) For the water flea, Parameter T6P3B, report the IC25 for survival.
 - 3) For the water flea, Parameter T5P3B, enter a "1" if the IC25 for reproduction is less than the critical dilution; otherwise, enter a "0."
 - 4) For the water flea, Parameter T7P3B, report the IC25 for reproduction.
 - 5) For the fathead minnow, Parameter T4P6C, enter a "1" if the IC25 for survival is less than the critical dilution; otherwise, enter a "0."
 - 6) For the fathead minnow, Parameter T6P6C, report the IC25 for survival.
 - 7) For the fathead minnow, Parameter T5P6C, enter a "1" if the IC25 for growth is less than the critical dilution; otherwise, enter a "0."
 - 8) For the fathead minnow, Parameter T7P6C, report the IC25 for growth.
- d. Enter the following codes for retests only:
- 1) For retest number 1, Parameter 22415, enter a "1" if the IC25 for survival is less than the critical dilution; otherwise, enter a "0."
 - 2) For retest number 2, Parameter 22416, enter a "1" if the IC25 for survival is less than the critical dilution; otherwise, enter a "0."

4. Persistent Toxicity

The requirements of this Part apply only when a test demonstrates a significant effect at the critical dilution. A significant effect is defined as an IC25 of a specified endpoint (survival, growth, or reproduction) less than the critical dilution. Significant lethality is defined as a survival IC25 less than the critical dilution. Similarly, significant sublethality is defined as a growth or reproduction IC25 less than the critical dilution.

- a. The permittee shall conduct a total of 2 additional tests (retests) for any species that demonstrates a significant effect (lethal or sublethal) at the critical dilution.

The two retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion. Test completion is defined as the last day of the test.

- b. If the retests are performed due to a demonstration of significant lethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5. The provisions of Part 4.a. are suspended upon completion of the two retests and submittal of the TRE action plan and schedule defined in Part 5.

If neither test demonstrates significant lethality and the permittee is testing under the reduced testing frequency provision of Part 1.e., the permittee shall return to a quarterly testing frequency for that species.

- c. If the two retests are performed due to a demonstration of significant sublethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall again perform two retests as stipulated in Part 4.a.
- d. If the two retests are performed due to a demonstration of significant sublethality, and neither test demonstrates significant lethality, the permittee shall continue testing at the quarterly frequency.
- e. Regardless of whether retesting for lethal or sublethal effects, or a combination of the two, no more than one retest per month is required for a species.

5. Toxicity Reduction Evaluation

- a. Within 45 days of the retest that demonstrates significant lethality, or within 45 days of being so instructed due to multiple toxic events, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.
- b. Within 90 days of the retest that demonstrates significant lethality, or within 90 days of being so instructed due to multiple toxic events, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall describe an approach for the reduction or elimination of lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:
 - 1) Specific Activities – The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting

characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA/600/6-91/005F) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

- 2) **Sampling Plan** – The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects a specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;
 - 3) **Quality Assurance Plan** – The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and
 - 4) **Project Organization** – The TRE action plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.
- c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.
- d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:
- 1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;
 - 2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;
 - 3) any data and substantiating documentation which identifies the pollutant(s) and source of effluent toxicity;

- 4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;
 - 5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and
 - 6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.
- e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.
- f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

- g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall provide information pertaining to the specific control mechanism selected that will, when implemented, result in the reduction of effluent toxicity to no significant lethality at the critical dilution. The report shall also provide a specific corrective action schedule for implementing the selected control mechanism.

- h. Based on the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements, where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and specify a chemical-specific limit.
- i. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 1 (SHEET 1 OF 4)

BIOMONITORING REPORTING

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION

Dates and Times Composites Collected

No. 1 FROM: _____ Date Time TO: _____ Date Time

No. 2 FROM: _____ Date Time TO: _____ Date Time

No. 3 FROM: _____ Date Time TO: _____ Date Time

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving water _____ Synthetic Dilution water

NUMBER OF YOUNG PRODUCED PER ADULT AT END OF TEST

REP	Percent effluent					
	0%	32%	42%	56%	75%	100%
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
Survival Mean						
Total Mean						
CV%*						

*Coefficient of Variation = standard deviation x 100/mean (calculation based on young of the surviving adults)

Designate males (M), and dead females (D), along with number of neonates (x) released prior to death.

TABLE 1 (SHEET 2 OF 4)

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

PERCENT SURVIVAL

Time of Reading	Percent effluent					
	0%	32%	42%	56%	75%	100%
24h						
48h						
End of Test						

1. Is the IC₂₅ for reproduction less than the critical dilution (100%)? _____ YES
 _____ NO

2. Is the IC₂₅ for survival less than the critical dilution (100%)? _____ YES _____
 NO

3. Enter percent effluent corresponding to each IC₂₅ below:

IC₂₅ survival = _____%

IC₂₅ reproduction = _____%

TABLE 1 (SHEET 3 OF 4)

BIOMONITORING REPORTING

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL

Dates and Times Composites Collected

No. 1 FROM: _____ Date Time _____ TO: _____ Date Time _____

No. 2 FROM: _____ TO: _____

No. 3 FROM: _____ TO: _____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving water _____ Synthetic dilution water

FATHEAD MINNOW GROWTH DATA

Effluent Concentration	Average Dry Weight in replicate chambers					Mean Dry Weight	CV%*
	A	B	C	D	E		
0%							
32%							
42%							
56%							
75%							
100%							

* Coefficient of Variation = standard deviation x 100/mean

TABLE 1 (SHEET 4 OF 4)

BIOMONITORING REPORTING

FATHEAD MINNOW GROWTH AND SURVIVAL TEST

FATHEAD MINNOW SURVIVAL DATA

Effluent Concentration	Percent Survival in replicate chambers					Mean percent survival			CV%*
	A	B	C	D	E	24h	48h	7 day	
0%									
32%									
42%									
56%									
75%									
100%									

* Coefficient of Variation = standard deviation x 100/mean

1. Is the IC25 for growth less than the critical dilution (100%)? _____ YES _____ NO

2. Is the IC25 for survival less than the critical dilution (100%)? _____ YES _____ NO

3. Enter percent effluent corresponding to each IC25 below:

IC25 survival = _____%

IC25 growth = _____%

24-HOUR ACUTE BIOMONITORING REQUIREMENTS: FRESHWATER

The provisions of this section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency, and Methodology

- a. The permittee shall test the effluent for lethality in accordance with the provisions in this section. Such testing will determine compliance with Texas Surface Water Quality Standard 30 TAC § 307.61(2)(B), which requires greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.
- b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests using the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms," fifth edition (EPA-821-R-02-012) or its most recent update:
 - 1) Acute 24-hour static toxicity test using the water flea (*Daphnia pulex* or *Ceriodaphnia dubia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.
 - 2) Acute 24-hour static toxicity test using the fathead minnow (*Pimephales promelas*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

- c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. Except as discussed in item 2.b., the control and dilution water shall consist of standard, synthetic, moderately hard, reconstituted water.
 - d. This permit may be amended to require a WET limit, a Best Management Practice (BMP), Chemical-Specific (CS) limits, or other appropriate actions to address toxicity. The permittee may be required to conduct a Toxicity Reduction Evaluation after multiple toxic events.
 - e. As the dilution series specified in the Chronic Biomonitoring Requirements includes a 100% effluent concentration, the results from those tests may fulfill the requirements of this Section; any tests performed in the proper time interval may be substituted. Compliance will be evaluated as specified in item a. The 50% survival in 100% effluent for a 24-hour period standard applies to all tests utilizing a 100% effluent dilution, regardless of whether the results are submitted to comply with the minimum testing frequency defined in item b.
2. Required Toxicity Testing Conditions

- a. Test Acceptance – The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.
- b. Dilution Water – In accordance with item 1.c., the control and dilution water shall normally consist of standard, synthetic, moderately hard, reconstituted water. If the permittee utilizes the results of a chronic test to satisfy the requirements in item 1.e., the permittee may use the receiving water or dilution water that meets the requirements of item 2.a as the control and dilution water.
- c. Samples and Composites
 - 1) The permittee shall collect one composite sample from Outfall 001.
 - 2) The permittee shall collect the composite samples such that the sample is representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged.
 - 3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the composite sample. The samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
 - 4) If Outfall 001 ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test. The abbreviated sample collection, duration, and methodology must be documented in the full report.
 - 5) The effluent sample shall not be dechlorinated after sample collection.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this permit in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated.
- b. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit.
 - 1) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.
 - 2) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th for biomonitoring conducted during

the previous calendar quarter.

- c. Enter the following codes for the appropriate parameters for valid tests only:
 - 1) For the water flea, Parameter TIE3D, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."
 - 2) For the fathead minnow, Parameter TIE6C, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."
- d. Enter the following codes for retests only:
 - 1) For retest number 1, Parameter 22415, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."
 - 2) For retest number 2, Parameter 22416, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."

4. Persistent Mortality

The requirements of this part apply when a toxicity test demonstrates significant lethality, which is defined as a mean mortality of 50% or greater of organisms exposed to the 100% effluent concentration for 24 hours.

- a. The permittee shall conduct 2 additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for 2 weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These effluent concentrations are 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour.
- b. If one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5.

5. Toxicity Reduction Evaluation

- a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.
- b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE

is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall lead to the successful elimination of significant lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:

- 1) **Specific Activities** – The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled “Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures” (EPA/600/6-91/003) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled “Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity” (EPA/600/R-92/080) and “Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity” (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;
 - 2) **Sampling Plan** – The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects a specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;
 - 3) **Quality Assurance Plan** – The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and
 - 4) **Project Organization** – The TRE action plan should describe the project staff, manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.
- c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.
- d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly TRE activities reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail

information regarding the TRE activities including:

- 1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;
 - 2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;
 - 3) any data and substantiating documentation that identifies the pollutant and source of effluent toxicity;
 - 4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;
 - 5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and
 - 6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.
- e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.
- f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

- g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 18 months from the last test day of the retest that

demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall specify the control mechanism that will, when implemented, reduce effluent toxicity as specified in item 5.h. The report will also specify a corrective action schedule for implementing the selected control mechanism.

- h. Within 3 years of the last day of the test confirming toxicity, the permittee shall comply with 30 TAC § 307.6I(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE.

The permittee may be exempted from complying with 30 TAC § 307.6I(2)(B) upon proving that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g., metals) form a salt compound. Following the exemption, this permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

- i. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and specify a chemical-specific limit.
- j. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 2 (SHEET 1 OF 2)

WATER FLEA SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____ % effluent

TABLE 2 (SHEET 2 OF 2)
 FATHEAD MINNOW SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____ % effluent

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DOMESTIC WORKSHEET 4.0

POLLUTANT ANALYSES REQUIREMENTS*

Section 1. Toxic Pollutants

For pollutants identified in Table 4.0(1), indicate type of sample.

Grab Composite

Date and time sample(s) collected:

Table 4.0(1) – Toxics Analysis

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acrylonitrile				50
Aldrin				0.01
Aluminum				2.5
Anthracene				10
Antimony				5
Arsenic				0.5
Barium				3
Benzene				10
Benzidine				50
Benzo(a)anthracene				5
Benzo(a)pyrene				5
Bis(2-chloroethyl)ether				10
Bis(2-ethylhexyl)phthalate				10
Bromodichloromethane				10
Bromoform				10
Cadmium				1
Carbon Tetrachloride				2

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Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Carbaryl				5
Chlordane*				0.2
Chlorobenzene				10
Chlorodibromomethane				10
Chloroform				10
Chlorpyrifos				0.05
Chromium (Total)				3
Chromium (Tri) (*1)				N/A
Chromium (Hex)				3
Copper				2
Chrysene				5
p-Chloro-m-Cresol				10
4,6-Dinitro-o-Cresol				50
p-Cresol				10
Cyanide (*2)				10
4,4'- DDD				0.1
4,4'- DDE				0.1
4,4'- DDT				0.02
2,4-D				0.7
Demeton (O and S)				0.20
Diazinon				0.5/0.1
1,2-Dibromoethane				10
m-Dichlorobenzene				10
o-Dichlorobenzene				10

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Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
p-Dichlorobenzene				10
3,3'-Dichlorobenzidine				5
1,2-Dichloroethane				10
1,1-Dichloroethylene				10
Dichloromethane				20
1,2-Dichloropropane				10
1,3-Dichloropropene				10
Dicofol				1
Dieldrin				0.02
2,4-Dimethylphenol				10
Di-n-Butyl Phthalate				10
Diuron				0.09
Endosulfan I (alpha)				0.01
Endosulfan II (beta)				0.02
Endosulfan Sulfate				0.1
Endrin				0.02
Ethylbenzene				10
Fluoride				500
Guthion				0.1
Heptachlor				0.01
Heptachlor Epoxide				0.01
Hexachlorobenzene				5
Hexachlorobutadiene				10
Hexachlorocyclohexane (alpha)				0.05

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Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Hexachlorocyclohexane (beta)				0.05
gamma-Hexachlorocyclohexane (Lindane)				0.05
Hexachlorocyclopentadiene				10
Hexachloroethane				20
Hexachlorophene				10
Lead				0.5
Malathion				0.1
Mercury				0.005
Methoxychlor				2
Methyl Ethyl Ketone				50
Mirex				0.02
Nickel				2
Nitrate-Nitrogen				100
Nitrobenzene				10
N-Nitrosodiethylamine				20
N-Nitroso-di-n-Butylamine				20
Nonylphenol				333
Parathion (ethyl)				0.1
Pentachlorobenzene				20
Pentachlorophenol				5
Phenanthrene				10
Polychlorinated Biphenyls (PCB's) (*3)				0.2
Pyridine				20

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Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Selenium				5
Silver				0.5
1,2,4,5-Tetrachlorobenzene				20
1,1,2,2-Tetrachloroethane				10
Tetrachloroethylene				10
Thallium				0.5
Toluene				10
Toxaphene				0.3
2,4,5-TP (Silvex)				0.3
Tributyltin (see instructions for explanation)				0.01
1,1,1-Trichloroethane				10
1,1,2-Trichloroethane				10
Trichloroethylene				10
2,4,5-Trichlorophenol				50
TTHM (Total Trihalomethanes)				10
Vinyl Chloride				10
Zinc				5

(*1) Determined by subtracting hexavalent Cr from total Cr.

(*2) Cyanide, amenable to chlorination or weak-acid dissociable.

(*3) The sum of seven PCB congeners 1242, 1254, 1221, 1232, 1248, 1260, and 1016.

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Section 2. Priority Pollutants

For pollutants identified in Tables 4.0(2)A-E, indicate type of sample.

Grab Composite

Date and time sample(s) collected:

Table 4.0(2)A – Metals, Cyanide, Phenols

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Antimony				5
Arsenic				0.5
Beryllium				0.5
Cadmium				1
Chromium (Total)				3
Chromium (Hex)				3
Chromium (Tri) (*1)				N/A
Copper				2
Lead				0.5
Mercury				0.005
Nickel				2
Selenium				5
Silver				0.5
Thallium				0.5
Zinc				5
Cyanide (*2)				10
Phenols, Total				10

(*1) Determined by subtracting hexavalent Cr from total Cr.

(*2) Cyanide, amenable to chlorination or weak-acid dissociable

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Table 4.0(2)B – Volatile Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acrolein				50
Acrylonitrile				50
Benzene				10
Bromoform				10
Carbon Tetrachloride				2
Chlorobenzene				10
Chlorodibromomethane				10
Chloroethane				50
2-Chloroethylvinyl Ether				10
Chloroform				10
Dichlorobromomethane				10
1,1-Dichloroethane				10
1,2-Dichloroethane				10
1,1-Dichloroethylene				10
1,2-Dichloropropane				10
1,3-Dichloropropylene [1,3-Dichloropropene]				10
1,2-Trans-Dichloroethylene				10
Ethylbenzene				10
Methyl Bromide				50
Methyl Chloride				50
Methylene Chloride				20
1,1,2,2-Tetrachloroethane				10
Tetrachloroethylene				10
Toluene				10
1,1,1-Trichloroethane				10
1,1,2-Trichloroethane				10
Trichloroethylene				10
Vinyl Chloride				10

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Table 4.0(2)C – Acid Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
2-Chlorophenol				10
2,4-Dichlorophenol				10
2,4-Dimethylphenol				10
4,6-Dinitro-o-Cresol				50
2,4-Dinitrophenol				50
2-Nitrophenol				20
4-Nitrophenol				50
P-Chloro-m-Cresol				10
Pentalchlorophenol				5
Phenol				10
2,4,6-Trichlorophenol				10

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Table 4.0(2)D – Base/Neutral Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acenaphthene				10
Acenaphthylene				10
Anthracene				10
Benzidine				50
Benzo(a)Anthracene				5
Benzo(a)Pyrene				5
3,4-Benzofluoranthene				10
Benzo(ghi)Perylene				20
Benzo(k)Fluoranthene				5
Bis(2-Chloroethoxy)Methane				10
Bis(2-Chloroethyl)Ether				10
Bis(2-Chloroisopropyl)Ether				10
Bis(2-Ethylhexyl)Phthalate				10
4-Bromophenyl Phenyl Ether				10
Butyl benzyl Phthalate				10
2-Chloronaphthalene				10
4-Chlorophenyl phenyl ether				10
Chrysene				5
Dibenzo(a,h)Anthracene				5
1,2-(o)Dichlorobenzene				10
1,3-(m)Dichlorobenzene				10
1,4-(p)Dichlorobenzene				10
3,3-Dichlorobenzidine				5
Diethyl Phthalate				10
Dimethyl Phthalate				10
Di-n-Butyl Phthalate				10
2,4-Dinitrotoluene				10
2,6-Dinitrotoluene				10
Di-n-Octyl Phthalate				10
1,2-Diphenylhydrazine (as Azo-benzene)				20
Fluoranthene				10

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Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Fluorene				10
Hexachlorobenzene				5
Hexachlorobutadiene				10
Hexachlorocyclo-pentadiene				10
Hexachloroethane				20
Indeno(1,2,3-cd)pyrene				5
Isophorone				10
Naphthalene				10
Nitrobenzene				10
N-Nitrosodimethylamine				50
N-Nitrosodi-n-Propylamine				20
N-Nitrosodiphenylamine				20
Phenanthrene				10
Pyrene				10
1,2,4-Trichlorobenzene				10

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Table 4.0(2)E – Pesticides

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Aldrin				0.01
alpha-BHC (Hexachlorocyclohexane)				0.05
beta-BHC (Hexachlorocyclohexane)				0.05
gamma-BHC (Hexachlorocyclohexane)				0.05
delta-BHC (Hexachlorocyclohexane)				0.05
Chlordane				0.2
4,4-DDT				0.02
4,4-DDE				0.1
4,4,-DDD				0.1
Dieldrin				0.02
Endosulfan I (alpha)				0.01
Endosulfan II (beta)				0.02
Endosulfan Sulfate				0.1
Endrin				0.02
Endrin Aldehyde				0.1
Heptachlor				0.01
Heptachlor Epoxide				0.01
PCB-1242				0.2
PCB-1254				0.2
PCB-1221				0.2
PCB-1232				0.2
PCB-1248				0.2
PCB-1260				0.2
PCB-1016				0.2
Toxaphene				0.3

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Section 3. Dioxin/Furan Compounds

A. Are any of the following compounds used by a contributing industrial user or significant industrial user that is part of the collection system for the facility that you have reason to believe are present in the influent to the WWTP?

Yes No

If **yes**, identify which compound(s) are potentially sent to the facility.

- 2,4,5-trichlorophenoxy acetic acid
Common Name 2,4,5-T, CASRN 93-76-5
- 2-(2,4,5-trichlorophenoxy) propanoic acid
Common Name Silvex or 2,4,5-TP, CASRN 93-72-1
- 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate
Common Name Erbon, CASRN 136-25-4
- o,o-dimethyl o-(2,4,5-trichlorophenyl) phosphorothioate
Common Name Ronnel, CASRN 299-84-3
- 2,4,5-trichlorophenol
Common Name TCP, CASRN 95-95-4
- hexachlorophene
Common Name HCP, CASRN 70-30-4

For each compound identified, provide a brief description of the conditions of its/their presence at the facility.

B. Do you know or have any reason to believe that 2,3,7,8 Tetrachlorodibenzo-P-Dioxin (TCDD) or any congeners of TCDD may be present in your effluent?

Yes No

If **yes**, provide a brief description of the conditions for its presence.

If you responded **yes** to either Subsection A or B, complete Table 4.0(2)F.

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For pollutants identified in Table 4.0(2)F, indicate type of sample.

Grab Composite

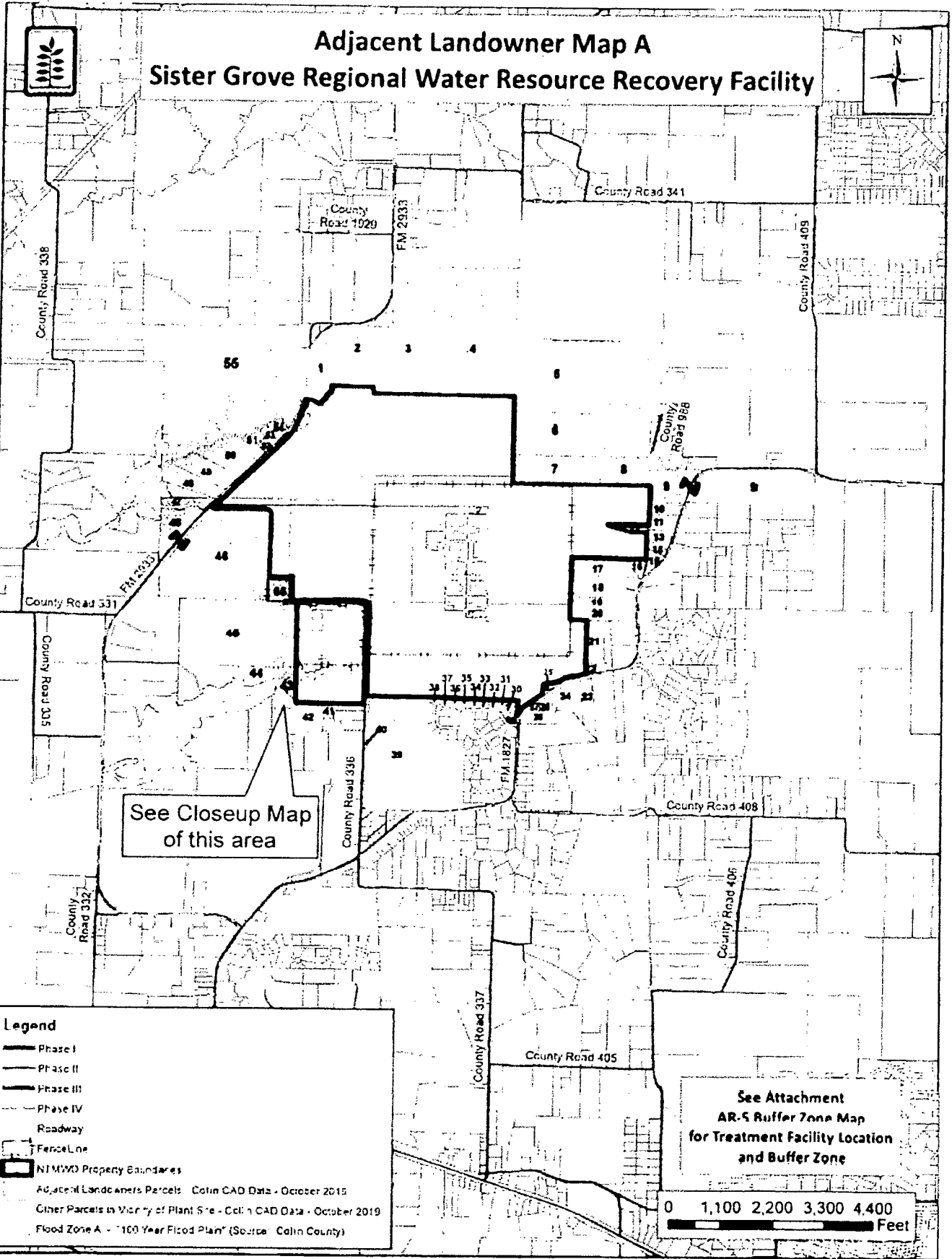
Date and time sample(s) collected:

TABLE 4.0(2)F – DIOXIN/FURAN COMPOUNDS

Compound	Toxic Equivalency Factors	Wastewater Concentration (ppq)	Wastewater Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Equivalents (ppt)	MAL (ppq)
2,3,7,8 TCDD	1					10
1,2,3,7,8 PeCDD	0.5					50
2,3,7,8 HxCDDs	0.1					50
1,2,3,4,6,7,8 HpCDD	0.01					50
2,3,7,8 TCDF	0.1					10
1,2,3,7,8 PeCDF	0.05					50
2,3,4,7,8 PeCDF	0.5					50
2,3,7,8 HxCDFs	0.1					50
2,3,4,7,8 HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					0.5
PCB 81	0.0003					0.5
PCB 126	0.1					0.5
PCB 169	0.03					0.5
Total						

Attachment B – Buffer Zone Map – TPDES Permit No. WQ0015693001

Adjacent Landowner Map A
Sister Grove Regional Water Resource Recovery Facility



Legend

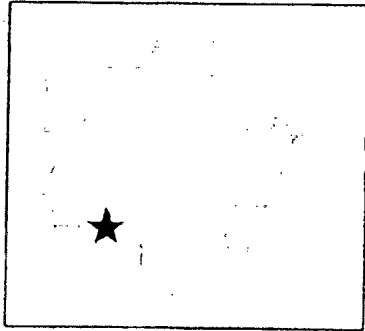
- Phase I
- Phase II
- Phase III
- Phase IV
- Roadway
- Fence Line
- NIMWD Property Boundaries

Adjacent Landowners Parcels - Colton CAD Data - October 2015
 Other Parcels in Vicinity of Plant Site - Colton CAD Data - October 2019
 Flood Zone A - "100 Year Flood Plain" (Source: Colton County)

See Attachment
AR-5 Buffer Zone Map
for Treatment Facility Location
and Buffer Zone

0 1,100 2,200 3,300 4,400 Feet

Close-up of SW Corner of NTMWD Sister Grove Property



KATYEM LLC

Plant
Site
Property

13.5± feet

GRAVEL
DONNA
MARIE &

WHEELER
PATRICE

Legend

Property Boundary

Landowner Parcels Touching Site Boundary - Collin CAD Data October 2019

Other Parcels in Vicinity Around Property

0 5 10 15 20
Feet

7

CERTIFICATE OF ADJUDICATION

CERTIFICATE OF ADJUDICATION: 08-2410 OWNER: North Texas Municipal
Water District
P. O. Drawer C
Wylie, TX 75098

COUNTY: Collin

PRIORITY DATES: September 8, 1953
and August 2, 1965

WATERCOURSE: East Fork Trinity River, BASIN: Trinity River
tributary of the Trinity
River

WHEREAS, by final decree of the 160th Judicial District Court of Dallas County, in Cause No. 81-5589-H, In Re: The Adjudication of Water Rights in the Upper Trinity River Segment of the Trinity River Basin, dated October 29, 1981, a right was recognized under Permit 1720D authorizing the North Texas Municipal Water District to appropriate waters of the State of Texas as set forth below;

WHEREAS, the North Texas Municipal Water District on March 16, 1954, entered into a contractual arrangement with the United States of America for conservation storage in Lavon Reservoir;

NOW, THEREFORE, this certificate of adjudication to appropriate waters of the State of Texas in the Trinity River Basin is issued to the North Texas Municipal Water District, subject to the following terms and conditions:

1. IMPOUNDMENT

Owner is authorized to store 380,000 acre-feet of water in an existing dam and reservoir on the East Fork Trinity River, known as Lavon Dam and Reservoir which is owned by the United States of America and operated by the U.S. Corps of Engineers, between elevation 453 feet and elevation 492 feet above mean sea level. The dam is located in the W. A. S. Bohannon Survey, Abstract 121; William H. Moore Survey, Abstract 638; and the William C. Twitty Survey, Abstract 918, Collin County, Texas.

2. USE

Owner is authorized to divert and use not to exceed 104,000 acre-feet of water per annum from the aforesaid reservoir as follows: 94,000 acre-feet of water for municipal purposes; 8000 acre-feet of water for industrial purposes and 2000 acre-feet of water for domestic purposes.

3. DIVERSION

A. Location:

At three points on Lavon Reservoir in the John C. Campbell Survey, Abstract 239; W. W. Twitty Survey, Abstract 918; and the Mario Ignacio Gimenez Survey, Abstract 338, Collin County, Texas

B. Maximum Combined Rate: 400.00 cfs (180,000 gpm) from diversion points 1 and 2 for municipal and domestic purposes; 523 cfs (240,000 gpm) from diversion point 3 for industrial purposes.

4. PRIORITY

The time priority of owner's right to store 100,000 acre-feet of water and to divert and use 60,000 acre-feet of water for municipal, industrial and domestic purposes is September 8, 1953, and for the storage of the additional 280,000 acre-feet and the diversion of the additional 44,000 acre-feet of water for municipal purposes is August 2, 1965.

5. SPECIAL CONDITION

Pumping plant and diversion facilities located in the Mario Ignacio Giminez Survey, Abstract 338, are to be operated by the City of Garland pursuant to a contract between the District and the City.

The locations of pertinent features related to this certificate are shown on Page 11 of the Upper Trinity River Segment Certificates of Adjudication Maps, copies of which are located in the offices of the Texas Department of Water Resources and the office of the County Clerk.

This certificate of adjudication is issued subject to all terms, conditions and provisions in the final decree of the 160th Judicial District Court of Dallas County, Texas, in Cause No. 81-6589-H, In Re: The Adjudication of Water Rights in the Upper Trinity River Segment of the Trinity River Basin, dated October 29, 1981, and supersedes all rights of the owner asserted in that cause.

This certificate of adjudication is issued subject to senior and superior water rights in the Trinity River Basin.

This certificate of adjudication is issued subject to the Rules of the Texas Department of Water Resources and its continuing right of supervision of State water resources consistent with the public policy of the State as set forth in the Texas Water Code.

TEXAS WATER COMMISSION

/s/ Felix McDonald
Felix McDonald, Chairman

DATE ISSUED:

JUL 22 1983

ATTEST:

/s/ Mary Ann Hefner
Mary Ann Hefner, Chief Clerk

(b) With a priority date of September 10, 1985, certificate holder is authorized to divert and use not to exceed an additional 77,300 acre-feet of water per annum for municipal purposes by overdrafting the firm yield of Lake Lavon whenever Lake Ray Hubbard, authorized by Certificate of Adjudication No. 08-2462, as amended, is at maximum conservation level (435.5 feet msl) and spilling or whenever the additional water is supplied from Lake Texoma as authorized by Permit No. 5003.

(c) Certificate holder is authorized to divert and use for municipal purposes from Lake Lavon the amount of water discharged annually into Lake Lavon from the certificate holder's Wilson Creek wastewater treatment plant but in no event to exceed 8986 acre-feet per annum. The time priority for this authorization is September 10, 1985.

2. DIVERSION

In lieu of the authorization contained in paragraph 3(B) of Certificate of Adjudication No. 08-2410, certificate holder is authorized the following maximum combined rate: 896 cfs (402,000 gpm) from diversion points 1 and 2 for municipal and domestic purposes and 523 cfs (240,000 gpm) from diversion point 3 for industrial purposes.

3. SPECIAL CONDITION

The authorization to divert and use the additional 77,300 acre-feet in paragraph 1(b) is contingent on the certificate holder completing the water supply project authorized by Permit No. 5003.

This amendment is issued subject to all terms, conditions and provisions contained in Certificate of Adjudication No. 08-2410, except as specifically amended herein.

This amendment is issued subject to all superior and senior water rights in the Trinity River Basin.

Certificate holder agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

This amendment is issued subject to the Rules of the Texas Water Commission and to the right of continual supervision of State water resources exercised by the Commission.

TEXAS WATER COMMISSION

DATE ISSUED:

January 15, 1986

ATTEST:

/s/ Mary Ann Hefner
Mary Ann Hefner, Chief Clerk

/s/ Paul Hopkins
Paul Hopkins, Chairman

/s/ Ralph Rowing
Ralph Rowing, Commissioner

/s/ John O. Houchins
John O. Houchins, Commissioner

WHEREAS, under the amendment and with a priority date of September 10, 1985, the certificate holder is also authorized to divert and use not to exceed an additional 77,300 acre-feet of water per annum for municipal purposes by overdrafting Lake Lavon whenever Lake Ray Hubbard, authorized by the City of Dallas' Certificate No. 08-2462, as amended, is at maximum conservation level (435.5 feet msl) and spilling or whenever the additional water is supplied as authorized by certificate holder's Water Use Permit No. 5003 (which authorizes diversion of not to exceed 84,000 acre-feet of water per annum from Lake Texoma into the Lake Lavon watershed); and

WHEREAS, the certificate holder is further authorized to divert and to use for municipal purposes from Lake Lavon the amount of water discharged annually into Lake Lavon from the certificate holder's Wilson Creek wastewater treatment plant, but in no event to exceed 8986 acre-feet per annum, with a time priority of September 10, 1985; and

WHEREAS, applicant has requested an amendment to Certificate No. 08-2410, as amended, to increase the reuse authorization by 17,971 acre-feet per annum (for a total combined reuse authorization with Certificate No. 08-2410A of not to exceed 26,957 acre-feet per annum) of the water discharged into Lake Lavon at its Wilson Creek wastewater treatment plant, or as much thereof each year as may actually be discharged into Lake Lavon, for municipal purposes and to indicate that the total consumptive use of municipal water (including the reuse of wastewater from the Wilson Creek Plant) authorized by Certificate Nos. 08-2410, 08-2410A, 08-2410B and Permit No. 5003 shall not exceed 177,300 acre-feet per annum; and

WHEREAS, the reuse authorization (not an additional appropriation of water) in Certificate No. 08-2410A was inadvertently given a priority date; and

WHEREAS, the Texas Water Commission finds that jurisdiction of this application is established in accordance with the Texas Water Code and the Rules of the Commission.

NOW, THEREFORE, this amendment to Certificate No. 08-2410, as amended, is issued to North Texas Municipal Water District, subject to the following provisions:

USE

- a. In lieu of the authorizations included in Paragraph 1(c) of Certificate No. 08-2410A, certificate holder is authorized to divert and reuse from Lake Lavon the amount of water discharged annually into Lake Lavon from the certificate holder's Wilson Creek wastewater treatment plant (as authorized by Water Quality Permit No. 12446-01), but in no event to exceed 26,957 acre-feet per annum.

- b. The total consumptive use of water authorized by Certificate Nos. 08-2410, 08-2410A, 08-2410B and Permit No. 5003 for municipal purposes shall not exceed 177,300 acre-feet of water per annum.

This amendment is issued subject to all terms, conditions and provisions contained in Certificate No. 08-2410, as amended, except as specially amended herein.


This amendment is issued subject to all superior and senior water rights in the Trinity River Basin.

Certificate holder agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

This amendment is issued subject to the Rules of the Texas Water Commission and to the right of continual supervision of State water resources exercised by the Commission.

TEXAS WATER COMMISSION


B. J. Wynne, III, Chairman

DATE ISSUED January 4, 1990

ATTEST:


Brenda W. Foster, Chief Clerk

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION



AMENDMENT TO
CERTIFICATE OF ADJUDICATION

CERTIFICATE NO. 08-2410C

TYPE: AMENDMENT

Name:	North Texas Municipal Water District	Address:	P.O. Drawer C Wylie, Texas 75098
Filed:	March 24, 1994	Granted:	APR 18 1994
Purposes:	Municipal and Industrial	County:	Collin
Watercourse:	East Fork Trinity River, tributary of Trinity River	Watershed:	Trinity River Basin

WHEREAS, Certificate of Adjudication No. 08-2410, as amended, includes authorization for North Texas Municipal Water District to divert water for municipal and industrial purposes from Lake Lavon on the East Fork Trinity River in Collin County, approximately 13 miles southeast of McKinney, Texas; and

WHEREAS, the certificate, as amended, includes authorization for North Texas Municipal Water District to divert water for municipal purposes from two specific points on the lake at a maximum rate of 896 cubic feet per second and to divert water for industrial purposes from a specific point on the lake at a maximum rate of 523 cubic feet per second; and

WHEREAS, North Texas Municipal Water District has requested an amendment to Certificate No. 08-2410, as amended, to authorize use of an additional diversion point (pump station) on the lake and to increase the maximum diversion rate from the lake for municipal purposes by 432 cubic feet per second; and

WHEREAS, the Texas Natural Resource Conservation Commission finds that jurisdiction over the application is established; and

WHEREAS, no person protested the granting of this application; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Natural Resource Conservation Commission in issuing this amendment.

NOW, THEREFORE, this amendment to Certificate No. 08-2410, as amended, is issued to North Texas Municipal Water District, subject to the following provisions:

USE AND DIVERSION RATE

In addition to owner's authorization to divert water for municipal purposes from two points on Lake Lavon at a maximum rate of 896 cubic feet per second and to divert water for industrial purposes from a point on the lake at a maximum rate of 523 cubic feet per second, owner is authorized to divert water at a maximum rate of 432 cubic feet per second for municipal purposes via an intake/wetwell which will be approximately two miles northeast of Wylie, Texas and approximately 150 feet from the shore of Lake Lavon on a peninsula west of East Fork Park. This point is also at Latitude 33.037° North and Longitude 96.525° West.

This amendment is issued subject to all terms, conditions and provisions contained in Certificate No. 08-2410, as amended, except as specifically amended herein.

This amendment is issued subject to all superior and senior water rights in the Trinity River Basin.

Certificate owner agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

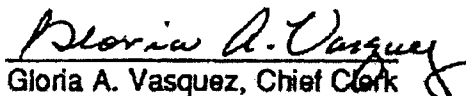
This amendment is issued subject to the Rules of the Texas Natural Resource Conservation Commission and to the right of continuing supervision of State water resources exercised by the Commission.

**TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION**


For the Commission

DATE ISSUED: APR 18 1994

ATTEST:


Gloria A. Vasquez, Chief Clerk

(A:\RENEEZ\PERMITS\TWO.PMT)

2000- 0050573

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION



THE STATE OF TEXAS
COUNTY OF TRAVIS
I hereby certify that this is a true and correct copy of a Texas Natural
Resource Conservation Commission document, which is filed in the
permanent records of the Commission.
Given under my hand and the seal of office on

Leanna Carls MAY 11 2000

Leanna Carls, Chief Clerk
Texas Natural Resource
Conservation Commission

AMENDMENT TO
CERTIFICATE OF ADJUDICATION

Application No. 08-2410D Certificate of Adjudication No. 08-2410D Type: §11.122

Owner: North Texas Municipal
Water District

Address: P. O. Box 2408
Wylie, Texas 75098-2408

Filed: April 11, 2000

Granted: MAY 09 2000

Purposes: Municipal and Industrial

County: Collin

Watercourse: East Fork Trinity River,
tributary of the Trinity River

Basin: Trinity River Basin

04669 01652

WHEREAS, Certificate of Adjudication No. 08-2410 authorized the storage of 380,000 acre-feet of water in the U. S. Army Corps of Engineers' Lake Lavon about 13 miles SE of McKinney, Texas on the East Fork Trinity River and the diversion and use therefrom not to exceed 94,000 acre-feet of water per annum for municipal purposes, 8000 acre-feet of water per annum for industrial purposes and 2000 acre feet of water per annum for domestic purposes; and

WHEREAS, the certificate included a maximum diversion rate of 400 cfs from the two points on the reservoir authorized for diversion for municipal and domestic purposes and 523 cfs from the point on the reservoir authorized for diversion for industrial use; and

WHEREAS, Certificate No. 08-2410, as amended on January 15, 1986, authorized a reallocation of the water whereby the certificate holder could divert and use not to exceed 100,000 acre-feet of water per annum for municipal purposes and 4000 acre-feet of water per annum for industrial purposes and increased the maximum diversion rate from the two points authorized for municipal and domestic purposes to 896 cfs; and

WHEREAS, the time priority for authorization to store 100,000 acre-feet of the water in Lake Lavon, use of water for industrial purposes and use of up to 56,000 acre-feet of the municipal water authorized for diversion per annum from the lake is September 8, 1953 and the time priority for the remaining 280,000 acre-feet of storage and diversion and use of the remaining 44,000 acre-feet of municipal water is August 2, 1965; and

04669 01653

WHEREAS, under the amendment and with a time priority of September 10, 1985, the certificate holder is also entitled to divert and use not to exceed an additional 77,300 acre-feet of water per annum for municipal purposes by overdrafting Lake Lavon whenever Lake Ray Hubbard, authorized under the City of Dallas' Certificate No. 08-2462, as amended, is at maximum conservation level (435.5 msl) and spilling or whenever the additional water is supplied as authorized by certificate holder's Water Use Permit No. 5003 (which authorizes diversion of not to exceed 84,000 acre-feet of water per annum from Lake Texoma in the Red River Basin into the Lake Lavon watershed); and

WHEREAS, the certificate holder was further authorized to divert and use for municipal purposes from Lake Lavon the amount of water discharged annually into Lake Lavon from the certificate holder's Wilson Creek Wastewater Treatment Plant, but in no event not to exceed 8986 acre-feet per annum; and

WHEREAS, Certificate of Adjudication No. 08-2410B increased the reuse authorization related to the Wilson Creek Treatment Plant to not to exceed 26,957 acre-feet per annum included a special condition indicating a total consumptive use of water authorized by Certificate Nos. 08-2410, 08-2410A, 08-2410B and Permit No. 5003 for municipal purposes of not to exceed 177,300 acre-feet of water per annum; and

WHEREAS, Certificate of Adjudication No. 08-2410C authorized the certificate holder to add an additional diversion point on the lake and to divert water for municipal purposes from said point at a maximum diversion rate of 432 cfs; and

WHEREAS, pursuant to an amendment to applicant's Wastewater Discharge Permit No. 12446-001, which increased the volume of wastewater discharge into Lake Lavon, applicant has requested an amendment to Certificate No. 08-2410, as amended, to increase the reuse authorization by 8986 acre-feet of water per annum (for a total combined reuse authorization with Certificate Nos. 08-2410A and 08-2410B of not to exceed 35,941 acre-feet of water per annum) of the water discharged into Lake Lavon, for municipal purposes with the condition that the total consumptive use of municipal water (including the reuse of wastewater from the Wilson Creek plant) authorized by Certificate Nos. 08-2410, 08-2410A, 08-2410B, Permit No. 5003 and the requested amendment would not exceed 177,300 acre-feet of water per annum; and

WHEREAS, the Texas Natural Resource Conservation Commission finds that jurisdiction over the application is established; and

WHEREAS, no person protested the granting of this application; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and the Rules of the Texas Natural Resource Conservation Commission in issuing this amendment;

08-2410-0000

04669 01654

NOW, THEREFORE, this amendment to Certificate of Adjudication No. 08-2410, as amended, is issued to North Texas Municipal Water District, subject to the following terms and conditions:

USE

1. In lieu of the authorizations included in Certificate Nos. 08-2410A and 2410B, certificate holder is authorized to divert and reuse from Lake Lavon the amount of water discharged annually to Lake Lavon from the certificate holder's Wilson Creek wastewater treatment plant (as authorized by Water Quality Permit No. 12446-01), but under no circumstances to exceed 35,941 acre-feet of water per annum.
2. The total consumptive use of water authorized by Certificate Nos. 08-2410, 08-2410A, 08-2410B, 08-2410D and Water Use Permit No. 5003 for municipal purposes shall not exceed 177,300 acre-feet of water per annum.

This amendment is issued subject to all terms, conditions and provisions contained in Certificate No. 08-2410, as amended, except as specifically amended herein.

This amendment is subject to all senior and superior water rights in the Trinity River Basin.

Certificate holder agrees to be bound by all the terms conditions and provisions contained herein and such an agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

This amendment is issued subject to the Rules of the Texas Natural Resource Conservation Commission and to the right of continual supervision of state water resources exercised by the Commission.

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION


For the Commission

Date Issued: **MAY 09 2000**

04669 01655

ANY PROVISION HEREIN WHICH RESTRICTS THE SALE, RENTAL, OR USE OF THE
DESCRIBED REAL PROPERTY BECAUSE OF COLOR OR RACE IS INVALID AND
UNENFORCEABLE UNDER FEDERAL LAW
(THE STATE OF TEXAS) (COUNTY OF COLLIN)
I hereby certify that this instrument was FILED in the File Number Subsection on the date
and the time stamped hereon by me, and was duly RECORDED in the Official Public
Records of Real Property of Collin County, Texas on

MAY 17 2000

Helen Starnes



Filed for Record in:
Collin County, McKinney TX
Honorable Helen Starnes
Collin County Clerk

On May 17 2000
At 2:14pm

Doc/Num : 2000- 0050573

Recording/Type:CT 15.00
Receipt #: 290562

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



THE STATE OF TEXAS
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a
Texas Commission on Environmental Quality document,
which is filed in the permanent records of the Commission.
Given under my hand and the seal of office on

LaDoris Costaruela

SEP 14 2005

LaDoris Costaruela, Chief Clerk
Texas Commission on Environmental Quality

AMENDMENT TO A
CERTIFICATE OF ADJUDICATION

CERTIFICATE NO. 08-2410E	APPLICATION 08-2410E	TYPE §§11.122, 11.046
Owner: North Texas Municipal Water District	Address: P. O. 2408 Wylie, Texas 75098	
Filed: November 10, 2002	Granted: SEP 08 2005	
Purpose: Municipal and Industrial	Counties: Collin, Hopkins, Dallas, Denton, Rockwall, Hunt, and Kaufman	
Watercourse: East Fork Trinity River, tributary of the Trinity River	Watershed: Trinity River Basin and Sulphur River Basin	

WHEREAS, Certificate of Adjudication No. 08-2410 currently authorizes the North Texas Municipal Water District (District) to impound 380,000 acre-feet of water in Lake Lavon, which is owned by the United States Army Corps of Engineers, and to divert and use not to exceed:

- 100,000 acre-feet of water per year for municipal purposes,
- 4,000 acre-feet of water per year for consumptive industrial purposes,

- An additional 77,300 acre-feet of water per year for municipal purposes by over-drafting the firm yield of Lake Lavon when Lake Ray Hubbard is at or above maximum conservation level, 435.5 feet above mean sea level (msl), and spilling, or whenever additional water (up to 77,300 acre-feet per year) is supplied from Lake Texoma to Lake Lavon pursuant to Water Use Permit No. 5003, and
- 35,941 acre-feet of effluent per year discharged into Lake Lavon from the District's Wilson Creek Wastewater Treatment Plant (WWTP) for municipal purposes; and

WHEREAS, Water Use Permit No. 5003 authorizes the District to divert, with a time priority of September 10, 1985, not to exceed 84,000 acre-feet of water per year from Lake Texoma in the Red River Basin, to convey that water via pipeline to West Prong Sister Grove Creek in the Lake

Lavon watershed in the Trinity River Basin, to use the bed and banks of West Prong Sister Grove Creek and Sister Grove Creek to transport that water to Lake Lavon, and to divert and use not to exceed 77,300 acre-feet (84,000 acre-feet minus conveyance losses) of the Lake Texoma water per year from Lake Lavon for municipal purposes in the District's service area; and

WHEREAS, diversions are authorized from the perimeter of Lake Lavon at a point located in the John C. Campbell Survey, Abstract 239; the W. W. Twitty Survey, Abstract 918; and the Mario Ignacio Giminez Survey, Abstract 338, and one point at the intake/wetwell approximately 150 feet from the shore of Lake Lavon on a peninsula west of East Fork Park in Collin County; and

WHEREAS, the diversion point in the Giminez Survey is operated by the City of Garland pursuant to a contract between the District and the City; and

WHEREAS, the combined diversion rate from diversion points 1 and 2 is 896 cfs (402,000 gpm) for municipal purposes, 523 cfs (240,000 gpm) from diversion point 3 for industrial purposes, and 432 cfs (189,842 gpm) from diversion point 4 for municipal purposes; and

WHEREAS, a special condition in Certificate of Adjudication No. 08-2410 provides that the total consumptive use of water for municipal purposes authorized by the Certificate and Water Use Permit No. 5003 shall not exceed 177,300 acre-feet of water per year; and

WHEREAS, Certificate of Adjudication No. 08-2410 contains multiple priority dates as follows:

- September 8, 1953 - for the right to store 100,000 acre-feet of water for municipal and industrial purposes,
- August 2, 1965 - for the right to store 280,000 acre-feet of water for municipal purposes,
- September 8, 1953 - for diversion and use of 56,000 acre-feet of water per year for municipal purposes,
- September 8, 1953 - for diversion and use of 4,000 acre-feet of water per year for industrial purposes,
- August 2, 1965 - for diversion and use of 44,000 acre-feet of water per year for municipal purposes, and
- September 10, 1985 - diversion and use of 77,300 acre-feet of water per year for municipal purposes by over-drafting the firm yield of Lake Lavon when Lake Ray Hubbard is at or above maximum conservation level and spilling or when water is supplied from Lake Texoma; and

WHEREAS, Certificate of Adjudication No. 08-2410 does not place a specific priority date on the following authorizations:

- The diversion and use of 8,986 acre-feet of water per year for municipal purposes of water discharged from the District's Wilson Creek WWTP filed on September 10, 1985,
- The diversion and use of an additional 17,791 acre-feet of water per year for municipal purposes of water discharged from the District's Wilson Creek WWTP (total of 26,957 acre-feet) filed on November 2, 1989, and
- The diversion and use of an additional 8,984 acre-feet of water per year for municipal purposes of water discharged from the District's Wilson Creek WWTP (total of 35,941 acre-feet) filed on April 11, 2000; and

WHEREAS, Certificate of Adjudication No. 03-4798, authorizes the District to impound not to exceed 100,625 acre-feet of water in Lake Chapman (formerly Cooper Reservoir) between elevations 415.5 and 440.0 feet msl and not to exceed 13,640 acre-feet of water below elevation 415.5 feet msl (cumulative total of 114,265 acre-feet), and to divert and use, with a time priority of November 19, 1965, not to exceed 54,000 acre-feet of water per year for municipal purposes within the District's service area; and

WHEREAS, subject to the maintenance of a contract for the purchase of water between the District and the City of Cooper, the District is authorized to use 6,000 acre-feet of storage in Lake Chapman of the 8,000 acre-feet currently used by the City of Cooper authorized by Certificate of Adjudication No. 03-4797 owned by the Sulphur River Municipal Water District, and to divert and use, with a time priority of November 19, 1965, not to exceed 3,214 acre-feet of water per year for municipal purposes within the District's service area in Dallas, Denton, Kaufman, Collin, Rockwall, and Hunt Counties; and

WHEREAS, Certificate of Adjudication No. 03-4797 authorizes the District to divert water through the District's existing diversion facilities on the perimeter of Lake Chapman at a maximum rate of 340.36 cfs (152,754 gpm) via pipeline to Lake Lavon for subsequent use; and

WHEREAS, the District seeks to amend Certificate of Adjudication No. 08-2410 as follows:

- To increase the District's reuse authorization from Lake Lavon by 35,941 acre-feet of water per year to a maximum total of 71,882 acre-feet of water per year of effluent discharged from the Wilson Creek WWTP to Lake Lavon, or as much thereof per year as may actually be discharged into Lake Lavon from the Wilson Creek WWTP,
- to increase the total consumptive use of water authorized for municipal purposes by Certificate of Adjudication No. 08-2410 from 177,300 acre-feet per year to 234,514 acre-feet per year, recognizing the District's authority to divert, pursuant to

Certificates of Adjudication Nos. 03-4797 and 03-4798, an additional 3,214 and 54,000 acre-feet of water per year (total of 57,214 acre-feet), respectively, from Lake Chapman in the Sulphur River Basin for municipal purposes within the District's service area,

- To authorize the District to divert an additional 57,214 acre-feet of water per year from Lake Lavon for municipal purposes by either over-drafting Trinity River Basin water in excess of the firm yield of Lake Lavon during times when Lake Ray Hubbard is at or above maximum conservation level (435.5 feet msl) and spilling or when water is supplied from Lake Chapman pursuant to Certificates of Adjudication Nos. 03-4797, as amended, and 03-4798, and
- To authorize the use of up to 4,000 acre-feet of water per year previously authorized for industrial purposes by Certificate of Adjudication No. 08-2410 for industrial and municipal purposes; and

WHEREAS, the District has provided to the Executive Director an accounting plan that accounts for, by priority date and source, all water discharged into and diverted from Lake Lavon pursuant to all of the District's authorizations, including reuse; and

WHEREAS, the Texas Commission on Environmental Quality (Commission) finds that jurisdiction over the application is established; and

WHEREAS, no person protested the granting of this amendment application; and

WHEREAS, the Executive Director has determined that 44,900 acre-feet of the 57,214 acre-feet of water from the Trinity River Basin requested by the District by over-drafting in excess of the firm yield of Lake Lavon when Lake Ray Hubbard is at or above maximum conservation capacity (435.5 feet msl) and spilling is available for appropriation; and

WHEREAS, the Executive Director has determined that, to mitigate adverse impacts to Lake Lavon, Lake Ray Hubbard, and the East Fork Trinity River, specific stream flow restrictions should be included in the amendment; and

WHEREAS, the Executive Director recommends that in order to protect senior and superior water rights owners, special conditions should be included in the amendment; and

WHEREAS, the Commission finds that granting this amendment is not detrimental to the public welfare; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this amendment;

NOW, THEREFORE, this amendment to Certificate of Adjudication No. 08-2410, designated Certificate of Adjudication No. 08-2410E, is issued to the North Texas Municipal Water District, subject to the following terms and conditions:

1. IMPOUNDMENT

North Texas Municipal Water District is authorized to store 380,000 acre-feet of water in an existing dam and reservoir on the East Fork Trinity River, known as Lavon Dam and Reservoir, which is owned by the United States of America and operated by the U.S. Corps of Engineers, between elevation 453 and elevation 492 feet above mean sea level. The dam is located in the W. A. S. Bohannon Survey, Abstract 121; William H. Moore Survey, Abstract 638; and the William C. Twitty Survey, Abstract 918, Collin County, Texas.

2. USE

A. In lieu of the diversions previously authorized from Lake Lavon, the District may now divert and use within its service area not to exceed:

- 1) 100,000 acre-feet of water per year for municipal purposes;
- 2) 77,300 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting the firm yield of Lake Lavon when Lake Ray Hubbard is at or above maximum conservation level (435.5 feet msl) and spilling, or whenever additional water up to 77,300 acre-feet per year is supplied from Lake Texoma to Lake Lavon pursuant to Water Use Permit No. 5003. To clarify, the 77,300 acre-feet of water per year diversion is the result of up to 84,000 acre-feet of water per year transferred from Lake Texoma adjusted for conveyance loss;
- 3) 44,900 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting in excess of the firm yield of Lake Lavon during times when Lake Ray Hubbard is at or above maximum conservation level and spilling as authorized by this amendment;
- 4) 57,214 acre-feet of water per year from Lake Lavon for municipal purposes consisting of a combination of over-drafting a maximum of 44,900 acre-feet of Trinity River Basin water (in 2.A.3 above) and water supplied from Lake Chapman pursuant to Certificates of Adjudication Nos. 03-4797 and 03-4798; and
- 5) 71,882 acre-feet of water per year discharged into Lake Lavon from the District's Wilson Creek WWTP;

- B. The total consumptive use of water authorized by Certificates of Adjudication Nos. 08-2410, 03-4797, 03-4798, and Water Use Permit No. 5003 for municipal purposes within the District's service area shall not exceed 234,514 acre-feet per year. If water is not transferred from Lake Chapman to Lake Lavon, the total consumptive use of water authorized by Certificate of Adjudication No. 08-2410 shall not exceed 222,200 acre-feet of water per year as authorized by this amendment.
- C. In lieu of the previous authorization to divert and consumptively use not to exceed 4,000 acre-feet of water per year from Lake Lavon for industrial purposes, District may now divert and use not to exceed 4,000 acre-feet of water per year from Lake Lavon for multiple use purposes (municipal and industrial).

3. TIME PRIORITY

The time priority for the storage, diversion, and use of the water authorized herein is as follows:

- A. September 8, 1953 - for the right to store 100,000 acre-feet of water for municipal and industrial purposes.
- B. August 2, 1965 - for the right to store 280,000 acre-feet of water for municipal purposes.
- C. September 8, 1953 - for diversion and use of 56,000 acre-feet of water per year from Lake Lavon for municipal purposes.
- D. September 8, 1953 - for diversion and use of 4,000 acre-feet of water per year from Lake Lavon for industrial and municipal purposes.
- E. August 2, 1965 - for diversion and use of 44,000 acre-feet of water per year from Lake Lavon for municipal purposes.
- F. September 10, 1985 - for diversion and use of 77,300 acre-feet of water per year as a result of the over-drafting of Lake Lavon when Lake Ray Hubbard is above maximum conservation level (435.5 feet msl) and spilling or whenever water is supplied from Lake Texoma pursuant to Water Use Permit No. 5003 for municipal purposes.
- G. November 10, 2002 - for diversion and use of an additional 35,941 acre-feet of water per year of water discharged from the District's Wilson Creek WWTP to Lake Lavon) for municipal purposes.
- H. November 10, 2002 - for diversion and use of an additional 44,900 acre-feet of Trinity River Basin water per year as a result of over-drafting in excess of the firm

yield of Lake Lavon when Lake Ray Hubbard is at or above maximum conservation level (435.5 feet msl) and spilling.

- I. November 10, 2002 - for the storage in and diversion from Lake Lavon in the Trinity River Basin, of up to 57,214 acre-feet of water per year transferred from Lake Chapman in the Sulphur River Basin. The maximum of 57,214 acre-feet per year of transferred water and the return flows generated therefrom are not subject to priority call by senior and superior water rights owners in the Trinity River Basin.

4. CONSERVATION

The District shall implement water conservation plans that provide for the utilization of those practices, techniques, and technologies that reduce or maintain the consumption of water, prevent or reduce the loss or waste of water, maintain or improve the efficiency in the use of water, increase the recycling and reuse of water, or prevent the pollution of water, so that a water supply is made available for future or alternative uses. Such plans shall include a requirement that in every wholesale water supply contract entered into on or after the date of this amendment, including any contract extension or renewal, that each successive wholesale customer develop and implement conservation measures. If the customer intends to resell the water, then the contract for resale of the water must have water conservation requirements so that each successive wholesale customer in the resale of the water be required to implement water conservation measures.

5. SPECIAL CONDITIONS

- A. The over-drafting in excess of the firm yield of Lake Lavon by 44,900 acre-feet authorized by this amendment shall be limited to times when Lake Ray Hubbard is at or above maximum conservation capacity (435.5 feet msl) and spilling and the flow in the East Fork Trinity River, as measured at United States Geological Survey Gage 08061750 on the Trinity River at Forney, Texas, is greater than 43 cubic-feet-per-second.
- B. The District is prohibited from exercising a priority call on water rights with priority dates between those of the owner's senior water rights and the priority date of this amendment for the purpose of refilling drawdowns of the reservoir storage in Lake Lavon caused by the diversion of the additional overdraft of 44,900 acre-feet of Trinity River Basin water authorized by this amendment.
- C. The District may only divert the amount of Lake Chapman water discharged upstream of Lake Lavon less any conveyance losses. Additionally, the District shall account for any additional incremental evaporation loss in Lake Lavon resulting from the storage of the Lake Chapman water.

- D. The District may only divert the additional 44,900 acre-feet of Trinity River Basin water per year pursuant to the District's accounting plan that accounts for, by priority date and source, all waters discharged into and diverted from Lake Lavon pursuant to all of the District's authorizations, including reuse. Any future changes to the District's accounting plan must be approved by the Executive Director.
- E. The District shall maintain daily electronic records (in spreadsheet or database format) of discharges into and diversions from Lake Lavon for each source of water used in the accounting, the calculations of conveyance and evaporative losses, and diversions of the return flows from Lake Lavon, and shall submit them to the Executive Director or general public upon request.
- F. The District is authorized to divert and use an additional 35,941 acre-feet of water per year from the Wilson Creek WWTP pursuant to the District's accounting plan.
- G. The District may only divert the amount of water actually discharged less conveyance losses. Electronic records of all effluent discharges, storage, diversions, and conveyance losses must be maintained and made available to the Executive Director or general public upon request.

This amendment is issued subject to all terms, conditions and provisions contained in Certificate No. 08-2410, as amended, except as specifically amended herein.

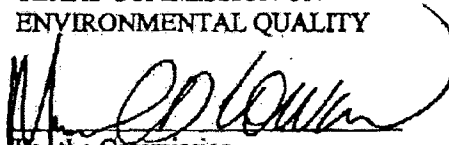
This amendment is issued subject to all superior and senior water rights in the Trinity River Basin.

The District agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

This amendment is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY



For the Commission

DATE ISSUED: SEP 08 2005

TEXAS COMMISSION ON ENVIRONMENTAL



AMENDMENT TO A
CERTIFICATE OF ADJUDICATION

THE STATE OF TEXAS
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a
Texas Commission on Environmental Quality document
which is filed in the permanent records of the Commission.
Given under my hand and the seal of office on

LaDonna Castanuela JUL 12 2007

LaDonna Castanuela, Chief Clerk
Texas Commission on Environmental Quality

CERTIFICATE NO. 08-2410F	TYPE §§ 11.122, 11.042 & 11.046
Owner: North Texas Municipal Water District	Address: P. O. 2408 Wylie, Texas 75098
Filed: October 3, 2005	Granted: JUL 05 2007
Purpose: Municipal, Industrial, and Agricultural	Counties: Collin, Hopkins, Dallas, Denton, Rockwall, Hunt, and Kaufman
Watercourse: East Fork Trinity River, Tributary of the Trinity River	Watershed: Trinity River Basin, Red River Basin, and Sulphur River Basin

WHEREAS, Certificate of Adjudication No. 08-2410 currently authorizes the North Texas Municipal Water District (District) to impound 380,000 acre-feet of water in Lake Lavon, which is owned by the United States Army Corps of Engineers, and to divert and use from Lake Lavon:

- 100,000 acre-feet of water per year for municipal purposes;
- 4,000 acre-feet of water per year for industrial and municipal use;
- 77,300 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting the firm yield of Lake Lavon when Lake Ray Hubbard is at or above maximum conservation level (435.5 feet msl) and spilling, or whenever additional water up to 77,300 acre-feet per year is supplied from Lake Texoma to Lake Lavon pursuant to Water Use Permit No. 5003;
- 44,900 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting in excess of the firm yield of Lake Lavon during times when Lake Ray Hubbard is at or above maximum conservation level and spilling;
- 57,214 acre-feet of water per year from Lake Lavon for municipal purposes consisting of a combination of over-drafting a maximum of 44,900 acre-feet of Trinity

River Basin water and water supplied from Lake Chapman pursuant to Certificates of Adjudication Nos. 03-4797 and 03-4798; and

- 71,882 acre-feet of water per year discharged into Lake Lavon from the District's Wilson Creek Wastewater Treatment Plant; and

WHEREAS, Certificate of Adjudication No. 08-2410 provides that the total consumptive use of water authorized by Certificates of Adjudication Nos. 08-2410, 03-4797, and 03-4798 and Water Use Permit No. 5003 for municipal purposes within the District's service area shall not exceed 234,514 acre-feet of water per year; and

WHEREAS, if water is not transferred from Lake Chapman to Lake Lavon, the total consumptive use of water authorized by Certificate of Adjudication No. 08-2410 shall not exceed 222,200 acre-feet of water per year; and

WHEREAS, pursuant to Certificate of Adjudication No. 03-4798, District is also authorized to divert and use from Lake Chapman in the Sulphur River Basin not to exceed 54,000 acre-feet per year, and pursuant to Certificate of Adjudication No. 03-4797, not to exceed 3,214 acre-feet per year, for use in the District's service area; and

WHEREAS, Certificate of Adjudication No. 08-2410 contains several priority dates, special conditions and diversion rates; and

WHEREAS, the District seeks to amend Certificate of Adjudication No. 08-2410 to authorize:

- The diversion and use of up to 206,600 acre-feet of water per year of both permitted and projected return flows (District Return Flows) from sixteen (16) identified District- or District customer-owned or operated WWTPs (District WWTPs);
- The diversion and use of 157,393 acre-feet of water per year of permitted District Return Flows, of which the District has historically discharged 88,997 acre-feet of water per annum from the District WWTPs into the East Fork Trinity River or its tributaries. Of the 157,393 acre-feet of water per year permitted for discharge, the District proposes to divert and use up to 138,674 acre-feet of water per year, such that 30% of District Return Flows originating from existing or future permitted water supplies originating in the Trinity River Basin will be left in the East Fork Trinity River to address the needs of downstream water rights and the environment;
- The use of the bed and banks of the East Fork Trinity River and its tributaries within the Trinity River Basin to convey District Return Flows from District WWTPs to the proposed diversion facilities;

- The use of the bed and banks of Lake Lavon and its tributaries to convey Lake Lavon Return Flows to the District's existing authorized points of diversion on Lake Lavon for subsequent diversion at the District's existing authorized diversion rate, and for use by the District;
- The diversion of Lake Ray Hubbard and Lower East Fork Return Flows at a maximum rate of 436 cfs (195,543 gpm) from the proposed diversion facilities to be located at any point within an approximate 1,200 foot reach of Stream Segment 0819 of the East Fork Trinity River between Latitude 32.642°N, Longitude 96.484°W and Latitude 32.639°N, Longitude 96.485°W;
- The storage of not to exceed 4,497 acre-feet of Lake Ray Hubbard and Lower East Fork Return Flows in proposed off-channel storage facilities, including constructed wetlands;
- The collection in and diversion of Lake Ray Hubbard Return Flows and Lower East Fork Return Flows from the constructed wetlands in an amount equal to the amount of same diverted from the East Fork Trinity River, less conveyance losses associated with the temporary storage of such water in the constructed wetlands (estimated to be a maximum of 3,714 acre-feet per year), for conveyance by pipeline to Lake Lavon or a tributary to Lake Lavon; and
- The conveyance of the Lake Ray Hubbard and Lower East Fork Return Flows collected in the constructed wetlands and transported by pipeline to Lake Lavon or a tributary of Lake Lavon through a tributary of Lake Lavon and Lake Lavon for subsequent diversion at the District's authorized points of diversion on the perimeter of Lake Lavon at the District's existing authorized diversion rate, for use by the District; and

WHEREAS, the treated effluent comprising the District Return Flows is generated at the following sixteen (16) District- or District customer-owned or operated Wastewater Treatment Plants located in the Trinity River Basin, and is comprised of the sum of i) Lake Lavon Return Flows; ii) Lake Ray Hubbard Return Flows; and iii) Lower East Fork Return Flows, as follows; and

Watershed Discharge	Treatment Plant Name	Current Discharge (Af/Yr)	Permitted Discharge (Af/Yr)
Lake Lavon Return Flows	Farmersville #1 WWTP	0	252
	Farmersville #2 WWTP	336	594
	Seis Lagos WWTP	112	280
	Rowlett Creek WWTP	20,739	26,904
	Murphy WWTP	224	280
	Wylie WWTP	3,924	2,242

Lake Ray Hubbard Return Flows	Muddy Creek WWTP	0	22,420
	Squabble Creek WWTP	785	1,345
	Rush Creek WWTP	34	45
	Southside WWTP	56	202
	Terry Lane WWTP	11	34
Lower East Fork Return Flows	South Mesquite WWTP	17,039	28,025
	Garland Rowlett WWTP	19,842	26,904
	Garland Duck Creek WWTP	23,205	44,840
	Buffalo Creek WWTP	2,466	2,522
	Shepards Glen WWTP	224	504
	Total Discharges	88,997	157,393

WHEREAS, the District indicates that there will be no losses associated with the conveyance of District Return Flows within the East Fork Trinity River and Lake Lavon to the District's existing or proposed diversion facilities; and

WHEREAS, the District proposes that, until an agreement by and between the District and the City of Dallas pertaining to the Lake Ray Hubbard Return Flows has been executed, the authorization to divert and use District Return Flows be limited to only Lake Lavon Return Flows and Lower East Fork Return Flows; and

WHEREAS, the District has provided, and the Executive Director has approved, an accounting plan (Accounting Plan) that accounts for, by priority date and source, all water discharged into and diverted from Lake Lavon and the East Fork Trinity River pursuant to all of the District's authorizations, including the District's reuse authorizations; and

WHEREAS, the Texas Commission on Environmental Quality (Commission) finds that jurisdiction over the application is established; and

WHEREAS, the Executive Director has determined that 157,393 acre-feet of water per year of the currently permitted (TPDES) return flows requested by the Applicant from the sixteen (16) identified District- or District customer-owned or operated WWTPs is available for subsequent diversion and use, less losses; and

WHEREAS, the Executive Director recommends that specific stream flow restrictions should be included in the amendment to maintain the instream uses and water quality conditions of the East Fork Trinity River and the Trinity River; and

WHEREAS, the Executive Director recommends that in order to protect senior and superior water rights owners, special conditions should be included in the amendment; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this amendment;

NOW, THEREFORE, this amendment to Certificate of Adjudication No. 08-2410, designated Certificate of Adjudication No. 08-2410F, is issued to the North Texas Municipal Water District, subject to the following terms and conditions:

1. IMPOUNDMENT

In addition to previous authorizations, the District is also authorized to impound not to exceed 4,497 acre-feet of water in off-channel constructed wetlands, located in Kaufman County, ownership of which is evidenced by an Agreement for Easements Permitting Water District Use of the Seagoville Ranch recorded as Document 00017410, Book OR, Volume 2476, Page 327 through 353 of the Deed Records of Kaufman County, Texas.

2. USE

A. Subject to the requirements of Section 7.K, in addition to the diversions previously authorized from Lake Lavon, the District is also authorized to divert and use, within its service area, not to exceed 157,393 acre-feet per year of the currently permitted District Return Flows from sixteen (16) identified District- or District customer-owned or operated wastewater treatment plants (District WWTPs), less losses.

B. The District is authorized to divert from the off-channel wetlands not to exceed the actual amount of District Return Flows diverted from the East Fork Trinity River diversion points to the wetlands, less losses.

C. The District is authorized to use the bed and banks of the East Fork Trinity River and its tributaries within the Trinity River Basin, including but not limited to Lake Ray Hubbard, to convey District Return Flows from the District WWTPs to the diversion facilities on the East Fork Trinity River authorized in Section 3.A1, subject to the requirements of Section 7.D.

D. The District is authorized to use the bed and banks of Lake Lavon and its tributaries to convey District Return Flows to the District's authorized points of diversion on Lake Lavon for subsequent diversion and use by the District.

3. DIVERSION

The District is authorized to divert the water authorized by this amendment as follows:

A. POINTS

1. From an approximate 1,200 foot reach of Stream Segment 0819 of the East Fork Trinity River between Latitude 32.642°N, Longitude 96.484°W and Latitude 32.639°N, Longitude 96.485°W into the off-channel wetlands, and thence from the perimeter of the off-channel constructed

wetlands.

2. From the diversion points authorized pursuant to Certificate of Adjudication No. 08-2410, as amended.

B. RATES

1. From the East Fork Trinity River at a maximum combined rate of 436 cfs (195,543 gpm)
2. At the rate authorized from Lake Lavon by Certificate of Adjudication No. 08-2410, as amended.

4. DISCHARGE POINTS

The points of origin for District Return Flows from the sixteen (16) District- or District customer-owned or operated WWTPs are defined as follows:

- A. Buffalo Creek WWTP - into Buffalo Creek 1.5 miles northwest of the intersection of FM 3097 and FM 549 in Rockwall County at Latitude 32.877°N, Longitude 96.458°W in Trinity River Segment No. 0819; current discharge is 2.2 MGD or 2,466 acre-feet per year, current permitted discharge is 2.25 MGD or 2,522 acre-feet per year.
- B. Farmersville No. 1 WWTP - into an unnamed tributary of Elm Creek 1,600 feet south of the intersection of State Highway 78 and US Highway 380 in Collin County at Latitude 33.153°N, Longitude 96.375°W in Trinity River Segment No. 0821; current discharge is 0.0 MGD or 0.0 acre-feet per year, current permitted discharge is 0.23 MGD or 252 acre-feet per year.
- C. Farmersville No. 2 WWTP - into an unnamed tributary of Elm Creek 1,600 feet south of the intersection of State Highway 78 and US Highway 380 in Collin County at Latitude 33.153°N, Longitude 96.375°W in Trinity River Segment No. 0821; current discharge is 0.30 MGD or 336 acre-feet per year, current permitted discharge is 0.53 MGD or 594 acre-feet per year.
- D. Garland Duck Creek WWTP - into Duck Creek south of Lake Ray Hubbard Dam and north of Interstate Highway 20 in Kaufman County at Latitude 32.796°N, Longitude 96.517°W in Trinity River Segment No. 0819; current discharge is 20.70 MGD or 23,205 acre-feet per year, current permitted discharge is 40.00 MGD or 44,840 acre-feet per year.
- E. Garland Rowlett Creek WWTP - via pipeline into Duck Creek 0.25 miles south of Centerville Road from WWTP located 0.25 miles south of the intersection of State Highway 66 on the southeast corner where the Missouri, Kansas, and Texas

RR crosses Centerville Road in Dallas County at Latitude 32.870°N, Longitude 96.631°W in Trinity River Segment No. 0819; current discharge is 17.70 MGD or 19,842 acre-feet per year, current permitted discharge 24 MGD or 26,904 acre-feet per year.

- F. Muddy Creek WWTP - into Muddy Creek 1,100 feet northeast of the crossing of Muddy Creek by Pleasant Valley Road in Dallas County at Latitude 32.974°N, Longitude 96.548°W in Trinity River Segment No. 0820; current discharge is 0.00 MGD or 0.0 acre-feet per year, current permitted discharge is 20.00 MGD or 22,420 acre-feet per year.
- G. Murphy WWTP - into an unnamed tributary of Maxwell Creek 4,000 feet east and 6,000 feet south of the intersection of FM 544 and FM 2551 in Collin County at Latitude 32.991°N, Longitude 96.602°W in Trinity River Segment No. 0820; current discharge is 0.20 MGD or 224 acre-feet per year, current permitted discharge is 0.25 MGD or 280 acre-feet per year.
- H. Rowlett Creek WWTP - into Rowlett Creek east of Los Rios Blvd., approximately 700 feet north of FM 544 at Latitude 33.017°N, Longitude 96.645°W in Trinity River Segment No. 0820; current discharge is 18.50 MGD or 20,739 acre-feet per year, current permitted discharge is 24.00 MGD or 26,904 acre-feet per year.
- I. Rush Creek WWTP - into Lake Ray Hubbard 1.5 miles southwest of the City of Heath in Rockwall County at Latitude 32.826°N, Longitude 96.497°W in Trinity River Segment No. 0820; current discharge is 0.03 MGD or 34 acre-feet per year, current permitted discharge is 0.04 MGD or 45 acre-feet per year.
- J. Seis Lagos WWTP - into an unnamed tributary of Lake Lavon 0.8 miles southeast of the intersection of Riva Ridge Road and FM 3286 in Collin County at Latitude 33.076°N, Longitude 96.563°W in Trinity River Segment No. 0821; current discharge is 0.10 MGD or 112 acre-feet per year, current permitted discharge is 0.25 MGD or 280 acre-feet per year.
- K. Shepherds Glen WWTP - into an unnamed tributary of Buffalo Creek 0.75 miles east of FM 740 and 0.75 miles northwest of FM 549 in Rockwall County, at Latitude 32.861°N, Longitude 96.461°W in Trinity River Segment No. 0819; current discharge is 0.20 MGD or 224 acre-feet per year, current permitted discharge is 0.45 MGD or 504 acre-feet per year.
- L. South Mesquite WWTP - into South Mesquite Creek 0.5 miles south of the intersection of Lawson and Cartwright Roads in Dallas County at Latitude 32.707°N, Longitude 96.555°W in Trinity River Segment No. 0819; current discharge is 15.20 MGD or 17,039 acre-feet per year, current permitted discharge is 25.00 MGD or 28,025 acre-feet per year.

- M. Southside WWTP - into Rush Creek as it enters Lake Ray Hubbard one mile south-southwest of the intersection of State Highway 740 and State Highway 549 in Rockwall County at Latitude 32.825°N, Longitude 96.481°W in Trinity River Segment No. 0820; current discharge is 0.05 MGD or 56 acre-feet per year, current permitted discharge is 0.18 MGD or 202 acre-feet per year.
- N. Squabble WWTP - into Squabble Creek 1.2 miles south-southwest of the intersection of State Highway 205 and FM 552 in Rockwall County at Latitude 32.951°N, Longitude 96.469°W in Trinity River Segment No. 0819; current discharge is 0.70 MGD or 785 acre-feet per year, current permitted discharge is 1.20 MGD or 1,345 acre-feet per year.
- O. Terry Lane WWTP - into Lake Ray Hubbard at the western end of Terry Lane in the City of Heath in Rockwall County at Latitude 32.841°N, Longitude 96.500°W in Trinity River Segment No. 0820; current discharge is 0.01 MGD or 11 acre-feet per year, current permitted discharge is 0.03 MGD or 34 acre-feet per year.
- P. Wylie WWTP - into an unnamed tributary of Muddy Creek 0.4 mile southeast of State Highway 78, 0.57 miles south of the crossing of Muddy Creek by State Highway 78 and 1.25 miles southwest of the City of Wylie in Collin County at Latitude 32.993°N, Longitude 96.551°W in Trinity River Segment No. 0819; current discharge is 3.50 MGD or 3,924 acre-feet per year, current permitted discharge is 2.00 MGD or 2,242 acre-feet per year.

5. PRIORITY

The time priority for the conveyance and diversion of the 88,997 acre-feet per annum of historically discharged District Return Flows authorized by this amendment, and the impoundment of District Return Flows in the off-channel constructed wetlands authorized by this amendment, is October 3, 2005. The time priority for the conveyance and diversion of 68,396 acre-feet per annum of future District Return Flows is also October 3, 2005. However, the diversion of the 68,396 acre-feet per annum of future District Return Flows authorized by this amendment is not subject to priority call by senior and superior water right holders in the Trinity River Basin.

6. CONSERVATION

The District shall implement water conservation plans that provide for the utilization of those reasonable practices, techniques, and technologies that will reduce on a per unit basis the consumption of water, prevent or reduce the loss or waste of water, improve the efficiency in the use of water, increase the recycling and reuse of water, and prevent the pollution of water, so that a water supply is made available for future or alternative uses. The practices, techniques, and technologies used shall be designed to achieve a level of efficiency of use that is equal to or greater than the level provided for in the District's most recent water conservation plan on file with the Commission as of the date of the

issuance of this Amendment. Such plans shall include a requirement that in every wholesale water supply contract entered into on or after the date of this amendment, including any contract extension or renewal, that each successive wholesale customer develop and implement conservation measures meeting the requirements of this provision. If the customer intends to resell the water, then the contract for resale of the water must have water conservation requirements so that each successive wholesale customer in the resale of the water is required to implement water conservation measures meeting the requirements of this provision.

7. SPECIAL CONDITIONS

- A. The District shall implement and comply with the Accounting Plan, approved by the Executive Director, which accounts for measured discharges from the WWTPs and appropriate loss factors, and incorporate that plan with the District's existing Accounting Plan for Lake Lavon.
- B. The District shall maintain the Accounting Plan in electronic format (spreadsheet or database) and make it available to the public during normal business hours and shall submit it to the Executive Director upon request.
- C. Prior to the District's diversion of the water authorized herein, there shall be installed and maintained, at the discharge point of each WWTP and the diversion point on the East Fork Trinity River, a measuring device(s), capable of measuring within plus or minus 5% accuracy, to record the amount of water diverted.
- D. The District's authorization to use the bed and banks of Lake Ray Hubbard, including the authorization to divert and use Lake Ray Hubbard Return Flows, shall not be exercised until such time as an agreement between the District and the City of Dallas has been executed.
- E. The District shall limit the maximum diversion from the East Fork Trinity River ~~to the actual discharges from upstream WWTPs, and in accordance with any conditions associated with the agreement with the City of Dallas for the diversion of Lake Ray Hubbard Return Flows, less losses.~~
- F. Lake Lavon Return Flows will be diverted from Lake Lavon, and are not subject to diversion at the downstream diversion point located on the East Fork Trinity River.
- G. The District shall limit diversions of District Return Flows through the diversion facilities located on the East Fork Trinity River and authorized in Part 3.A.1 of this amendment to times when the remaining streamflow of the East Fork Trinity River equals or exceeds 25.8 cfs as measured at a point immediately downstream of the diversion location. The USGS Gaging Station 08062000 (East Fork Trinity River near Crandall) located at US Highway 175 bridge crossing may be used as a reference point provided the gage remains operational and the diversions occur

upstream of its location.

- H. The District shall perform all the activities described in the site specific monitoring plan dated November 22, 2006, and entitled, "North Texas Municipal Water District, East Fork Water Supply Project, East Fork Monitoring Program." Data collection performed by North Texas Municipal Water District will be included in the Trinity River Authority's Clean Rivers Program Quality Assurance Project Plan for reporting to the State's water quality database. Owner should coordinate with the Trinity River Authority to ensure all quality assurance and data management requirements of the Quality Assurance Project Plan are met.
- I. The streamflow requirement in Special Condition 7.G is subject to adjustment upwards to a maximum level of no greater than 43 cfs as measured at the gage referenced in such Special Condition. Such an adjustment shall occur only pursuant to a Commission order, consideration of which may be initiated by action of the Executive Director or in response to a written request for such an adjustment submitted by a person who may be affected by such adjustment. The Commission may order such an adjustment only upon a determination that the adjustment is needed to adequately protect water quality and/or aquatic resources in the East Fork Trinity River downstream of the diversion point authorized in Section 3.A.1, and following the opportunity for a contested case hearing afforded to persons affected by such adjustment. In determining whether such an adjustment is needed and the extent of any such adjustment, the Commission shall consider, along with other relevant information, all data collected and reports prepared in accordance with and required by the East Fork Monitoring Program identified in Special Condition 7.H of this Permit.
- J. Prior to the diversion and use of future increases of District Return Flows in excess of the 157,393 acre-feet of water per annum authorized by this amendment, the District must apply for and be granted the authority to divert and use those increased return flows.
- K. The District's authorization to divert District Return Flows is conditioned upon the requirement that not less than 30% of District Return Flows originating from the District's existing and future permitted water supplies within the Trinity River Basin, as measured on a monthly basis and adjusted for conveyance losses, will be left in the Trinity River and allowed to flow downstream below all of the District's authorized diversion points to address the needs of downstream water rights and the environment. Compliance with this condition shall be accomplished pursuant to the Accounting Plan, and must be documented in the Accounting Plan.
- L. The District shall implement measures to minimize impacts to aquatic resources due to entrainment or impairment by installing screens at the diversion facilities with a mesh size of no larger than 0.75 inches, and ensuring a maximum flow-

through screen velocity of 0.5 feet per second or less.

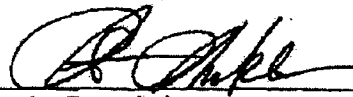
This amendment is issued subject to all terms, conditions and provisions contained in Certificate No. 08-2410, as amended, except as specifically amended herein.

This amendment is issued subject to all superior and senior water rights in the Trinity River Basin, except as specifically provided herein.

The District agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

This amendment is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.



For the Commission

ISSUED: JUL 05 2007

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



THE STATE OF TEXAS
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a
Texas Commission on Environmental Quality document,
which is filed in the permanent records of the Commission.
Given under my hand and the seal of office on

AMENDMENT TO A
CERTIFICATE OF ADJUDICATION

Luzmila Castaneda JAN 27 2009

Luzmila Castaneda, Chief Clerk
Texas Commission on Environmental Quality

CERTIFICATE NO. 08-2410G

TYPE §§ 11.122 & 11.042

Owner:	North Texas Municipal Water District	Address:	P. O. 2408 Wylie, Texas 75098
Filed:	January 28, 2005	Granted:	JAN 16 2009
Purpose:	Municipal and Industrial	County:	Collin
Watercourse:	East Fork Trinity River, Tributary of the Trinity River	Watershed:	Trinity River Basin

WHEREAS, Certificate of Adjudication No. 08-2410 currently authorizes the North Texas Municipal Water District (Owner or District) to impound 380,000 acre-feet of water in Lake Lavon, which is owned by the United States Army Corps of Engineers, and to divert and use from Lake Lavon:

- 100,000 acre-feet of water per year for municipal purposes;
- 4,000 acre-feet of water per year for industrial and municipal use;
- 77,300 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting the firm yield of Lake Lavon when Lake Ray Hubbard is at or above maximum conservation level (435.5 feet above msl) and spilling, or whenever additional water up to 77,300 acre-feet per year is supplied from Lake Texoma to Lake Lavon pursuant to Water Use Permit No. 5003;
- 44,900 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting the firm yield of Lake Lavon during times when Lake Ray Hubbard is at or above maximum conservation level and spilling;
- 57,214 acre-feet of water per year from Lake Lavon for municipal purposes consisting of a combination of over-drafting the firm yield of Lake Lavon by a maximum of 44,900 acre-feet of Trinity River Basin water and water supplied from Lake Chapman pursuant to Certificates of Adjudication Nos. 03-4797 and 03-4798;
- 71,882 acre-feet of water per year discharged into Lake Lavon from the District's Wilson Creek Wastewater Treatment Plant (WWTP);
- 157,394 acre-feet per year, less losses, of the permitted (Texas Pollutant Discharge Elimination System) District Return Flows from sixteen (16) identified WWTPs owned or operated by the District or the District's customers; and

WHEREAS, Owner is authorized to divert water from two points on the perimeter of Lake Lavon at a combined rate of 896 cfs (402,000 gpm) for municipal purposes, from an intake/wetwell approximately two miles northeast of Wiley, Texas at a rate of 432 cfs (193,821 gpm) for municipal purposes, and from one point on the perimeter of Lake Lavon at a rate of 523 cfs (240,000 gpm) for industrial and municipal purposes; and

WHEREAS, Owner is also authorized to impound not to exceed 4,497 acre-feet of water in off-channel constructed wetlands, located at a point bearing S35.9514°E, 6,104 feet from the west corner of the D. Wilkerson Survey, Abstract No. 566, also located at Latitude 32.606°N and Longitude 96.494°W, in Kaufman County; and

WHEREAS, Owner is authorized to divert from the off-channel wetlands not to exceed the actual amount of return flows diverted from the East Fork Trinity River diversion points to the wetlands; and

WHEREAS, Owner is authorized to use the bed and banks of the East Fork Trinity River and its tributaries within the Trinity River Basin to convey District Return Flows from the District WWTPs to diversion facilities downstream on the East Fork Trinity River, excluding the District Return Flows associated with District WWTPs that discharge directly into Lake Lavon or tributaries thereof (District Lake Lavon Return Flows); and

WHEREAS, Owner is authorized to use the bed and banks of Lake Lavon and its tributaries to convey District Lake Lavon Return Flows to the District's existing authorized points of diversion on Lake Lavon for subsequent diversion at the District's existing authorized diversion rate, and for use by the District; and

WHEREAS, Certificate of Adjudication No. 08-2410 provides that the total consumptive use of water authorized by Certificates of Adjudication Nos. 08-2410, 03-4797, and 03-4798 and Water Use Permit No. 5003 for municipal purposes within the District's service area shall not exceed 235,514 acre-feet of water per year; and

WHEREAS, if water is not transferred from Lake Chapman to Lake Lavon, the total consumptive use of water authorized by Certificate of Adjudication No. 08-2410 shall not exceed 222,200 acre-feet of water per year; and

~~WHEREAS, Certificate of Adjudication No. 08-2410 contains several priority dates and special conditions; and~~

WHEREAS, the District has two contracts with the United States Army Corps of Engineers which authorize the District to use 100 percent of the conservation storage in Lake Lavon between elevations 492 feet above mean sea level (msl) and 453 feet above msl; and

WHEREAS, pursuant to revised calculations of the storage capacity and firm yield in Lake Lavon between these elevations, District seeks an amendment to Certificate of Adjudication No. 08-2410 to authorize:

- An increase in the District's total authorized storage by 63,800 acre-feet of water, thereby increasing the authorized maximum storage from 380,000 to 443,800 acre-feet of water and to impound the water for subsequent diversion and use;

- An increase in the District's diversion and use authorization by 14,840 acre-feet of firm yield water per year, thereby increasing the maximum authorized diversion and use from 104,000 to 118,840 acre-feet of water per year within its service area in the Trinity River Basin, of which 4,000 acre-feet is for municipal and industrial purposes and the remaining 114,840 acre-feet per year for municipal purposes;
- Diversion of water for municipal purposes from anywhere on the perimeter of Lake Lavon;
- An increase in the maximum combined diversion rate of municipal water from 1,328 cfs (596,007 gpm) to 1,821 cfs (817,265 gpm); and
- Use of the bed and banks of an unnamed tributary of Hickory Creek, Hickory Creek, Indian Creek and Lake Lavon to convey a maximum of 57,214 acre-feet of water per year at a rate of 340.36 cfs (152,753.57 gpm) from Lake Chapman in the Sulphur River Basin to the District's diversion facilities on Lake Lavon in the Trinity River Basin. The water will be released into an unnamed tributary of Hickory Creek at Latitude 33.222° N, Longitude 96.333° W and conveyed down the bed and banks of the unnamed tributary of Hickory Creek, Hickory Creek, Indian Creek, Lake Lavon, and from Lake Lavon to the District's diversion facilities. Applicant indicates that negligible losses will occur during conveyance of the water; and

WHEREAS, the District initially requested an increased diversion amount of 14,840 acre-feet of water per year, however, a revised study by the District, entitled *Supplement No. 3 to Technical Data to Support Application to Amend Certificate of Adjudication 08-2410, as Amended - Firm Yield of Lake Lavon Between Elevation 492.0 and 453.0*, indicated that the additional storage resulted in an increase in the firm yield of 14,670 acre-feet of water per year; and

WHEREAS, the Texas Commission on Environmental Quality (Commission) finds that jurisdiction over the application is established; and

WHEREAS, the Executive Director's technical analysis confirms the availability of 14,670 acre-feet of water per year; and

WHEREAS, the District has provided, and the Executive Director has approved, an accounting plan that accounts for, by priority date and source, all water discharged into and diverted from Lake Lavon and the East Fork Trinity River pursuant to all of the District's authorizations, including reuse; and

WHEREAS, the Executive Director recommends that specific stream flow restrictions be included in the amendment to maintain the instream uses and water quality conditions of the East Fork Trinity River and the Trinity River; and

WHEREAS, the Executive Director recommends that special conditions should be included in the amendment; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this amendment;

NOW, THEREFORE, this amendment to Certificate of Adjudication No. 08-2410, designated Certificate of Adjudication No. 08-2410G, is issued to the North Texas Municipal Water District, subject to the following terms and conditions:

1. IMPOUNDMENT

In lieu of the previous authorization to impound 380,000 acre-feet of water in Lake Lavon between elevations 492 feet above mean sea level (msl) and 453 feet above msl, Owner is now authorized to impound not to exceed 443,800 acre-feet of water between elevations 492 feet above msl and 453 feet above msl.

2. USE

A. In addition to previous authorizations, Owner is also authorized to divert and use not to exceed 14,670 acre-feet of water per year from Lake Lavon for municipal purposes within its service area in the Trinity River Basin.

B. In addition to previously granted bed and banks authorizations, Owner is also authorized to use the bed and banks of an unnamed tributary of Hickory Creek, Hickory Creek, Indian Creek and Lake Lavon to convey a maximum of 57,214 acre-feet of water per year from Lake Chapman in the Sulphur River Basin to the District's diversion facilities on Lake Lavon in the Trinity River Basin.

3. DISCHARGE

A. POINT

Lake Chapman water shall be released into an unnamed tributary of Hickory Creek at Latitude 33.222° N, Longitude 96.333° W.

B. RATE

Lake Chapman water shall be discharged at a maximum rate of 340.36 cfs (152,753.57 gpm).

4. DIVERSION

A. POINT

In lieu of Owner's authorization to divert water for municipal purposes from two (2) specific points on Lake Lavon, Owner is now authorized to divert water for municipal purposes from anywhere on the perimeter of Lake Lavon.

B. RATE

In lieu of Owner's authorization to divert water for municipal purposes from Lake Lavon at a combined maximum rate of 1,328 cfs (596,007 gpm), Owner is now authorized to divert water for municipal purposes at a combined maximum rate of 1,821 cfs (817,265 gpm).

5. PRIORITY

- A. The time priority for storage of the additional 63,800 acre-feet of water in Lake Lavon is January 28, 2005.
- B. The time priority for diversion and use of the additional 14,670 acre-feet of firm water per year from Lake Lavon is January 28, 2005.

6. CONSERVATION

Owner shall implement water conservation plans that provide for the utilization of those reasonable practices, techniques, and technologies that reduce on a per unit basis the consumption of water, prevent or reduce the loss or waste of water, improve the efficiency in the use of water, increase the recycling and reuse of water, and prevent the pollution of water, so that a water supply is made available for future or alternative uses. The practices, techniques, and technologies used shall be designed to achieve a level of efficiency of use that is equal to or greater than the level provided for in Owner's most recent water conservation plan on file with the Commission as of the date of issuance of this amendment. Such plans shall include a requirement that in every wholesale water supply contract entered into on or after the date of this amendment, including any contract extension or renewal, that each successive wholesale customer develop and implement conservation measures meeting the requirements of this provision. If the customer intends to resell the water, then the contract for resale of the water must have water conservation requirements so that each successive wholesale customer in the resale of the water is required to implement water conservation measures meeting the requirements of this provision.

7. SPECIAL CONDITIONS

- A. In lieu of Special Condition 7.A. in Certificate of Adjudication No. 08-2410F, the District shall only impound, divert and use water pursuant to Paragraphs 1. IMPOUNDMENT, 2. USE and 4. DIVERSION in accordance with the most recent accounting plan, *North Texas Municipal Water District Accounting Plan for Lake Lavon (CA 08-2410, As Amended (Amendments A-G)) with Sabine Transfers*. The District shall maintain the accounting plan in electronic format and make the data available to the Executive Director and the public upon request. Any modifications to the *North Texas Municipal Water District Accounting Plan for Lake Lavon (CA 08-2410, As Amended (Amendments A-G))* shall be approved by the Executive Director. Any modification of the plan that changes the certificate terms must be in the form of an amendment to the certificate. Should the District fail to maintain the accounting plan or notify the Executive Director of any modifications to the plan, the District shall immediately cease impoundment and diversion pursuant to Paragraph 1. IMPOUNDMENT and Paragraph 4. DIVERSION, and either apply to amend the certificate, or voluntarily forfeit this amendment. If the District fails to amend the accounting plan or forfeit this amendment, the TCEQ may begin proceedings to cancel the amendment. The Commission shall be notified immediately by the District upon modification of the accounting plan and provided with copies of the appropriate documents effectuating such changes.
- B. Owner shall limit the additional storage in and diversions of firm yield from Lake Lavon authorized by this amendment to times when the remaining streamflow of the East Fork Trinity River equals or exceeds 25.8 cfs as measured at the USGS Gaging Station 08062000 (East Fork Trinity River near Crandall) located at US Highway 175 bridge

crossing. This special condition is subject to adjustment by the Commission if the Commission determines, through an expedited public review process, that such adjustment is appropriate to achieve compliance with applicable environmental flow standards adopted pursuant to Texas Water Code § 11.1471. Any adjustment shall be made in accordance with the provisions of Texas Water Code § 11.147(e-1).

- C. Owner shall perform all the activities described in the site specific monitoring plan dated November 22, 2006, and entitled, "North Texas Municipal Water District, East Fork Water Supply Project, East Fork Monitoring Program." Data collection performed by North Texas Municipal Water District will be included in the Trinity River Authority's Clean Rivers Program Quality Assurance Project Plan for reporting to the State's water quality database. Owner should coordinate with the Trinity River Authority to ensure all quality assurance and data management requirements of the Quality Assurance Project Plan are met.
- D. The streamflow requirement in Special Condition 7.B. above is subject to adjustment upwards to a maximum level of no greater than 43 cfs as measured at the gage referenced in such Special Condition. Such an adjustment shall occur only pursuant to a Commission Order, consideration of which may be initiated by action of the Executive Director or in response to a written request for such an adjustment submitted by a person who may be affected by such adjustment. The Commission may order such an adjustment only upon a determination that the adjustment is needed to adequately protect water quality and/or aquatic resources in the East Fork Trinity River downstream (Segment 0819), and following the opportunity for a contested case hearing afforded to persons affected by such adjustment. In determining whether such an adjustment is needed and the extent of any such adjustment, the Commission shall consider, along with other relevant information, all data collected and reports prepared in accordance with and required by the East Fork Monitoring Program identified in Special Condition 7.C. above.
- E. The total consumptive use of water authorized by Certificates of Adjudication Nos. 08-2410, 03-4797, and 03-4798 and Water Use Permit No. 5003 for municipal purposes within the District's service area shall not exceed 250,184 acre-feet of water per year.
- F. If water is not transferred from Lake Chapman to Lake Lavon, the total consumptive use of water authorized by Certificate of Adjudication No. 08-2410 shall not exceed 236,870 acre-feet of water per year.
- G. Owner shall develop minimum standards for the content of its customers' water conservation plans. Those minimum standards shall meet the requirements of Paragraph 6. CONSERVATION and require each customer's water conservation plan to identify that customer's technical potential for water conservation savings. These minimum standards shall apply to every contract entered into, extended, or renewed following the date of issuance of this amendment.
- H. Owner shall update its water conservation plan every five years in accordance with 30 TAC 288, beginning in 2009. Conservation goals for five-year and ten-year periods shall include a per-capita water use goal for the Owner's service area, and the plan shall include strategies to achieve the goal. All updates shall meet the requirements of Paragraph 6. CONSERVATION.

- I. As part of its ongoing public education program, every five (5) years Owner shall provide to its customers, local and regional news media and the TCEQ:
1. An implementation report stating the goal(s) of the previous five years and quantitative measurements of conservation achieved, based on five years' water use data.
 2. Owner's conservation goals for the next five years.
- J. In addition to or as a part of the minimum standards adopted in accordance with Special Condition 7.G., Owner shall ensure that member cities and customers implement conservation-oriented water rates such as uniform or increasing-block rates, and/or seasonal rates, but not flat or decreasing-block rates through all contracts entered into or renewed following the approval of this amendment.

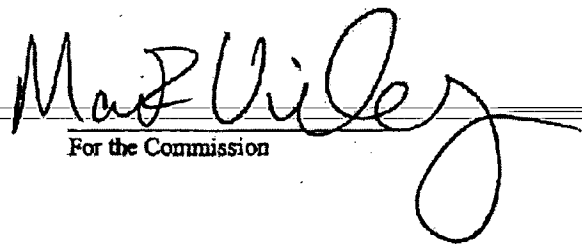
This amendment is issued subject to all terms, conditions and provisions contained in Certificate No. 08-2410, as amended, except as specifically amended herein.

This amendment is issued subject to all superior and senior water rights in the Trinity River Basin.

Owner agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

This amendment is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.


For the Commission

ISSUED: JAN 16 2009

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



THE STATE OF TEXAS
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a Texas Commission on Environmental Quality document which is filed in the permanent records of the Commission. Given under my hand and the seal of office on

Bridget C. Bohac NOV 20 2014

AMENDMENT TO A
CERTIFICATE OF ADJUDICATION

Bridget C. Bohac, Chief Clerk

Texas Commission on Environmental Quality

CERTIFICATE NO. 08-2410H

TYPE: §§ 11.122, 11.085

Owner: North Texas Municipal Water District

Address: P.O. Box 2408 Wylie, Texas 75098

Filed: June 24, 2014

Granted: November 18, 2014

Purpose: Industrial, Municipal, Agricultural

Counties: Collin, Fannin, Hunt, Grayson, Kaufman, Rockwall, Van Zandt, Hopkins, Dallas, Denton

Watercourse: East Fork Trinity River, tributary of the Trinity River

Watershed: Trinity, Red, Sabine, and Sulphur River Basins

WHEREAS, Certificate of Adjudication No. 08-2410 authorizes the North Texas Municipal Water District (Owner or NIMWD) to impound 443,800 acre-feet of water in Lake Lavon on the East Fork Trinity River, tributary of the Trinity River, Trinity River Basin, owned by the U.S. Army Corps of Engineers, and to divert and use from Lake Lavon:

- 114,670 acre-feet of water per year for municipal purposes;
- 4,000 acre-feet of water per year for industrial and municipal purposes;
- 77,300 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting the firm yield of Lake Lavon when Lake Ray Hubbard is at or above maximum conservation level (435.5 feet above msl) and spilling, or whenever additional water up to 77,300 acre-feet per year is supplied from Lake Texoma to Lake Lavon pursuant to Water Use Permit No. 5003;
- 44,900 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting the firm yield of Lake Lavon during times when Lake Ray Hubbard is at or above maximum conservation level and spilling;
- 57,214 acre-feet of water per year from Lake Lavon for municipal purposes consisting of a combination of over-drafting the firm yield of Lake Lavon by a maximum of 44,900 acre-feet of Trinity River Basin water and water supplied

from Lake Chapman pursuant to Certificates of Adjudication Nos. 03-4797 and 03-4798;

- 71,882 acre-feet of water per year discharged into Lake Lavon from the NTMWD's Wilson Creek Waste Water Treatment Plant (WWTP); and
- 157,394 acre-feet per year, less losses, of the permitted (Texas Pollutant Discharge Elimination System) NTMWD Return Flows from sixteen (16) identified WWTPs owned or operated by the NTMWD or the NTMWD's customers; and

WHEREAS, Owner is also authorized to impound not to exceed 4,497 acre-feet of water in off-channel constructed wetlands in Kaufman County; and

WHEREAS, Owner is further authorized to divert from the off-channel wetlands not to exceed the actual amount of return flows diverted from the East Fork Trinity River diversion points to the wetlands; and

WHEREAS, multiple special conditions, bed and bank authorizations, diversion rates, diversion points, and priority dates exist; and

WHEREAS, Owner seeks to authorize exempt interbasin transfers from the Trinity River Basin to those portions of Collin, Fannin, Hopkins, Hunt, Grayson, Kaufman, Rockwall, and Van Zandt Counties located within the NTMWD's Service Area in the Red, Sabine, and Sulphur River Basins; and

WHEREAS, the Texas Commission on Environmental Quality finds that jurisdiction over the application is established; and

WHEREAS, no requests for a contested case hearing were received for this application; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this amendment;

NOW, THEREFORE, this amendment to Certificate of Adjudication No. 08-2410, designated as Certificate of Adjudication No. 08-2410H, is issued to the North Texas Municipal Water District subject to the following terms and conditions:

1. USE

In addition to the previous authorization, Owner is also authorized the following interbasin transfers to:

- A. those portions of Collin, Hopkins, Hunt, Rockwall, Kaufman, and Van Zandt Counties located within the NTMWD's Service Area in the Sabine River Basin.
- B. those portions of Hunt and Fannin Counties located within the NTMWD's Service Area in the Sulphur River Basin.

- C. those portions of Fannin and Grayson Counties located within the NTMWD's Service Area in the Red River Basin.
- D. the NTMWD's Service Area within the Sabine River Basin, and additional counties as the NTMWD's Service Area expands within the Sabine River Basin, in a total amount less than 3,000 acre-feet of water per year.
- E. the NTMWD's Service Area within the Sulphur River Basin, and additional counties as the NTMWD's Service Area expands within the Sulphur River Basin, in a total amount less than 3,000 acre-feet of water per year.
- F. the NTMWD's Service Area within the Red River Basin, and additional counties as the NTMWD's Service Area expands within the Red River Basin, in a total amount less than 3,000 acre-feet of water per year.

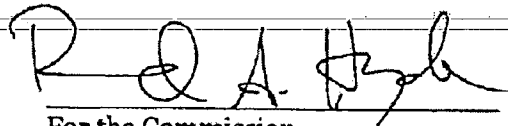
This amendment is issued subject to all terms, conditions, and provisions contained in Certificate of Adjudication No. 08-2410, as amended, except as specifically amended herein.

This amendment is issued subject to all superior and senior water rights in the Trinity River Basin.

Owner agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

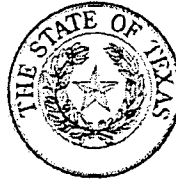
This amendment is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.



For the Commission

Date issued: **November 18, 2014**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



THE STATE OF TEXAS
COUNTY OF TRAVIS
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY
OF A TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
DOCUMENT, WHICH IS FILED IN THE PERMANENT RECORDS

OCT 25 2016

OF THE COMMISSION, GIVEN UNDER MY HAND AND THE
SEAL OF OFFICE ON

Bridget C. Baker
BRIDGET C. BAKER, CHIEF CLERK
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AMENDMENT TO A
CERTIFICATE OF ADJUDICATION

CERTIFICATE NO. 08-24101

TYPE § 11.122

Owner: North Texas Municipal
Water District

Address: P.O. Box 2408
Wylie, Texas 75098

Filed: November 18, 2015

Granted: October 20, 2016

Purposes: Municipal and Industrial

Counties: Collin, Grayson, Fannin,
Hunt, Hopkins, Denton,
Dallas, Rockwall, Van
Zandt, Kaufman

Watercourse: unnamed tributary of Lake
Lavon, Lake Lavon, and
Trinity River

Watershed: Trinity River Basin

WHEREAS, Certificate of Adjudication No. 08-2410 authorizes North Texas Municipal Water District, Owner or District, to impound 443,800 acre-feet of water in Lake Lavon on the East Fork Trinity River, tributary of the Trinity River, Trinity River Basin, which is owned by the USA and operated by the Army Corps of Engineers, and to divert and use from Lake Lavon: 114,670 acre-feet of water per year for municipal purposes; ~~4,000-acre-feet of water per year for industrial and municipal purposes;~~ 77,300 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting Lake Lavon; 44,900 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting Lake Lavon; 57,214 acre-feet of water per year for municipal purposes from Lake Lavon; 71,882 acre-feet of water per year discharged into Lake Lavon from the District's Wilson Creek Wastewater Treatment Plant (WWTP); and 157,393 acre-feet per year of the District's return flows from sixteen WWTPs; and

WHEREAS, Owner is also authorized to impound not to exceed 4,497 acre-feet of water in off-channel constructed wetlands in Kaufman County. Owner is further authorized an exempt interbasin transfer from the Trinity River Basin to those portions of Collin, Fannin, Hopkins, Hunt, Grayson, Kaufman, Rockwall, and Van Zandt Counties in the Red, Sabine, and Sulphur River Basins. Multiple special conditions, bed and banks authorizations, diversion rates, diversion points and priority dates apply; and

WHEREAS, pursuant to the *Option for Raw Water Supply Contract* with the Trinity River Authority (TRA), the District seeks to amend Certificate of Adjudication No. 08-2410 to authorize the conveyance of 56,050 acre-feet of contract water per year for municipal and industrial purposes within the District's service area in the Trinity River Basin. The contract water will be diverted from the Trinity River and conveyed using the District's existing authorization for use of off-channel wetlands and the bed and banks of the unnamed tributary of Lake Lavon; and

WHEREAS, the Texas Commission on Environmental Quality finds that jurisdiction over the application is established; and

WHEREAS, the District has provided and the Executive Director has approved the *North Texas Municipal Water District Reservoir Accounting Plan for Lake Lavon*; and

WHEREAS, no requests for a contested case hearing were received for this application; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and rules of the Texas Commission on Environmental Quality in issuing this amendment;

NOW, THEREFORE, this amendment to Certificate of Adjudication No. 08-2410 designated Certificate of Adjudication No. 08-2410I, is issued to North Texas Municipal Water District, subject to the following terms and conditions:

1. USE

In addition to the previous authorizations, Owner is also authorized to use the bed and banks of an unnamed tributary of Lake Lavon and Lake Lavon to convey 56,050 acre-feet of contract water per year, authorized by Certificate of Adjudication No. 08-4248, as amended, for municipal and industrial purposes in the Owner's service area in the Trinity River Basin.

2. SPECIAL CONDITIONS

- A. Owner shall only divert and use contract water under this amendment in accordance with the most recently approved accounting plan (*North Texas Municipal Water District Reservoir Accounting Plan for Lake Lavon*). Owner shall maintain the plan in electronic format and make the data available to the public during normal business hours and to the Executive Director upon request. Any modifications to the accounting plan shall be approved by the Executive Director. Any modification to the accounting plan that changes the terms of this amendment to the certificate must be in the form of an amendment to the certificate. Should Owner fail to maintain the accounting plan or notify the Executive Director of any modifications to the plan, Owner shall immediately cease diversion of the contract water, and either apply to amend the certificate, or voluntarily forfeit this amendment. If Owner fails to amend the accounting plan or forfeit the amendment, the Commission may begin proceedings to cancel the amendment. Owner shall immediately notify the Executive Director

upon modification of the accounting plan and provide copies of the appropriate documents effectuating such changes.

- B. The authorization described in Paragraph 1. USE is subject to the continued maintenance of the *Option for Raw Water Supply Contract*, as such option contract may be succeeded or replaced by a *Raw Water Supply Contract*, and as such contract may be extended or amended from time to time. Should any such contract be amended in such a manner as to change the amount of water or the type or location of use of the water, Owner shall submit an application to amend this certificate to conform to the terms of the amended contract. Upon expiration of any such contract, Owner shall immediately cease use pursuant to Paragraph 1. USE and either apply to amend the certificate with a new contract, or voluntarily forfeit the amendment. Owner shall immediately notify the Executive Director upon amendment or expiration of such contract and provide copies of appropriate documents effectuating such changes.

This amendment is issued subject to all terms, conditions and provisions contained in Certificate of Adjudication No. 08-2410, as amended, except as specifically amended herein.

This amendment is issued subject to all superior and senior water rights in the Trinity River Basin.

Owner agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

This amendment is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.


For the Commission

Date issued: **October 20, 2016**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



AMENDMENT TO A
CERTIFICATE OF ADJUDICATION

THE STATE OF TEXAS
COUNTY OF TRAVIS
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY
OF A TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
DOCUMENT, WHICH IS FILED IN THE PERMANENT RECORDS

AUG 16 2017

OF THE COMMISSION, GIVEN UNDER MY HAND AND THE
SEAL OF OFFICE ON

Bridget C. Bohan
BRIDGET C. BOHAN, CHIEF CLERK
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CERTIFICATE NO. 08-2410J

TYPE § 11.122

Owner: North Texas Municipal
Water District

Address: P.O. Box 2408
Wylie, Texas 75098

Filed: October 4, 2016

Granted: August 10, 2017

Purposes: Municipal and Industrial

Counties: Collin, Grayson, Fannin,
Hunt, Hopkins, Denton,
Dallas, Rockwall, Van
Zandt, Kaufman

Watercourse: East Fork Trinity River,
Tributary of the Trinity
River

Watershed: Trinity River Basin

WHEREAS, Certificate of Adjudication No. 08-2410 authorizes the North Texas Municipal Water District (Owner or NTMWD) to impound 443,800 acre-feet of water in Lake Lavon on the East Fork Trinity River, tributary of the Trinity River, Trinity River Basin, owned by the U.S. Army Corps of Engineers, and to divert and use from Lake Lavon:

- 114,670 acre-feet of water per year for municipal purposes;
- 4,000 acre-feet of water per year for industrial and municipal purposes;
- 77,300 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting the firm yield of Lake Lavon when Lake Ray Hubbard is at or above maximum conservation level (435.5 feet above msl) and spilling, or whenever additional water up to 77,300 acre-feet per year is supplied from Lake Texoma to Lake Lavon pursuant to Water Use Permit No. 5003;
- 44,900 acre-feet of Trinity River Basin water per year for municipal purposes by over-drafting the firm yield of Lake Lavon during times when Lake Ray Hubbard is at or above maximum conservation level and spilling;

- 57,214 acre-feet of water per year from Lake Lavon for municipal purposes consisting of a combination of over-drafting the firm yield of Lake Lavon by a maximum of 44,900 acre-feet of Trinity River Basin water and water supplied from Lake Chapman pursuant to Certificates of Adjudication Nos. 03-4797 and 03-4798;
- 71,882 acre-feet of water per year discharged into Lake Lavon from the NTMWD's Wilson Creek Waste Water Treatment Plant (WWTP);
- 157,393 acre-feet per year, less losses, of the permitted (Texas Pollutant Discharge Elimination System) NTMWD Return Flows from sixteen (16) identified WWTPs owned or operated by the NTMWD or the NTMWD's customers;

WHEREAS, Owner is also authorized to impound not to exceed 4,497 acre-feet of water in off-channel constructed wetlands in Kaufman County. Owner is further authorized an exempt interbasin transfer from the Trinity River Basin to those portions of Collin, Fannin, Hopkins, Hunt, Grayson, Kaufman, Rockwall, and Van Zandt Counties in the Red, Sabine, and Sulphur River Basins. Multiple special conditions, bed and banks authorizations, diversion rates, diversion points and priority dates apply; and

WHEREAS, pursuant to the *Option for Raw Water Supply Contract* with the Trinity River Authority, Owner is also authorized to use the bed and banks of an unnamed tributary of Lake Lavon and Lake Lavon to convey 56,050 acre-feet of contract water per year, authorized by Certificate of Adjudication No. 08-4248 for municipal and industrial purposes in the Owner's service area in the Trinity River Basin; and

WHEREAS, Owner seeks to amend Certificate of Adjudication No. 08-2410 to modify the currently authorized limits on over-drafting the firm yield of Lake Lavon by diverting the currently authorized 77,300 acre-feet of water per year for municipal purposes and 44,900 acre-feet per year for municipal purposes when Lake Lavon is at or above elevation 492 feet msl; and

WHEREAS, the Texas Commission on Environmental Quality finds that jurisdiction over the application is established; and

WHEREAS, NTMWD has provided, and the Executive Director has approved the *North Texas Municipal Water District Reservoir Accounting Plan for Lake Lavon*; and

WHEREAS, The Executive Director recommends that in lieu of including the revised storage limitations on over-drafting the firm yield of Lake Lavon for the authorized 77,300 acre-feet of water per year for municipal purposes and 44,900 acre-feet per year for municipal purposes in the USE paragraph, the new storage limitations based on storage in Lake Lavon should be included as special conditions; and

WHEREAS, the Executive Director also recommends that NTMWD conduct its over-drafting operations in accordance with its approved accounting plan; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and rules of the Texas Commission on Environmental Quality in issuing this amendment;

NOW, THEREFORE, this amendment to Certificate of Adjudication No. 08-2410, designated Certificate of Adjudication No. 08-2410J, is issued to North Texas Municipal Water District, subject to the following terms and conditions:

1. SPECIAL CONDITIONS

- A. Owner's authorization to overdraft the firm yield of Lake Lavon by 77,300 acre-feet of water per year for municipal purposes as authorized in Certificate of Adjudication No. 08-2410A is limited to times when Lake Lavon is at or above maximum conservation level (492 feet msl) or whenever additional water up to 77,300 acre-feet per year is supplied from Lake Texoma to Lake Lavon pursuant to Water Use Permit No. 5003.
- B. Owner's authorization to overdraft the firm yield of Lake Lavon by 44,900 acre-feet of water per year for municipal purposes as authorized in Certificate of Adjudication No. 08-2410E is limited to times when Lake Lavon is at or above maximum conservation level (492 feet msl) and the flow in the East Fork Trinity River, as measured at United States Geological Survey Gage 08061750 on the East Fork Trinity River at Forney, Texas is greater than 43 cubic feet per second.
- C. Owner shall conduct its over-drafting operations in accordance with the most recently approved accounting plan (*North Texas Municipal Water District Reservoir Accounting Plan for Lake Lavon*). Owner shall maintain the plan in electronic format and make the data available to the public during normal business hours and to the Executive Director upon request. Any modifications to the accounting plan shall be approved by the Executive Director. Any modification to the accounting plan that changes the terms of this amendment ~~must be in the form of an amendment to the certificate.~~ Should Owner fail to maintain the accounting plan or notify the Executive Director of any modifications to the plan, Owner shall immediately cease over-drafting operations under this amendment and either apply to amend the certificate, or voluntarily forfeit this amendment. If Owner fails to amend the accounting plan or forfeit the amendment, the Commission may begin proceedings to cancel the amendment. Owner shall immediately notify the Executive Director upon modification of the accounting plan and provide copies of the appropriate documents effectuating such changes.

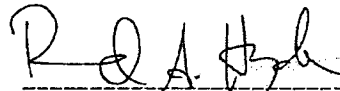
This amendment is issued subject to all terms, conditions and provisions contained in Certificate of Adjudication No. 08-2410, as amended, except as specifically amended herein.

This amendment is issued subject to all superior and senior water rights in the Trinity River Basin.

Owner agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

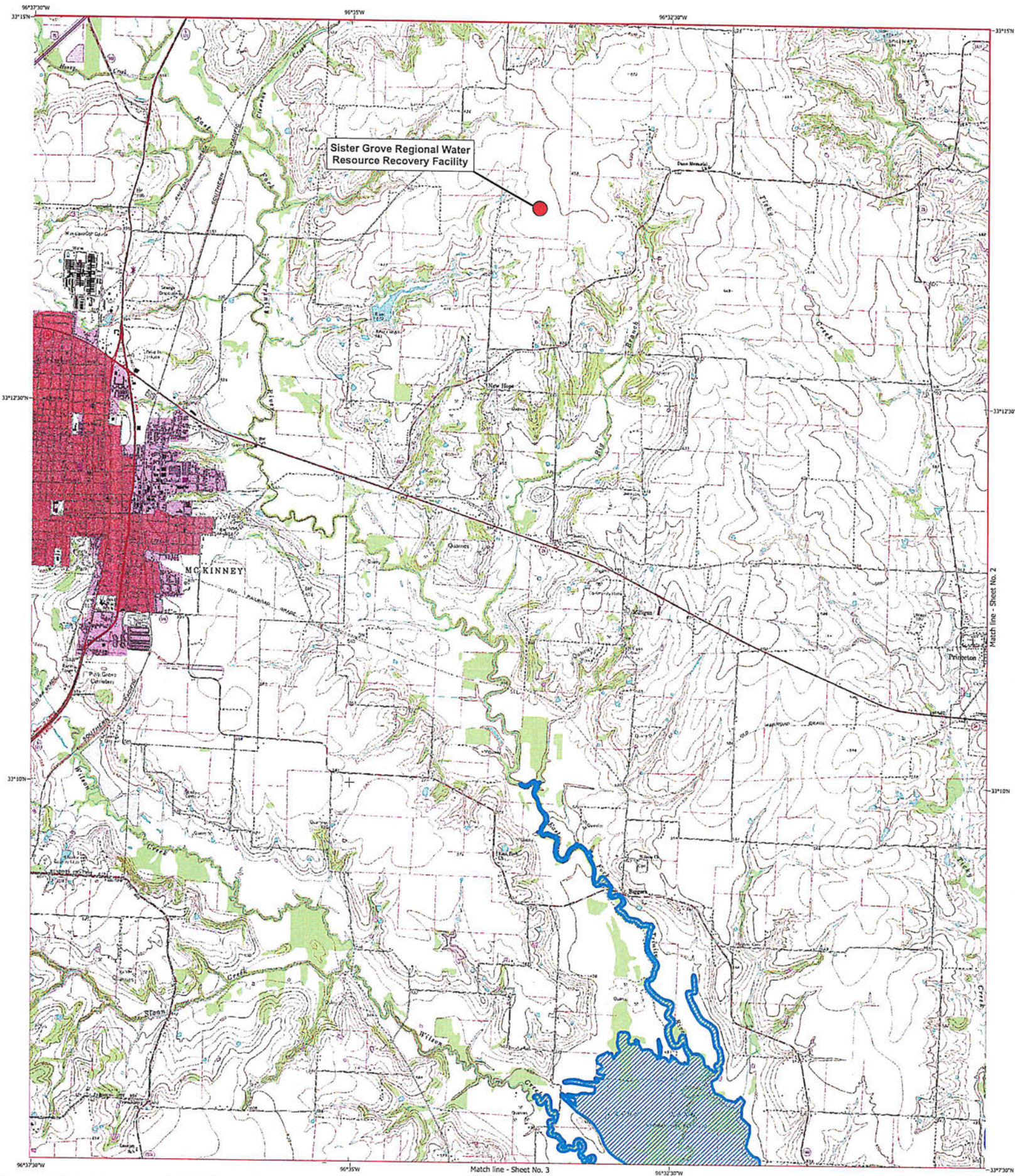
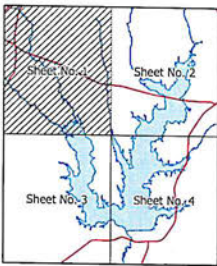
All other matters requested in the application which are not specifically granted by this amendment are denied.

This amendment is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.


For the Commission

Date issued: **August 10, 2017**

8



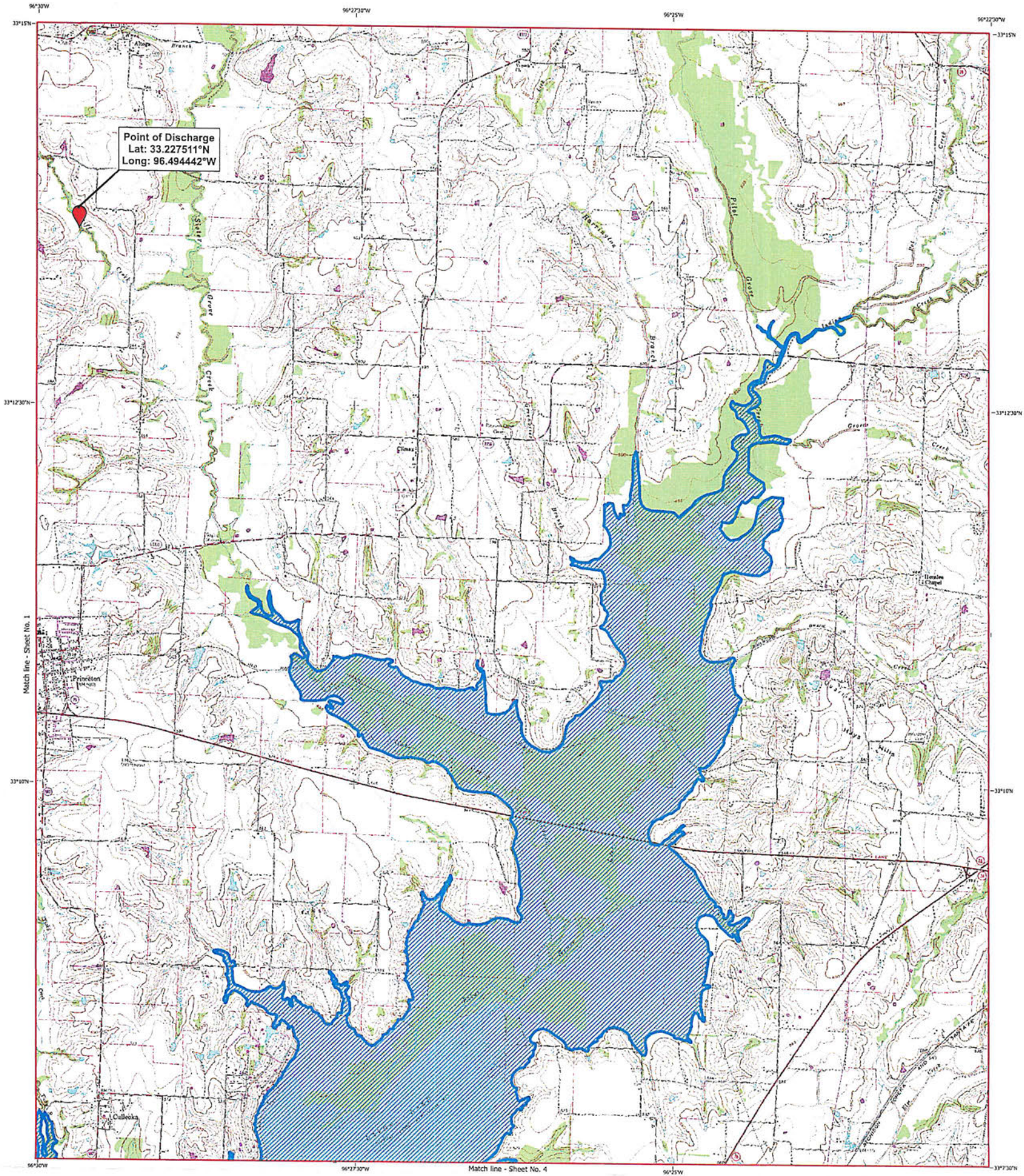
	Sister Grove WRRF
	Lavon Lake (Elevation 492 feet)
	Match lines with adjacent sheets






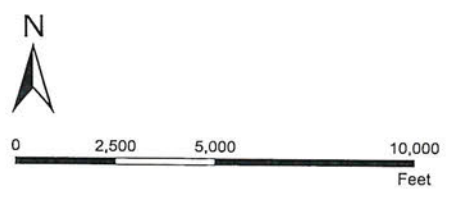
North Texas Municipal Water District has the right to divert from anywhere on the perimeter of Lake Lavon.

MAP BASED ON 7.5 MINUTE USGS QUADRANGLE MAP: MCKINNEY EAST, TEXAS

NORTH TEXAS MUNICIPAL WATER DISTRICT 505 E. BROWN ST. WYLIE, TEXAS 75098		
AMENDMENT TO A WATER RIGHT		
SISTER GROVE WATER REUSE PERMIT APPLICATION		
DESIGN: DRAWN: WEC CHECKED:	FREESE AND NICHOLS, INC. CONSULTING ENGINEERS FORT WORTH, TEXAS	DATE: AUGUST 2021 SHEET 1 OF 4



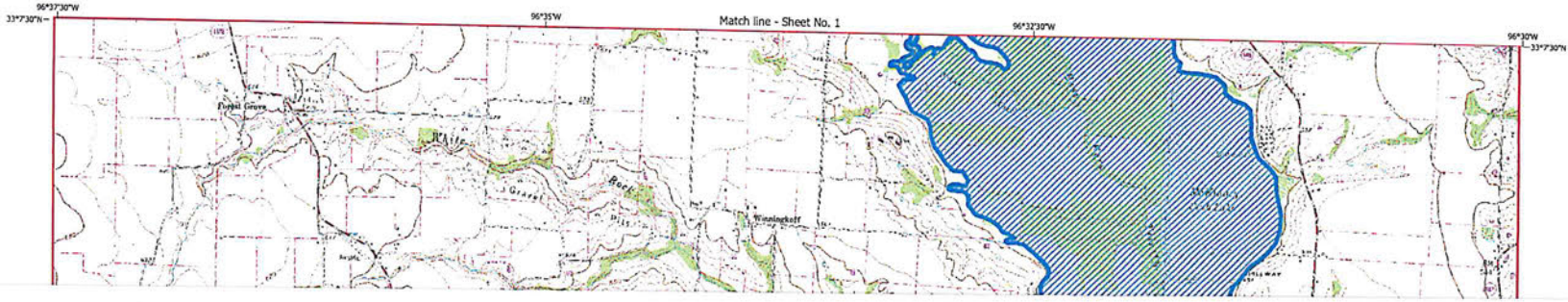
 Point of Discharge
 Lavon Lake (Elevation 492 feet)
 Match lines with adjacent sheets





North Texas Municipal Water District has the right to divert from anywhere on the perimeter of Lake Lavon.

MAP BASED ON 7.5 MINUTE USGS QUADRANGLE MAP: CULLEOKA, TEXAS

NORTH TEXAS MUNICIPAL WATER DISTRICT 505 E. BROWN ST. WYLIE, TEXAS 75098		
AMENDMENT TO A WATER RIGHT		
SISTER GROVE WATER REUSE PERMIT APPLICATION		
DESIGN: DRAWN: WEC CHECKED:	FREESSE AND NICHOLS, INC. CONSULTING ENGINEERS FORT WORTH, TEXAS	DATE: AUGUST 2021 SHEET 2 OF 4



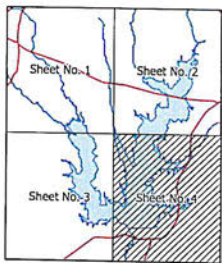
	Lavon Lake (Elevation 492 feet)
	Match lines with adjacent sheets





North Texas Municipal Water District has the right to divert from anywhere on the perimeter of Lake Lavon.

MAP BASED ON 7.5 MINUTE USGS QUADRANGLE MAP: WYLIE, TEXAS

NORTH TEXAS MUNICIPAL WATER DISTRICT 505 E. BROWN ST. WYLIE, TEXAS 75098		
AMENDMENT TO A WATER RIGHT		
SISTER GROVE WATER REUSE PERMIT APPLICATION		
DESIGN: DRAWN: WEC CHECKED:	FRESE AND NICHOLS, INC. CONSULTING ENGINEERS FORT WORTH, TEXAS	DATE: AUGUST 2021 SHEET 3 OF 4



	Lavon Lake (Elevation 492 feet)
	Match lines with adjacent sheets



North Texas Municipal Water District has the right to divert from anywhere on the perimeter of Lake Lavon.

MAP BASED ON 7.5 MINUTE USGS QUADRANGLE MAP: LAVON, TEXAS

NORTH TEXAS MUNICIPAL WATER DISTRICT 505 E. BROWN ST. WYLIE, TEXAS 75098		
AMENDMENT TO A WATER RIGHT		
SISTER GROVE WATER REUSE PERMIT APPLICATION		
DESIGN: DRAWN: WEC CHECKED:	FRESE AND NICHOLS, INC. CONSULTING ENGINEERS FORT WORTH, TEXAS	DATE: AUGUST 2021 SHEET 4 OF 4



NORTH TEXAS MUNICIPAL WATER DISTRICT

RESOLUTION NO. 21-55

A RESOLUTION AUTHORIZING THE FILING OF A WATER USE PERMIT APPLICATION

WHEREAS, the North Texas Municipal Water District (the "District") provides wholesale treated water to member cities and customers in its service area covering all or parts of Collin, Dallas, Denton, Fannin, Grayson, Hopkins, Hunt, Kaufman, Rains, Rockwall and Van Zandt Counties in North Central Texas; and

WHEREAS, the District is also a regional wholesale wastewater provider that owns and operates a regional wastewater system throughout portions of Collin, Dallas, Kaufman, and Rockwall Counties;

WHEREAS, the District has a statutory obligation to plan and secure adequate water supplies for existing and future member cities and customers; and

WHEREAS, due to sustained growth by the existing and future member cities and customers of the District the development of additional water supplies is necessary; and

WHEREAS, in order to address the additional wastewater demands the District pursued development of Sister Grove Regional Water Resource Recovery Facility ("Sister Grove RWRRF"); and

WHEREAS, the Sister Grove RWRRF is permitted to discharge up to 64 million gallons per day of wastewater return flows ("Sister Grove Return Flows"); and

WHEREAS, reuse of wastewater return flows is a recommended water management strategy for the District in the 2021 Region C Water Plan; and

WHEREAS, the District seeks to reuse Sister Grove Return Flows to address the existing and future water demands of its current and future member cities and customers; and

WHEREAS, the District proposes to file an amendment application with the Texas Commission on Environmental Quality (the "Commission") to seek the right to convey Sister Grove Return Flows for subsequent diversion and use from Lavon Lake (the "Application"); and

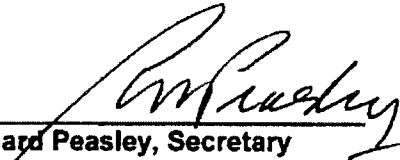
WHEREAS, 30 Texas Administrative Code § 295.14 requires that an application for a water right be executed by a duly authorized official of the District.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE NORTH TEXAS MUNICIPAL WATER DISTRICT, THAT:

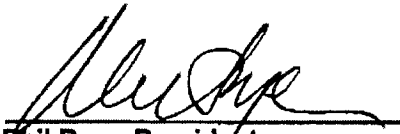
1. The Executive Director of the District is hereby authorized on behalf of the Board of Directors to execute the Application and any other documents as are necessary to secure authorization for the conveyance, diversion and use of Sister Grove Return Flows from Lavon Lake to afford additional water supplies for the District's use in addressing the needs of its current and future member cities and customers; and

2. The Executive Director of the District is hereby authorized and directed on behalf of the Board of Directors to file the Application and to appear and arrange for the appearances of persons representing the District at the hearings and other proceedings on the Application before the Commission, and otherwise direct the prosecution, settlement, and compromise of the Application on behalf of the Board of Directors, as appropriate.

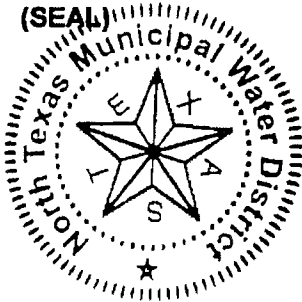
THIS RESOLUTION ADOPTED BY THE NTMWD BOARD OF DIRECTORS IN A REGULAR MEETING ON DECEMBER 16, 2021 IN THE ADMINISTRATIVE OFFICES OF THE DISTRICT, WYLIE, TEXAS.



Richard Peasley, Secretary



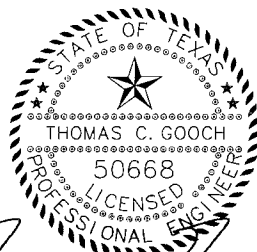
Phil Dyer, President



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2019 NORTH TEXAS MUNICIPAL WATER DISTRICT WATER CONSERVATION PLAN

JANUARY 2019, SUPPLEMENTED JANUARY 2022



Thomas C. Gooch

01/11/2022

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

Prepared by:

FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300

FOREWORD

This 2019 Water Conservation Plan (Plan) was prepared by Freese and Nichols, Inc. for the North Texas Municipal Water District (NTMWD), pursuant to Texas Commission on Environmental Quality (TCEQ) rules. Some material is based on the existing water conservation plans listed in Appendix A.

Questions regarding the 2019 Water Conservation Plan should be addressed to the following:

Jeremy Rice
Freese and Nichols, Inc.
(817) 735-7300
[REDACTED]

Denise Hickey
North Texas Municipal Water District
(972) 442-5405
[REDACTED]

This 2019 Water Conservation Plan is based on the Texas Administrative Code in effect on January 18, 2019 and considers water conservation best management practices from Texas Water Development Board (TWDB) Report 362, *Water Conservation Best Management Practices Guide*. In 2007, the state legislature created the Water Conservation Advisory Council (WCAC) as a council with expertise in water conservation representing various interests. One of the WCAC's charges is to regularly review existing Best Management Practices (BMPs) and add additional new BMPs as appropriate. The draft WCAC BMPs available as of November 30, 2018 have also been considered in the preparation of this Plan.

None of the currently proposed WCAC BMPs will cause this Plan to be obsolete. The most current annual report form should be obtained from TCEQ¹ when preparing the annual report (Appendix F) to submit to the TCEQ. A copy of the annual report should be sent to the TWDB as well as to the TCEQ.

¹Superscripted numbers match references listed in Appendix A.

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- Texas Administrative Code Title 30, Chapter 288, Subchapter A, Section §288.2 – Water Conservation Plans for Municipal Uses by Public Water Suppliers (Page B-5)
- Texas Administrative Code Title 30, Chapter 288, Subchapter A, Section §288.5 – Water Conservation Plans for Wholesale Water Suppliers (Page B-9)

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1. INTRODUCTION AND OBJECTIVES

The North Texas Municipal Water District (“NTMWD” or the “District”) is a regional wholesale supplier of water for 13 Member Cities and 60 other water suppliers in Collin, Dallas, Denton, Fannin, Grayson, Hopkins, Hunt, Kaufman, Rains, Rockwall and Van Zandt Counties. NTMWD currently provides water for over 1.7 million people throughout North Central Texas. The District has developed this updated Water Conservation Plan as a replacement for previous District water conservation plans dated August 2004, April 2006, March 2008, and April 2014.

Water supply has always been a key issue in the development of Texas. In recent years, the increasing population and economic development of North Central Texas have led to growing demands for water supplies. At the same time, local and less expensive sources of water supply are largely already developed. Additional supplies to meet future demands will be expensive and difficult to secure. Severe drought conditions in recent years have highlighted the importance of efficient use of our existing supplies to make them last as long as possible. Extending current supplies will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

Recognizing the need for efficient use of existing water supplies, the TCEQ has developed guidelines and requirements governing the development of water conservation and drought contingency plans for wholesale water suppliers². The TCEQ guidelines and requirements for wholesale suppliers are included in Appendix B. NTMWD has developed this water conservation plan in accordance with TCEQ guidelines and requirements.

NTMWD also recognizes that in order to achieve its goals of maximizing water conservation and efficiency, it is necessary to develop and implement a water conservation plan that goes beyond basic compliance with TCEQ guidelines and requirements. This Plan reflects NTMWD’s commitment to enhanced water conservation and efficiency strategies – particularly those best management practices established by the Water Conservation Implementation Task Force³ and the WCAC, which were incorporated, where practicable, in the development of these water conservation measures. The Water Conservation Implementation Task Force developed the TWDB Report 362 *Water Conservation Best Management Practices Guide* in partial fulfillment of the Texas Legislature’s charge to the TCEQ and TWDB to develop recommendations for optimum levels of water use efficiency and conservation in the State. In 2007, the state legislature created the WCAC which was given several charges, one of which is monitoring new



technologies for possible inclusion in the best management practice guide. The WCAC regularly reviews, updates, and creates new best management practices through a collaborative process. As best management practices are developed, they are published online at <http://www.savetexaswater.org/bmp/index.asp>. NTMWD has participated in the WCAC since its inception and for many years has had a member or alternate on the council.

NTMWD has, where practicable, implemented those best management practices that are appropriate for a wholesale water supplier of its type, reflecting the intent of the best management practices to provide flexibility to wholesalers in implementing those practices that are appropriate for their individual circumstances.

As a wholesale supplier of water to customers, NTMWD does not have any direct control over the end user of water, nor does it have the authority to create ordinances or enforce the measures laid out in this Plan for end users. In order to work within the confines of its role as a wholesaler, NTMWD has developed Model Water Conservation Plans which can be used by Member Cities and Customers, who then have the ability to enforce those measures through ordinances or regulations on end users. (See Appendix C.)

NTMWD has also made significant financial and other investments to promote water conservation and efficiency, including public education and awareness programs and other initiatives targeted toward reducing water use. Specifically, the District maintains active participation in the WCAC, the Alliance for Water Efficiency (on behalf of itself and its Member Cities), EPA Water Sense, and the Water Efficiency Network of North Texas. The District also developed and financed the *Water IQ* Program, a highly successful public awareness campaign that is has been used statewide to promote water conservation.

~~NTMWD understands that achieving the highest practicable levels of water conservation and efficiency~~

requires more than meeting the TCEQ requirement to update its plan every five years. To that end, the District continually reassesses ways to improve on its water conservation and efficiency. The District is committed to evaluating and implementing new BMPs, as appropriate, whenever new opportunities to improve upon water conservation and efficiency are identified. The efforts by the District also include receiving input from water conservation advocacy groups, like the Sierra Club and the National Wildlife Federation, to further enhance water conservation and efficiency.

The objectives of this Water Conservation Plan are as follows:

- To reduce water consumption from the levels that would prevail without conservation efforts.



- To reduce the loss and waste of water.
- To improve efficiency in the use of water.
- To encourage efficient outdoor water use.
- To maximize the level of recycling and reuse in the water supply.
- To extend the life of current water supplies by reducing the rate of growth in demand.

2. DEFINITIONS AND ABBREVIATIONS

1. **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.
2. **COOL SEASON GRASSES** are varieties of turf grass that grow best in cool climates primarily in northern and central regions of the U.S. Cool season grasses include perennial and annual rye grass, Kentucky blue grass and fescues.
3. **CUSTOMERS** include those entities to whom NTMWD provides wholesale water that are not Member Cities of NTMWD.
4. **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.
5. **EVAPOTRANSPIRATION** (abbreviated as 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.
6. **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.
7. **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.
8. **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.
9. **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.



10. 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.
11. 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.
12. REGULATED IRRIGATION PROPERTY means any (customer class, i.e. commercial) property that uses 1 million gallons of water or more for irrigation purposes in a single calendar year or is greater than 1 acre in size.
13. RESIDENTIAL GALLONS PER CAPITA PER DAY (Residential GPCD) means 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.
14. NTMWD RETAIL CUSTOMERS include those customers to whom NTMWD provides retail water.
15. TOTAL GALLONS PER CAPITA PER DAY (Total GPCD) means 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 TAC 288.1 shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.
16. WATER CONSERVATION PLAN means this Water Conservation Plan approved and adopted by the NTMWD Board of Directors on January 24, 2019.

Abbreviations

Abbreviation	Full Nomenclature
BMP	Best Management Practices
NTMWD or District	North Texas Municipal Water District
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
WCAC	Water Conservation Advisory Council
WCP or Plan	Water Conservation Plan

3. REGULATORY BASIS FOR WATER CONSERVATION PLAN

3.1 TCEQ Rules Governing Wholesale Water Conservation Plans

The TCEQ rules governing development of water conservation plans for wholesale water suppliers are contained in Title 30, Chapter 288, Subchapter A, Rule 288.5 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a water conservation plan is defined as “[a] strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document.”² The water conservation plan elements required by the TCEQ water conservation rules for wholesale suppliers that are addressed in this Water Conservation Plan are listed below. In addition to being a wholesale provider under TCEQ rules, NTMWD also acts as a retail water provider, and the TCEQ water conservation rules for retail water providers are addressed in Section 9 of this Plan.

Minimum Conservation Plan Requirements for Wholesale Water Suppliers

NTMWD is a wholesale water supplier to Member Cities and Customers in North Central Texas (NTMWD’s Customers include cities, water supply corporations, and utility districts). The minimum requirements in the Texas Administrative Code for water conservation plans for wholesale water suppliers are covered in this Plan as follows:

-
- 288.5(1)(A) – Description of Service Area – Section 4 and Appendix D
 - 288.5(1)(B) – Specific, Quantified Goals – Section 5
 - 288.5(1)(C) – Measure and Account for Water Diverted – Section 6.1.1
 - 288.5(1)(D) – Monitoring and Record Management Program – Section 6.1.2
 - 288.5(1)(E) – Program of Metering and Leak Detection and Repair – Section 6.1.3
 - 288.5(1)(F) – Requirement for Water Conservation Plans by Wholesale Customers – Section 6.2
 - 288.5(1)(G) – Reservoir System Operation Plan – Section 6.3
 - 288.5(1)(H) – Means of Implementation and Enforcement – Section 6.4

- 288.5(1)(l) – Documentation of Coordination with Regional Water Planning Group – Section 6.5
- 288.5(3) – Review and Update of Plan – Section 8

Texas Administrative Code 288.7(a) imposes additional requirements for Water Conservation Plans submitted with a water right application for new or additional state water. NTMWD is not currently seeking a water right application for new or additional state water. If the District should seek a new water right, this 2019 Water Conservation Plan would need to be amended through the addition of an appendix addressing these requirements.

Additional Conservation Strategies

The Texas Administrative Code lists additional water conservation strategies that can be adopted by a wholesale supplier but are not required. Additional strategies adopted by NTMWD include the following:

- 288.5(2)(C) – Program for Reuse and/or Recycling – Section 7.1
- 288.5(2)(D) – Other Measures
 - Section 7.2 (public education),
 - Section 7.5 (model water conservation plans),
 - Sections 7.5.1 and 7.5.2 (landscape water management measures),
 - Section 7.11 (zero discharge from water treatment plants); and
 - Section 7.12 (in-house conservation measures).

3.2 Guidance and Methodology for Reporting on Water Conservation and Water Use

In addition to TCEQ rules regarding water conservation, this Plan also incorporates elements of the Guidance and Methodology for Reporting on Water Conservation and Water Use developed by TWDB and TCEQ, in consultation with the WCAC (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. While the Guidance is targeted toward retail water providers, the Guidance provides helpful resources for wholesalers such as NTMWD to determine water use and water loss for purposes of its Water Conservation Plan. NTMWD has

also incorporated features of the Guidance into the Model Water Conservation and Model Water Resource and Emergency Management Plans that it develops for use by its Member Cities and Customers. Copies of the Model Water Conservation Plans and Model Water Resource and Emergency Management Plans are included herewith as Appendix C.

3.3 Texas Water Development Board Water Conservation Planning Tool

The TWDB is currently developing a water conservation planning tool to be utilized by utilities to evaluate various best management practices. The tool will come pre-loaded with data submitted by utilities as part of the water use surveys and will have a library of best management practices with water savings and associated cost. The tool was released on December 14, 2018 and was not available in time for the development of this Water Conservation Plan, NTMWD intends to utilize the tool for future planning. In addition, NTMWD encourages each of its Member Cities and Customers to utilize the tool, to the extent practical, for water conservation planning. The TWDB is offering a training workshop on the tool in December 2018, and the tool should be available to for use by utilities after the training. The District is also hosting a training in January 2019 for its Member Cities and Customers.

4. DESCRIPTION OF THE NTMWD SERVICE AREA

NTMWD provides treated potable water to 13 Member Cities and 60 other Customers (some direct and some indirect) in North Central Texas. Figure 4-1 shows a schematic diagram of NTMWD’s system and its Member Cities and Customers. Figure 4-2** shows the NTMWD service area, which covers over 2,200 square miles in Collin, Dallas, Denton, Fannin, Grayson, Hopkins, Hunt, Kaufman, Rains, Rockwall and Van Zandt Counties.

NTMWD obtains its raw water supplies from Lavon Lake, Lake Texoma, Jim Chapman Lake, Lake Tawakoni, the Upper Sabine Basin, Lake Bonham, reuse of treated wastewater effluent from its Wilson Creek Regional Wastewater Treatment Plant, and reuse of treated wastewater through the East Fork Water Reuse Project. Table 4-1 shows the permitted and contracted supplies as well as the 2018 currently available supply.

Table 4-1 NTMWD Permitted and Current Supply Amounts (ac-ft/yr)

Source	Permitted or Contracted	2018 Current Supply	Notes
Lavon Lake	118,670	94,500	Estimated firm yield with minimum pool of 467
Lake Texoma	197,000	78,800	Assume 4:1 blend with other sources
Jim Chapman Lake	57,214	44,700	NTMWD's share of firm yield based on minimum elevation of 415.5
Lake Bonham	5,340	1,900	Limited to Bonham demand
Reuse - Wilson Creek Reg. WWTP*	71,882	46,600	Based on projected return flows
East Fork Water Reuse Project	157,393	41,400	Yield based on analysis of available diversions during the critical period for Lake Lavon with projected return flows
Main Stem Pump Station	56,050	0	Contract with TRA; not online until 2019
Upper Sabine Basin (Lake Tawakoni and Lake Fork)	11,100	51,000	11,100 is permanent, additional 39,900 is temporary and contract expires in 2025
Bois d’Arc Lake	175,000	0	Texas Water Right Permit; Supply is not online until 2022
Total	849,649	358,900	

** The NTMWD service area shown in Figure 4.2 includes the entire service area of all of the entities to which NTMWD provides water. Actual NTMWD facilities do not extend into Grayson, Hopkins, Hunt, Rains, and Van Zandt Counties. Some of NTMWD’s customers have other sources of water supply in addition to NTMWD.



The permitted supply available to NTMWD as of 2018 is 849,649 acre-feet per year. The reliable supply from existing sources is less than the permitted supply because of reservoir yields, current return flow levels, and water quality concerns. The current reliable supply is 358,900 acre-feet per year, and NTMWD is seeking additional supplies to meet its projected demands. NTMWD operates four water treatment plants in Wylie, Texas, near Lavon Lake, with a total treatment capacity of 770 MGD, along with the 30 MGD Tawakoni water treatment plant northeast of Terrell. The fourth Wylie Water Treatment Plant is currently undergoing a 70 MGD expansion. Upon completion of construction, the total treatment capacity at Wylie will be 840 MGD. NTMWD also operates the 6.6 MGD Bonham water treatment plant.

Appendix D to this Water Conservation Plan is a water utility profile for NTMWD, based on the format recommended by the TCEQ. Table 4-2 summarizes key facts from the Water Utility Profile.



Figure 4-1 North Texas Municipal Water District System Schematic

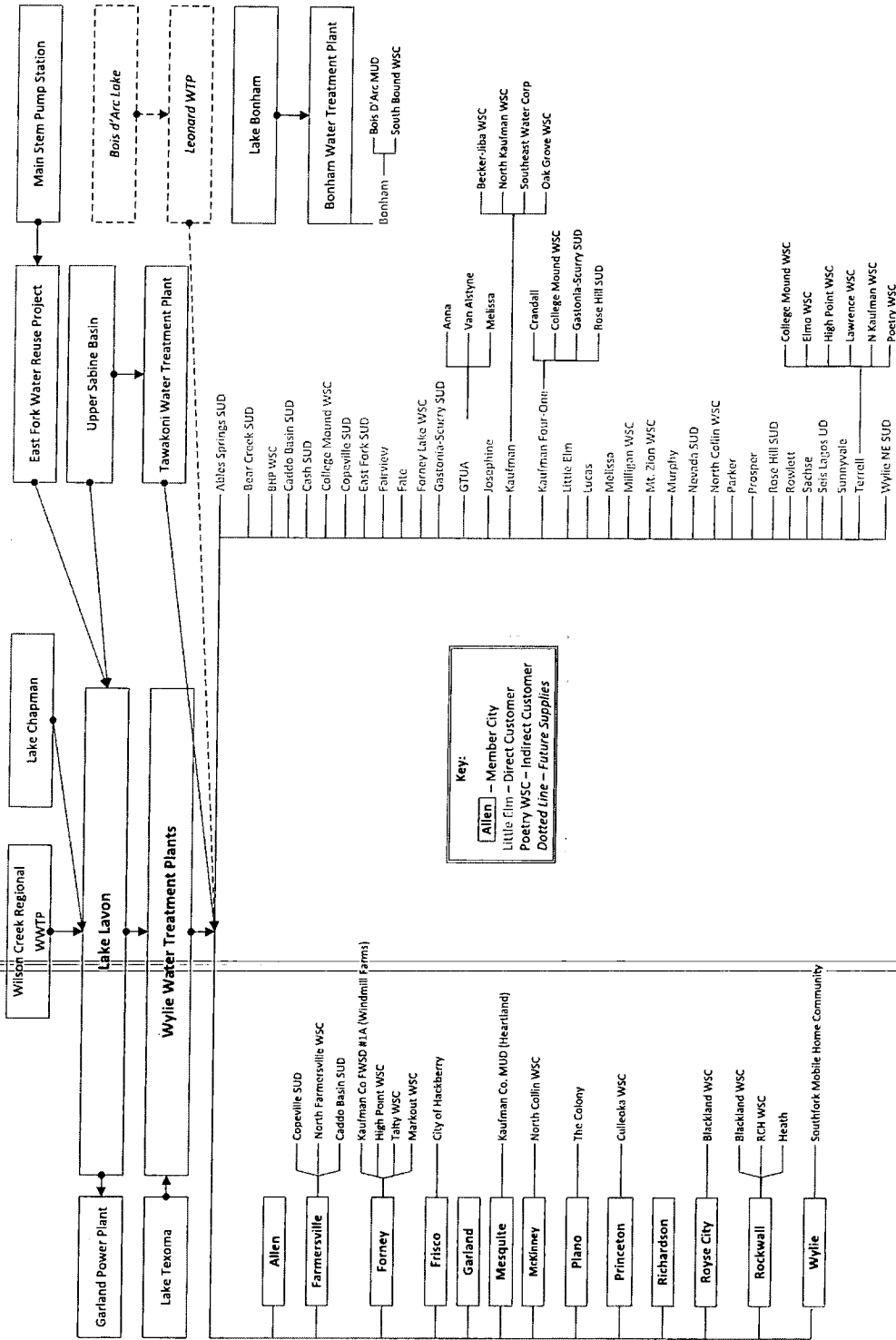


Figure 4-2 North Texas Municipal Water District Current Service Area Map

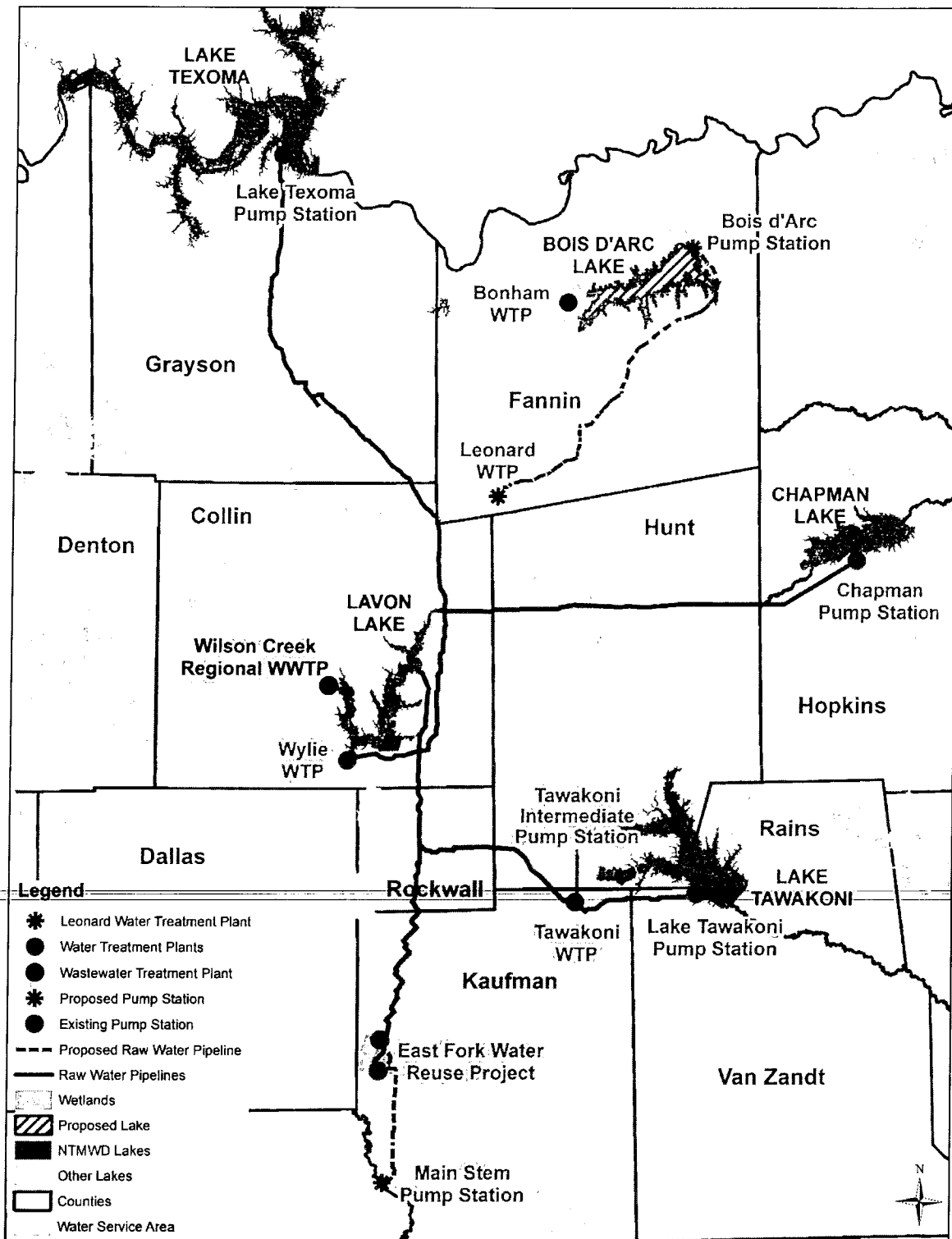




Table 4-2 Summary of Water Utility Profile for North Texas Municipal Water District

Water Service Area = 2,200 square miles

Miles of Raw and Potable Water Transmission Pipeline = 576 miles

Population:

Current Population Served = 1.7 million in 2017 (estimated)
 Projected 2070 Population = 4.12 million (current & projected Member Cities & Customers)

Connections:

Current Retail Connections = 29 in 2018

Information on Water Sales for the Last Five Years:

Year	Total Municipal Raw Water Diverted (Million Gallons)	Estimated Population	Raw Water Total GPCD (GPCD)	Raw Water Total GPCD with Credit for Indirect Reuse (GPCD)	Ratio of Peak Day to Average Day
2013	295,504	1,534,084	172*	133*	1.84
2014	265,108	1,572,330	151*	118*	1.64
2015	300,497	1,602,714	167*	130*	2.05
2016	307,040	1,667,020	165	135	1.87
2017	313,897	1,699,173	165	129	1.59

*Years with drought restrictions.

Water Supply Sources (as of 2018) = Lavon Lake, Lake Texoma, Jim Chapman Lake, Lake Tawakoni, Lake Bonham, Reuse from Wilson Creek Regional Wastewater Treatment Plant, East Fork Water Reuse Project, and Upper Sabine Raw Water Supply.

Water Supply Sources in development (estimated completion) = Main Stem Pump Station (2019) and Bois d'Arc Lake (2022).

Treatment and Distribution System:

Treatment Plant Capacity = 806.6 MGD in August 2018

Ground storage = 92.9 million gallons (50.9 MG at Plants, 42 MG remote)

Current Wastewater Flow = 49,419 million gallons in 2017

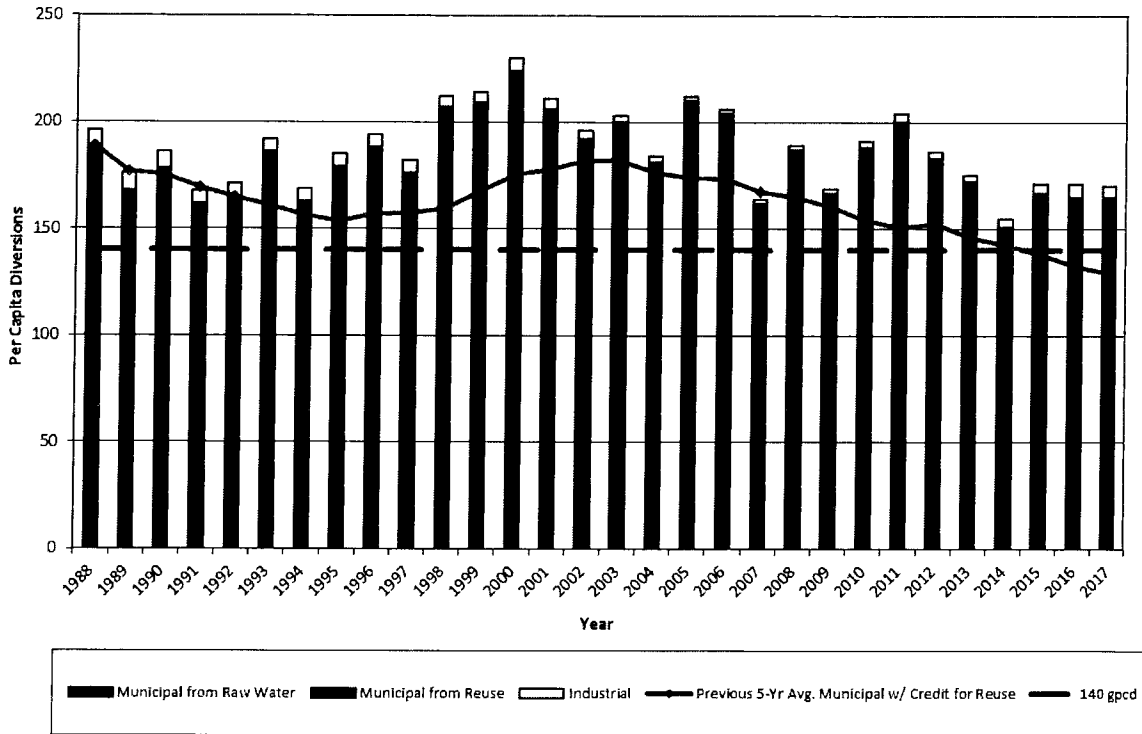
5. SPECIFICATION OF WATER CONSERVATION GOALS

As a wholesale water supplier, NTMWD does not control the water use of its Member Cities and Customers and does not have a direct relationship with the retail customers who are the ultimate consumers of the water. The Total GPCD for NTMWD's system can be affected by changes in per capita use by its Member Cities and Customers and can also be affected by how much water NTMWD is asked to supply to high per capita use customers or low per capita use customers. These factors are not controlled by NTMWD. In order to gain a more accurate understanding of water use within its service area and assist Member Cities and Customers in conservation efforts, NTMWD, where practicable, works with its Member Cities and Customers to utilize the Guidance and Methodology for Reporting on Water Conservation and Water Use. This document was developed by TWDB and TCEQ, in consultation with the WCAC, and was used by NTMWD for sector-based water use reporting. NTMWD also affords its Member Cities access to the Alliance for Water Efficiency's Tracking Tools at the District's expense, which enable the Member Cities to more adequately track water use by sector.

Figure 5-1 shows the historical total GPCD, with credit for indirect reuse, for the NTMWD from 1988-2017. The figure shows the amount of per capita from municipal use, industrial use and from municipal reuse. As is the case with most suppliers, there is great variability in per capita use due to weather and other factors. A 5-year average total GPCD with credit for indirect reuse is plotted to show long-term trends. Since the early 2000s, NTMWD has experienced a steady decline in their 5-year average total GPCD. This data currently reflects the impacts of drought restrictions in 2006-2007 and 2011-2015 which led to lower demands in those years. Currently, the 5-year average for total GPCD, with credit for indirect reuse, is approximately 129 GPCD, which is below the State goal for water use outlined in the Water Conservation Implementation Task Force Report 362, as well as the 2016 Region C Water Plan.^{7,††}

^{††} Note that both Water Conservation Implementation Task Force Report 362 and the 2016 Region C Water Plan identify a goal of 140 GPCD incorporating a credit for both direct and indirect reuse. NTMWD has mirrored that approach in its calculation of Total GPCD with a credit for indirect reuse.

Figure 5-1 North Texas Municipal Water District Total GPCD Analysis



NTMWD has control over the operation of its water supply, treatment, and delivery system and takes direct action to keep that system efficient. In areas under its direct control, NTMWD adopts the following goals for water conservation and efficiency:

- Keep the level of nonrevenue water in the system below 5 percent in 2018 and subsequent years, as discussed in Section 6.1.
- Maintain universal metering of customers, meter calibration, and meter replacement and repair, as discussed in Section 6.1.
- Maintain a program of leak detection and repair, as discussed on Section 6.1.
- Continue to utilize wastewater reuse as a major source of water supply, as discussed in Section 7.1. Seek TCEQ authorization for additional reuse to increase the efficiency of the NTMWD water supply system.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education program, as discussed in Section 7.2.
- Continue to recycle wash water from NTMWD water treatment plants, as discussed in Section 7.11.

- Continue to implement other in-house water conservation efforts, as discussed in Section 7.12.

As a wholesale provider, NTMWD will continue to assist its Member Cities and Customers in the development of water conservation programs. NTMWD has developed a Model Water Conservation Plan for NTMWD Member Cities and Customers³ and a Model Water Resource and Emergency Management Plan that its Member Cities and Customers can use to develop their own water conservation and drought contingency plans. As part of the Model Water Conservation Plan, NTMWD requires Member Cities and Customers to provide annual water conservation reports. NTMWD reviews these reports and compiles the information as part of its own annual conservation report, which is used to manage NTMWD's water conservation program. Annual water conservation reports also provide for the reporting of annual sector-based water use information, where practicable.

Table 5-1 shows the projected Total GPCD and Total GPCD with credit for indirect reuse for NTMWD. NTMWD has outlined its 5- and 10-year Total GPCD goals and Total GPCD with a credit for indirect reuse, as the GPCD goals recommended by the Region C Water Planning Group and approved by the TWDB incorporate a credit for indirect reuse. The projected per capita use approved by the TWDB includes the estimated effect of low-flow plumbing fixtures but does not include the effect of new water conservation measures that may be adopted by NTMWD Member Cities and Customers. Table 5-1 also shows NTMWD's targets for reduction in Total GPCD and Total GPCD, with credit for indirect reuse, as a result of implementing this Water Conservation Plan and the plans to be developed by its Member Cities and Customers. The data shown on the table reflect the following:

- The adjusted 5-year moving average of the current Total GPCD and Total GPCD with credit for indirect reuse was used rather than a historical 5-year average based on the fact the District was in drought restrictions from 2013-2015. The adjusted per capita numbers were determined utilizing a demand model removing the impact of drought restrictions on demands in those years.
- The target for the 5-year (2024) Total GPCD for all NTMWD Member Cities and Customers is 164 gallons per capita per day, as shown in Table 5-1 (5-year goal). This represents a reduction of 9 gallons per capita per day.



- The target for the 10-year (2029) Total GPCD for all NTMWD Member Cities and Customers is 157 gallons per capita per day, as shown in Table 5-1 (10-year goal). This represents a reduction of 16 gallons per capita per day.
- The target for the 5-year (2024) Total GPCD with credit for indirect reuse for all NTMWD Member Cities and Customers is 128 gallons per capita per day as shown in Table 5-1 (5-year goal). This represents a reduction of 9 gallons per capita per day.
- The target for the 10-year (2029) Total GPCD with credit for indirect reuse for all NTMWD Member Cities and Customers is 121 gallons per capita per day, as shown in Table 5-1 (10-year goal). This represents a reduction of 16 gallons per capita per day.

The per capita use in recent years includes reductions due to drought measures that have been implemented in the past five years. In addition to these drought measures, NTMWD has continued to increase the percentage of its supply that comes from reuse, as shown in Table 5-1. The goal is for a 5-year average and some years (dry years) will be higher. A series of dry years might lead to an average exceeding the goal.



Table 5-1 5-Year and 10-Year Total GPCD Goals

Description	Current Average (GPCD)	5-Year Goal (2024) (GPCD)	10-Year Goal (2029) (GPCD)
Current 5-Year Average Per Capita Total Use	173		
Current 5-Year Average Per Capita Municipal Use from Reuse	36		
Current 5-Year Average Per Capita Municipal Use with Credit for Reuse	137		
Expected Reduction Due to Low-Flow Plumbing Fixtures		1	3
Projected Reduction Due to Elements in this Plan		8	13
Water Conservation Goals (Based on 5-Year Average)		164	157
Water Conservation Goals (Based on 5-Year Average with credit for reuse)		128	121

6. BASIC WATER CONSERVATION STRATEGIES

6.1 Metering, Water Use Records, Control of Nonrevenue Water, and Leak Detection and Repair

One of the key elements in water conservation is careful tracking of water use and control of losses. 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. To that end, in 2012 the NTMWD Board of Directors authorized an expenditure of \$4.8 million in flow metering improvements, including new meters for several of its water treatment plants. These metering upgrades allow for more accurate metering and ultimately, more careful monitoring of water use and water loss control.

6.1.1 Practices to Measure and Account for the Amount of Water Diverted

NTMWD meters its raw water diversions by meters with accuracy of $\pm 2\%$. These meters are calibrated on an annual basis by NTMWD and are repaired and/or replaced as needed.

6.1.2 Monitoring and Record Management Program for Determining Deliveries, Sales, and Losses

As a wholesale water supplier, NTMWD has instituted a program of careful monitoring and record management to assure that its Member Cities and Customers are charged appropriately for their water use. The program includes the following elements:

- Deliveries to all Member Cities and Customers are metered by meters with accuracy of $\pm 2\%$, which are read monthly by NTMWD personnel. These readings are used to bill Member Cities and wholesale Customers.
- The meters used to measure deliveries to the Member Cities and wholesale Customers are calibrated quarterly and tested, as necessary.
- Potable drinking water leaving NTMWD's water treatment plants is metered by meters with accuracy of $\pm 2\%$.
- Plant potable water discharge meters are calibrated at least quarterly and more frequently if necessary.
- All meter readings are sent to Member Cities and Customers so that they can compare the readings against the operation of their systems.

- NTMWD monitors nonrevenue water in its delivery system. (For NTMWD, nonrevenue water is defined as raw water diverted from Lavon Lake less metered sales to Member Cities and Customers and line flushing use.) Historical records show that NTMWD's nonrevenue water has been as high as 9.0 percent and as low as 5.7 percent of raw water diversions and averaged 7.25 percent between 2013 and 2017.
- NTMWD maintains and manages electronic records of raw water deliveries, sales to Member Cities and Customers, and tracks losses between the raw water system and treated water sales.
- Some NTMWD Member Cities and Customers have leak detection crews that are utilized and available for other Member Cities and Customers.

One of the goals of NTMWD's water conservation program is to maintain nonrevenue water below 5 percent in every year.

6.1.3 Leak Detection and Repair

NTMWD's metering program for raw and potable water is described in Sections 6.1.1 and 6.1.2. NTMWD has an active program to control, detect, and repair leaks:

- All NTMWD water transmission pipelines are reinforced concrete cylinder pipe or steel cylinder pipe with an internal protective liner and an external protective coating. Because of the multiple layers of material, these pipelines have very long service lives and are not subject to frequent development of leaks.
 - Most joints in NTMWD water transmission pipelines are designed with bell and spigot joint construction including a rubber gasket. Some joints are welded.
-
- All NTMWD water transmission pipelines are constructed in legally defined and identified rights-of-way, properly registered with authorities in each county.
 - NTMWD personnel routinely inspect NTMWD facilities and water transmission pipelines for leaks or mechanical problems. Repairs are undertaken as soon as practicable in order to minimize waste.
 - NTMWD operates a program for right-of-way identification for construction projects adjacent to NTMWD facilities and water transmission pipelines in order to minimize leaks caused by pipeline damage during construction.



- NTMWD’s metering program allows comparison of measured flows in the system and metered deliveries to Member Cities and Customers, which can be used to identify leaks.
- NTMWD’s regular monitoring of nonrevenue water (on a monthly basis) provides a further check for problems in the distribution system.
- NTMWD personnel perform regular inspections of its system to detect unauthorized connections.

6.2 Requirement for Water Conservation Plans by Wholesale Customers

NTMWD has developed language for all contracts for the wholesale sale of water by NTMWD entered into, renewed, or extended after the adoption of this Plan that will require the wholesale customer and any wholesale customers of that wholesale customer to develop and implement a water conservation plan meeting the requirements of Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code.

All wholesale contracts with Customers entered into, renewed, or extended after the adoption of this Plan will include the following language:

Customer agrees to adopt, implement, and enforce any and all ordinances and policies related to water conservation and drought management as required by the Texas Water Code, rules of the TCEQ and/or as may be adopted by the Board of Directors of NTMWD. NTMWD’s obligations pursuant to this Contract shall be subject to the Customer preparing and implementing any water conservation plans and drought contingency plans adopted by NTMWD and required or approved by the TCEQ, the Board, or any federal, state, or local regulatory authority with power to require or approve water conservation and drought contingency plans. Upon execution of this Contract, Customer shall submit its water conservation plan or water conservation measures, and drought contingency plan, to NTMWD for review and approval, and Customer agrees to amend its water conservation plan or other water conservation measures, and drought contingency plan as requested by NTMWD in order to comply with the requirements of NTMWD’s water conservation plan and drought contingency plan, program and/or rules. Customer shall also submit any changes or amendments to its water conservation plan or water conservation measures, and drought contingency plan, to NTMWD for review and approval.



NTMWD has adopted a water conservation plan and a drought contingency plan, and may amend both from time to time. If Customer fails to implement NTMWD's and its own drought contingency plan when trigger conditions occur, NTMWD may implement rationing and collect the rate for water withdrawn as provided in Section 8(h) of this Contract, as well as enforce any contractual, statutory, or common law remedies available. The amount of water that is provided pursuant to this Contract when Customer is not in compliance with NTMWD's water conservation plan and drought contingency plan will be reduced to the amount estimated as necessary to satisfy Customer's demand if Customer was operating in compliance with both NTMWD's and Customer's drought contingency plans.

If NTMWD authorizes Customer to resell water from the System pursuant to the conditions included herein, Customer shall require through a contract condition that any successive user(s) of water from the System must implement water conservation measures that comply with the NTMWD's and Customer's water conservation plans, measures, programs, and/or rules.

6.3 Reservoir System Operation Plan

NTMWD currently has a long-term water supply of 849,649 acre-feet per year from the following permitted and contractual sources:

Lavon Lake water right	118,670 acre-feet per year
Lake Texoma†	197,000 acre-feet per year
Jim Chapman Lake	57,214 acre-feet per year
Lake Bonham	5,340 acre-feet per year
Reuse - Wilson Creek Reg. WWTP*	71,882 acre-feet per year
East Fork Water Reuse Project*	157,393 acre-feet per year
Main Stem Pump Station**	56,050 acre-feet per year
Upper Sabine Basin	11,100 acre-feet per year
Bois d'Arc Lake	175,000 acre-feet per year
TOTAL	849,649 acre-feet per year

* Availability from Wilson Creek Regional WWTP and East Fork Water Reuse Project is limited to actual discharges and is currently less than amount authorized.

** Contract with Trinity River Authority

† Availability from Lake Texoma is limited due to issues with zebra mussels and salt levels.

In addition, NTMWD has entered into a short-term interim contract for 40,000 acre-feet per year from the Sabine River Authority (decreasing incrementally over time and expiring in 2025). The current reliable



water supply in 2018 (based on current return flows and supplies available in a drought of record) is about 359,000 acre-feet per year.

Water from Jim Chapman Lake is pumped by pipeline to the Lavon Lake watershed, where it flows into Lavon Lake. A pipeline from Lake Texoma brings water from the lake directly to NTMWD's Water Treatment Plant in Wylie. Treated wastewater effluent from the Wilson Creek Regional Wastewater Treatment Plant is returned to the Lavon Lake watershed. Water from East Fork Water Reuse Project is pumped to Lavon Lake. Water from Lake Tawakoni (Upper Sabine Basin) is pumped to the Lake Tawakoni Water Treatment Plant and also delivered as raw water to Lavon Lake. Water from Lake Bonham is pumped to the NTMWD Bonham Water Treatment Plant. NTMWD has developed a reservoir system operation plan for its various sources of supply to maximize the efficiency of operation within existing water rights. The NTMWD reservoir system operation plan includes pumping from alternative sources before Lavon Lake reaches extremely low elevations to avoid water supply problems that would be caused by low water surface elevations. The plan minimizes pumping into the Lavon Lake during flood conditions. The plan also avoids unnecessary pumping from alternative sources to minimize energy use and avoid causing low elevations in other sources. Overall, 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 keeping energy use for pumping as low as practical, maintaining water quality and avoiding unnecessary impacts on recreational users of the reservoirs and fish and wildlife.

6.4 Water Conservation Plan Implementation and Enforcement

The Executive Director of NTMWD is authorized to implement and enforce the Water Conservation Plan. Appendix F includes the TCEQ-required water conservation implementation report. NTMWD will submit this report to the TCEQ by the required date of May 1 of every year. This report lists the various water conservation strategies that have been implemented, including the date the strategy was implemented. The report also lists the 5-year and 10-year per capita water use goals from the previous water conservation plan, and the amount of water saved. This report will be used to review the effectiveness of NTMWD's water conservation program, and results will be reported to the NTMWD Water Committee of the NTMWD Board and the Board of Directors.

As a wholesale provider of water, NTMWD has no direct enforcement authority over those conservation practices ultimately implemented and enforced by its Member Cities and Customers. However, as discussed herein, NTMWD makes best efforts to ensure implementation and enforcement of its Water



Conservation Plan via outreach, technical assistance, and the contractual requirements discussed in Section 6.2. Further, NTMWD's annual water conservation report provides a means by which NTMWD can measure its success and quantify water savings via conservation initiatives, thereby optimizing implementation of the Plan over time.

6.5 Coordination with Regional Water Planning Groups

NTMWD's service area is located within two regional water planning areas, Region C and the North East Texas Region (Region D). Appendix G includes copies of the letters sent to the Chairs of the Region C and North East Texas Region water planning groups with a copy of this Water Conservation Plan.



7. ENHANCED WATER CONSERVATION STRATEGIES

NTMWD has implemented a number of enhanced water conservation measures which allow the District to serve as a regional leader and resource for water conservation efforts throughout its service area. These enhanced water conservation measures are outlined below.

7.1 Reuse and Recycling of Wastewater

NTMWD's Wilson Creek Regional Wastewater Treatment Plant discharges treated effluent into Wilson Creek upstream from Lavon Lake. NTMWD reused 54,919 acre-feet of treated wastewater from the Wilson Creek WWTP for municipal purposes in 2017. In addition, NTMWD has developed the East Fork Water Reuse Project, which diverted 44,072 acre-feet in 2017. With the addition of the Main Stem Pump Station the District will be able to increase flows through the East Fork Water Reuse Project up to an additional 56,100 acre-feet per year. These three projects represent the largest municipal water supply based on reuse in the State of Texas. When fully developed, the three projects will provide up to 42 percent of the NTMWD's currently permitted water supplies.

The 18 wastewater treatment plants that NTMWD owns and/or operates use treated effluent for all necessary wastewater plant washdowns and for wastewater plant site irrigation. NTMWD also makes treated wastewater from its plants available for direct reuse for landscape irrigation use. In fiscal year 2018, approximately 523 million gallons of NTMWD's treated wastewater were reused for off-site irrigation.

NTMWD has been recognized, both at the state and national level, for its reuse program:

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- North Central Texas Council of Governments CLIDE Award – 2013; in recognition of the East Fork Water Reuse Project
 - ACEC Engineering Excellence Award – 2012; in recognition of the East Fork Water Reuse Project.
 - TCEQ Texas Environmental Excellence Awards – 2011; in recognition of the East Fork Water Reuse Project
 - WEAT Sidney L. Allison Award – 2010; in recognition of the East Fork Water Reuse Project.
 - Water Reuse Association Large Project of the Year - 2008; in recognition of the East Fork Water Reuse Project.



- Texans By Nature – 2018 Conservation Wrangle Award; in recognition of the East Fork Water Reuse Project.

7.2 Public Education Program

As a regional wholesale water supplier, NTMWD has few opportunities to directly interact with end users of water throughout its service area. However, NTMWD's public education program is intended to educate water suppliers and end users in conservation efforts, and to assist and supplement the public education efforts of its Member Cities and Customers to reach end users and effect water savings. NTMWD's public education efforts include the following elements:

- Beginning in 2006 and continuing through 2018, NTMWD has invested \$16.6 million in the development and implementation of the "Water IQ: Know Your Water" campaign, including newspaper ads, radio spots, billboards, a web site, 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 88million impressions.
- "Water4Otter" is a water conservation campaign for kids launched by the North Texas Municipal Water District (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 Texas Water Development Board awarded the NTMWD a conservation grant to develop Water4Otter as a model program that could be used throughout the state. Since the program piloted in November 2014, the live, 45-minute Water4Otter program has reached nearly 19,500 students through 161 performances across North Texas.
- NTMWD has prepared and presented programs to area cities, civic organizations and other groups concerning the need for water conservation and strategies that can be implemented on an individual and corporate level. Presentations have been made to Rotary Clubs, Lions Clubs, Chambers of Commerce, Leadership Training Classes, Boy Scouts, Girl Scouts, mayors, city councils, city staff, etc.
- NTMWD provided funding for the conversion of the Texas Smartscape CD-ROM into an interactive web site. Texas Smartscape is an educational tool designed to assist citizens with



the design and development of landscaping using Texas native and drought tolerant plants. NTMWD promotes the use of the Texas Smartscape web site (www.txsmartscape.com).

- NTMWD provides conservation brochures and information to interested civic groups and schools. Information includes brochures on water-saving measures and xeriscape landscaping.
- NTMWD participates in special events to distribute water conservation information to the public.
- NTMWD participates in the Water Educators Network of North Texas to enhance regional programs and develop water efficiency brochures, videos, Collin County Newcomers outreach, in addition to numerous other activities for regional cooperation and water awareness.
- NTMWD has partnered with Texas A&M AgriLife Extension Service to provide proven, scientific-based best management practices to the region through public events, seminars, and brochures.
- NTMWD has partnered with Dallas Water Utilities and Tarrant Regional Water District to host an annual Water Conservation Symposium, a half-day event where leading water conservation experts present best management practices. In 2018, the 12th annual North Conservation Symposium was held with over 130 attendees. Other regions of the state, including the Central and Gulf Coast regions, have organized similar symposiums modeled after the North Texas example.
- NTMWD is an EPA Water Sense Partner and participates in the EPA Water Sense sponsored "Fix a Leak Week." NTMWD encourages all Member Cities and Customers to become EPA Water Sense Partners.
- NTMWD operates the John Bunker Sands Wetland Center in cooperation with the Rosewood Corporation. NTMWD provides a portion of the funding for the operation and maintenance cost of the Center, as well as the personnel cost. As part of its mission, the Center provides education to the public, area school districts, wildlife and conservation organizations, and research institutions in the areas of water supply, water conservation and reuse.



- NTMWD has been a supporting participant and member of the Texas Water Smart education campaign and participates at Texas Water Smart meetings, conferences, and media events designed to increase public awareness and education on water conservation.
- NTMWD has been recognized at the state and national level for its water conservation program with the following awards:
 - ADDY Award – 2017; in recognition of Water IQ “Journey of Water” Campaign
 - ADDY Award – 2015; in recognition of “Water4Otter” Youth Campaign
 - ADDY Award – 2011; in recognition of Water IQ “Waste Water – Waste Money” Campaign
 - WCAC Blue Legacy Award – 2015; in recognition of the “Water My Yard” program to install weather stations throughout the District’s service area.
 - WCAC Large Supplier Water Conservation and Stewardship Award – 2011; in recognition of outstanding and innovative commitment to conservation of Texas’ water resources.
 - Texas AWWA Watermark Award – 2011; in recognition of the 2010 “Water IQ” media campaign.
 - TCEQ Texas Excellence Environmental Awards – 2011; in recognition of the NTMWD water conservation program.
 - Texan By Nature Certification – 2018; in honor of commitment to conservation benefiting people, prosperity, and natural resources.
- The District frequently evaluates opportunities to partner on public education with other entities in the region and around the State. One such opportunity is the possibility of a state-wide conservation campaign being discussed by the TWDB. If this opportunity is approved through the State it is possible that the District may transition from Water IQ to this campaign or a regional conservation campaign with other entities in the region.

7.3 Interactive Weather Stations / Water My Yard Program

NTMWD has developed the Water My Yard program to install weather stations throughout its service area to provide consumers with a weekly e-mail and information through the Water My Yard website in determining an 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 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 is provided that will determine 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. This innovative program has been available to those within the NTMWD service area since May 2013. The District currently has over 39,000 subscribers within their service area receiving weekly watering advice.

Table 7-1 Weekly Water Advice Subscribers

Station	Subscriptions
Allen	745
Cash	4
Farmersville	178
Forney	294
Frisco*	27,990
Garland	721
McKinney	1,759
Melissa	225
Mesquite	434
Murphy	298
Plano	3,164
Princeton	333
Richardson	1,253
Rockwall	562
Royse City	231
Sachse	197
Seagoville	18
Tawakoni	7
Wylie	687
Total	39,100

*Frisco owns and operates their own system of weather stations and provides a weekly newsletter to subscribers

7.4 Technical Assistance and Outreach

Beginning in 2003, NTMWD has held a series of water conservation workshops for staff of its Member Cities and Customers. These workshops have covered a number of 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 (ICI) audits, and other procedures.

NTMWD encourages its Member Cities and Customers to develop and implement rebate and bulk purchasing programs, where such programs may benefit the Member Cities and Customers in achieving overall water savings. Further, NTMWD provides technical assistance to those Member Cities and Customers who wish to implement rebate and bulk purchasing programs.

In addition, NTMWD staff participates in the following technical assistance and outreach for Member Cities and Customers:

- Dedicated conservation coordinator on NTMWD staff to field conservation-related queries from Member Cities and Customers and coordinate with media regarding conservation issues.
- Provision of training for Member Cities and Customers regarding Industrial, Commercial, and Institutional retail customer audits.
- Provision of online portal on NTMWD website for Member Cities and Customers to communicate and share information on water conservation programs.
- Presenting at meetings and conferences to various commercial, institutional, and industry stakeholder groups: landscapers, irrigators, tree and nursery growers, pool and spa industries, school district facility managers, and hospitality industry groups.
- Holding regularly scheduled meetings with Member Cities and Customers for water supply updates, Water IQ campaign strategies, and legislative activities related to water and water conservation.
- Provision of web-based water conservation tips on the NTMWD website, Water IQ website, and Water My Yard website, in addition to links to other water related agencies for additional resources.
- Purchasing 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.
- Member/partner of EPA Water Sense
- Member/partner of the Alliance for Water Efficiency (NTMWD membership, as well as membership paid for by NTMWD for Member Cities)
- Member/partner for the Texas Water Foundation



- Member of American Water Works Association and American Water Works Association Research Foundation
- Member of WENNT (Water Efficiency Network of North Texas)
- Hosting TWDB Water Loss Audit Training
- Hosting a training on the TWDB Water Conservation Planning Tool

7.5 NTMWD Model Water Conservation Plan for NTMWD Member Cities and Customers

In order 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 Customers⁵. The Model Water Conservation Plan addresses the TCEQ requirements for water conservation plans for municipal use by public water suppliers¹ and includes advanced water conservation strategies beyond TCEQ requirements that mirror the NTMWD plan. NTMWD continues to assist Member Cities and Customers in the development of their water conservation plans using the Model Conservation Plan as a guide.

7.5.1 Compulsory Landscape and Water Management Measures

The following landscape water management measures are included in the NTMWD Model Water Conservation Plan to be utilized by Member Cities and Customers. These measures represent minimum measures to be implemented and enforced in order to irrigate the landscape appropriately and are to remain in effect on a permanent basis unless water resource management stages are declared.

1. Landscape Water Management Measures

- Limit landscape watering with sprinklers or irrigation systems at each service address to no more than two days per week (April 1 – October 31), with education that less than twice per week is usually adequate. Additional watering of landscape may be provided by hand-held hose with shutoff nozzle, use of dedicated irrigation drip zones, and/or soaker hose provided no runoff occurs.
- Limit landscape watering with sprinklers or irrigation systems at each service address to no more than one day per week beginning November 1 and ending March 31 of each year, with education that less than once per week is usually adequate.
- Estimated savings from the year-round watering restrictions, mentioned above, since the District terminated drought stages in 2015 is approximately 2.5 to 3.5 percent of water use on an average annual basis. Savings are higher in the summer and lower in the winter.



- Prohibit lawn irrigation watering from 10 AM to 6 PM (April 1 – October 31).
- Prohibit the use of irrigation systems that water impervious surfaces. (Wind-driven water drift will be taken into consideration.)
- Prohibit outdoor watering during precipitation or freeze events.
- Prohibition of use of poorly maintained sprinkler systems that waste water.
- Prohibit excess water runoff or other obvious waste.
- Require rain and freeze sensors and/or ET or Smart controllers on all new irrigation systems. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.
- Prohibit overseeding, sodding, sprigging, broadcasting or plugging with cool season grasses or watering cool season grasses, except for golf courses and athletic fields.
- Require that irrigation systems be inspected at the same time as initial backflow preventer inspection.
- Requirement that all new irrigation systems be in compliance with state design and installation regulations (Texas Administrative Code Title 30, Chapter 344).
- Require the owner of a regulated irrigation property to obtain an evaluation of any permanently-installed irrigation system on a periodic 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).

2. Additional Water Management Measures

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- ~~Prohibit the use of potable water to fill or refill residential, amenity, and any other natural or~~ manmade ponds. A pond is considered to be a still body of water with a surface area of 500 square feet or more.
 - Non-commercial car washing can be done only when using a water hose with a shut-off nozzle.
 - Hotels and motels shall offer a linen reuse water conservation option to customers.
 - Restaurants, bars, and other commercial food or beverage establishments may not provide drinking water to customers unless a specific request is made by the customer for drinking water.

- Adoption of an increasing block water rate structure, if not already in place.

7.5.2 Additional Water Conservation Measures in the NTMWD Model Water Conservation Plan

NTMWD also urges its Member Cities and Customers to consider including the following additional water conservation measures from the NTMWD Model Water Conservation Plan in their plans:

1. Landscape Water Management Regulations

- Requirement that all existing irrigation systems be retrofitted with rain and freeze sensors and/or ET or Smart controllers capable of multiple programming. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.
- Requirement that all new athletic fields be irrigated by a separate irrigation system from surrounding areas.
- Implementation of other measures to encourage off-peak water use.

2. Landscape Ordinance

- Landscape ordinances are developed by cities to guide developers in landscaping requirements for the city. A model landscape ordinance is provided in as part of the Model Plan and is intended as a guideline for adopting a landscape ordinance to promote water efficient landscape design.
- Native, drought tolerant or adaptive plants should be encouraged.
- Drip irrigation systems should be promoted.

-
- ET/Smart controllers that only allow sprinkler systems to irrigate when necessary should be promoted.

3. Water Audits

- Water audits are useful in finding ways in which water can be used more efficiently at a specific location. NTMWD recommends that Member Cities and Customers offer water audits to customers.
- Member Cities and Customers are required to develop regulations, ordinances, policies, or procedures for enforcement of water conservation guidelines.

4. Rebates

- In addition to the conservation measures described above, the NTMWD also recommends that Member Cities and Customers consider the following water conservation incentive:
 - Commercial clothes washer rebates for the purchase and installation of high efficiency card- or coin-operated commercial clothes washers.
 - Low-flow toilet replacement and rebate programs;
 - Rebates for rain/freeze sensors and/or ET or Smart controllers;
 - Low-flow showerhead and sink aerators replacement programs or rebates;
 - Residential water efficient clothes washer rebates;
 - Pressure reducing valve installation programs or rebates;
 - Rain barrel rebates;
 - Pool cover rebates;
 - On-demand hot water heater rebates; and/or
 - Other water conservation incentive programs.

7.6 Annual Reports

One element of NTMWD's Model Water Conservation Plan for NTMWD Member Cities and Customers is a requirement that Member Cities and Customers complete annual conservation reports by March 31 of the following year and submit them to NTMWD. A copy of the annual report is included herewith as Appendix E. NTMWD compiles these reports and uses them to help generate its own annual water conservation report.

NTMWD's annual water conservation report is used to review the effectiveness of its water conservation program and results will be reported to the NTMWD Water Committee of the NTMWD Board and the Board of Directors. The completion of this annual water conservation report allows NTMWD 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.

7.7 Water Conservation Symposium

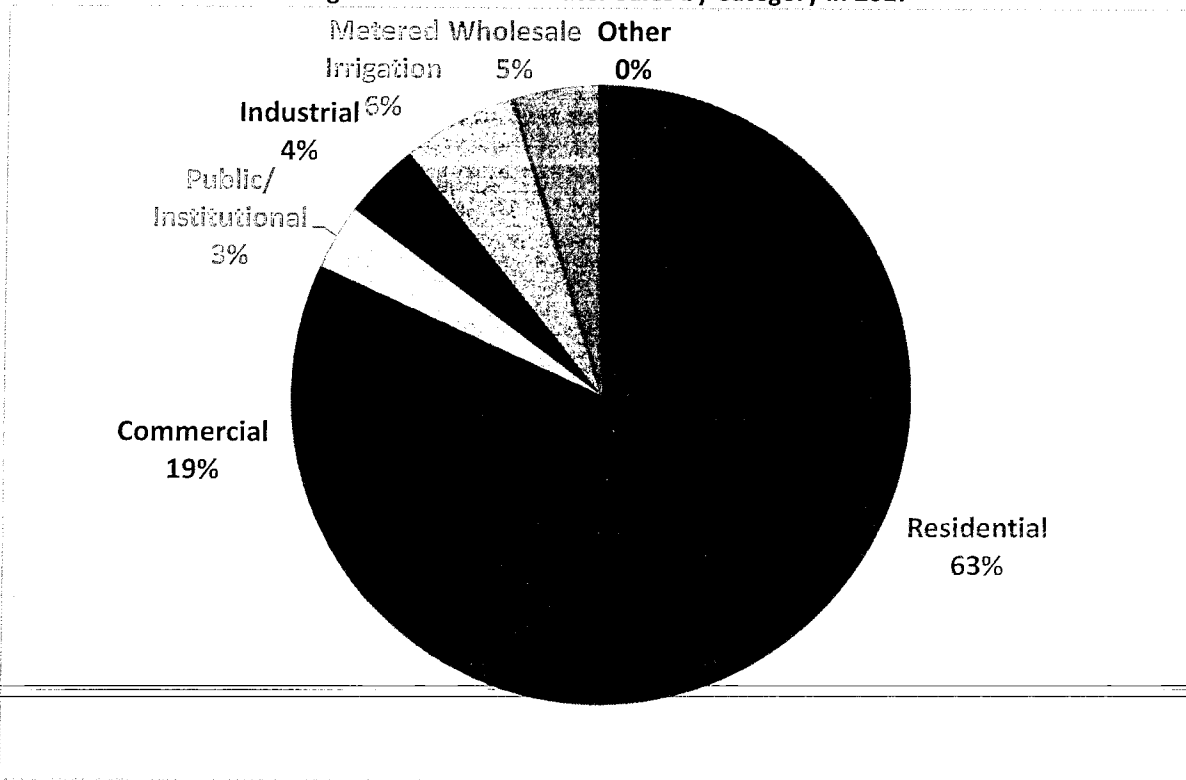
NTMWD has partnered with Dallas Water Utilities and Tarrant Regional Water District to host the annual North Texas Regional Water Conservation Symposium (Symposium). The Symposium is a half-day event

bringing together leading water conservation experts from Texas and around the country to present water conservation best management practices to a wide audience of water utility staff. In 2018, the 12th annual North Texas Regional Water Conservation Symposium was attended by over 130 professionals.

7.8 Industrial, Commercial and Institutional Customers

Based on the annual reporting data collected from Member Cities and Customers from 2017, approximately 25 percent of the District's treated water sales went to supply Industrial, Commercial and Institutional (ICI) users within their service area see Figure 7-1.

Figure 7-1 NTMWD Water Sales by Category in 2017



In order to target programs for this customer base, the District hired Alan Plummer and Associates, Inc. to conduct the "North Texas Municipal Water District Industrial, Commercial, and Institutional Water Use Efficiency Study." The primary scope items in the study are as follows:

- Develop ICI Customer Database
- Calculate per Capita Consumptions
- Identify, Define and Categorize

- Establish Base Use Estimates
- Identify Trends
- Select sectors for detailed analysis
- Benchmarking
- Identify Potential for Reduction
- Estimate Potential Demand Reduction by Strategy
- Program Development

The kick-off meeting was held on September 10, 2018 and the project is currently in the process of data collection. It is not anticipated that any recommended programs will be identified prior to the publication of this Plan. Once the results are published, the District will develop, in cooperation with the District's Member Cities and Customers and in collaboration with ICI water users within the District's service area, a program to reduce the per unit or per capita ICI water use within the District.

7.9 Industrial Pretreatment

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.

7.10 Watershed Protection

The NTMWD monitors and samples about fourteen sites monthly on Lavon Lake to evaluate the water quality of the reservoir. Additionally, the major hydraulic inputs into Lake Lavon are monitored to evaluate the nutrient and pollutant loading. Studies are performed periodically to evaluate and model hydraulics, nutrient loading and pollutant loading of the reservoir.

The District monitors and performs monthly sampling of the major tributaries that will be contributing water to the future Bois d'Arc Lake. The information is used to evaluate nutrient loading and pollutant loading of the future reservoir.

NTMWD regularly monitors and samples its other water supplies, including Lake Tawakoni, Lake Jim Chapman, Lake Texoma, and the East Fork Reuse Project to evaluate water quality and the impact of pollutant loading over time.

The District also monitors and samples the effluent of each of the NTMWD-operated wastewater treatment plants. That information is used to evaluate hydraulics, nutrient, and pollutant loading of the receiving waterbody.

7.11 Zero Discharge from Water Treatment Plants

Since 1975, NTMWD's water treatment plants have aimed to operate with zero discharge. Wash water from filter washing and sludge from the water treatment process are pumped to lagoons for solar drying. After settling of solids, suitable water is decanted from the lagoons and recycled to the head of the water treatment plant for treatment. This approach saves water and contributes to NTMWD's excellent control of nonrevenue water in treatment and distribution.

7.12 In-House Water Conservation Efforts

NTMWD has implemented an in-house water conservation program, including the following elements:

- Wherever possible, landscapes will use native or adapted drought tolerant plants, trees, and shrubs.
- Irrigation at NTMWD facilities will occur between 11 p.m. and 5 a.m. in the peak consumption summer months (April 1 and ending October 31) in order to lower evaporation losses.
- Irrigation will be limited to the amount needed to promote survival and health of plants and lawns.
- Irrigation will be avoided on Saturday and Sunday if possible, since these are periods of high water use by the public.
- Irrigation will be done with treated wastewater effluent wherever feasible and reasonable.



8. ADOPTION OF WATER CONSERVATION PLAN; PERIODIC REVIEW AND UPDATE OF PLAN

Appendix H contains a copy of the minutes of the NTMWD Board of Directors meeting at which this Water Conservation Plan was adopted.

TCEQ requires that water conservation plans be reviewed and, if necessary, updated every five years to coincide with the regional water planning process. This Water Conservation Plan will be updated as required by TCEQ, and in addition, will be continually reassessed for opportunities to improve water efficiency and conservation based on new or updated information.



9. CONSERVATION PLAN REQUIREMENTS FOR A PUBLIC WATER SUPPLIER

9.1 Introduction

In addition to serving as a wholesale water supplier, NTMWD is also a public water supplier of potable water, providing direct retail service to 29 customers who do not have access to retail service from other sources. The TCEQ has established rules for the development of water conservation plans for public water suppliers that provide retail service. The rules for water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.2 of the Texas Administrative Code. These rules are included in Appendix B.

An additional requirement for public water suppliers, beyond the requirements for wholesale water suppliers, is that they must report 5-year and 10-year goals for residential per capita water use in addition to such reporting for municipal per capita water use. Table 9-1 shows the residential per capita goals for the 29 direct retail service customers.

Table 9-1 5-Year and 10-Year Residential GPCD Goals

Description	Assumed Average (GPCD)	5-Year Goal (2017) (GPCD)	10-Year Goal (2022) (GPCD)
Assumed Current 5-Year Average Per Capita Residential Use	100		
Expected Reduction Due to Low-Flow Plumbing Fixtures		1	3
Projected Reduction Due to Elements in this Plan		8	13
Water Conservation Goals (Based on 5-Year Average)		91	84

NTMWD’s Water Conservation Plan, specifically Sections 1-8 of the Plan, address the majority of requirements in the TCEQ rules pertaining to water conservation plans for public water suppliers. This section of the Plan summarizes the TCEQ requirements for public water suppliers, indicates where they are met in the Plan, and covers any additional information needed to meet public water supplier requirements.

9.2 State Requirements for Water Conservation Plans for Public Water Suppliers

Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.2 of the Texas Administrative Code contains the requirements for water conservation plans for public water suppliers. This rule is included in Appendix B.

Minimum Requirements

TCEQ's minimum requirements for water conservation plans for public water suppliers are addressed below:

- 288.2(a)(1)(A) – Utility Profile – Included in Appendix D.
- 288.2(a)(1)(B) – Record Management System –Section 6.1.2
- 288.2(a)(1)(C) – Specific, Quantifiable Goals – Addressed in Section 5 (for municipal use) and Section 9.1 (for residential use).
- 288.2(a)(1)(D) – Metering of Diversions – Addressed in Section 6.1.1.
- 288.2(a)(1)(E) – Universal Metering – Addressed in Section 6.1. Deliveries to all of NTMWD's retail customers (like deliveries to all of its wholesale customers) are metered. NTMWD tracks use for its retail customers to ensure that the meters remain in good working order. NTMWD has implemented a meter replacement program, in accordance with AWWA standards. At a minimum, all customer meters will be replaced every 15 years.
- 288.2(a)(1)(F) – Measures to Determine and Control Water Loss – Addressed in Section 6.1 and Section 6.1.2.
- 288.2(a)(1)(G) – Program of Continuing Public Education and Information – Addressed in Section 7.2. NTMWD also will also communicate directly with its retail customers by including brochures and other material on water conservation in monthly invoicing.
- 288.2(a)(1)(H) – Non-Promotional Rate Structure –NTMWD has a three-tiered increasing block rate structure for its residential customers as follows:
 - Monthly minimum charge of \$15.00 with up to 2,000 gallons
 - Base rate of \$3.50 per 1,000 gallons for water use of 2,000 to 10,000 gallons
 - 2nd tier rate of \$5.38 per 1,000 gallons from 10,000 to 20,000 gallons
 - 3rd tier rate of \$6.72 per 1,000 gallons for water use above 20,000 gallons
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Addressed in Section 6.3.



- 288.2(a)(1)(J) – Means of Implementation and Enforcement – For their retail account, NTMWD can enforce any of the measures in the Plan.
- 288.2(a)(1)(K) – Documentation of Coordination with Regional Water Planning Groups – Addressed in Section 6.5.
- 288.2(c) – Review and Update of Plan – Section 8.

Additional Requirements for Suppliers Serving a Current Population of 5,000 or More

TCEQ has additional requirements for water conservation plans for public water suppliers serving more than 5,000 people. Including its wholesale customers, NTMWD serves more than 5,000 people. Those additional TCEQ requirements are addressed below:

- 288.2(a)(2)(A) – Program of Leak Detection, Repair, and Water Loss Accounting – NTMWD performs a regular review of water sales to their retail customers to track water losses.
- 288.2(a)(2)(B) – Record Management System – NTMWD’s retail customers include 29 retail accounts. NTMWD has no retail industrial customers. The vast majority of NTMWD’s sales are to wholesale suppliers. NTMWD makes records available for residential use by retail customers, commercial use by retail customers, public use by retail customers, and wholesale sales. NTMWD maintains electronic files by customer class for its retail customers.

Additional Conservation Strategies

TCEQ also lists additional water conservation strategies which may be implemented by a public water supplier but are not required. This water conservation plan includes several of those strategies:

- 288.2 (a)(3)(D) - Program for reuse and/or recycling of wastewater is described in Section 7.1.
- 288.2(a)(3)(H) – Other measures:
 - Sections 7.3, 7.4, and 7.5 describe additional measures NTMWD has adopted to encourage water conservation by its Member Cities and Customers.
 - Section 7.6 describes NTMWD’s plans to monitor the effectiveness of the water conservation program.
 - Section 7.2 describes NTMWD’s public education program.
 - Section 7.11 describes NTMWD’s program to maintain zero discharge from its water treatment plants.
 - Section 7.12 describes NTMWD’s in-house water conservation efforts.



APPENDIX A
LIST OF REFERENCES

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
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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.
“2016 Region C Water Plan”



APPENDIX B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

RULES ON MUNICIPAL WATER CONSERVATION AND DROUGHT

CONTINGENCY PLANS FOR WHOLESALE WATER SUPPLIERS



APPENDIX B

TEXAS COMMISSION OF ENVIRONMENTAL QUALITY RULES ON MUNICIPAL WATER CONSERVATION AND DROUGHT CONTINGENCY PLANS FOR WHOLESALE WATER SUPPLIERS

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER A</u>	WATER CONSERVATION PLANS
<u>RULE §288.1</u>	Definitions

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

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

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

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

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

(D) raising or keeping equine animals;

(E) wildlife management; and



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

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

(3) 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.

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



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

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

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

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

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

- (i) residential;
 - (I) single family;
 - (II) multi-family;
- (ii) commercial;
- (iii) institutional;



(iv) industrial;

(v) agricultural; and,

(vi) wholesale.

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

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

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

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

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

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

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

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

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

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

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

(2) Additional content requirements. Water conservation plans for municipal uses by public drinking water suppliers serving a current population of 5,000 or more and/or a projected



population of 5,000 or more within the next ten years subsequent to the effective date of the plan must include the following elements:

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

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

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

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

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

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

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



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

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

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

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

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

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

Source Note: The provisions of this §288.2 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective December 6, 2012, 37 TexReg 9515



<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER A</u>	WATER CONSERVATION PLANS
RULE §288.5	Water Conservation Plans for Wholesale Water Suppliers

A water conservation plan for a wholesale water supplier must provide information in response to each of the following paragraphs. If the plan does not provide information for each requirement, the wholesale water supplier shall include in the plan an explanation of why the requirement is not applicable.

(1) Minimum requirements. All water conservation plans for wholesale water suppliers must include the following elements:

(A) a description of the wholesaler's service area, including population and customer data, water use data, water supply system data, and wastewater data;

(B) specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable water loss, and the basis for the development of these goals. The goals established by wholesale water suppliers under this subparagraph are not enforceable;

(C) a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply;

(D) a monitoring and record management program for determining water deliveries, sales, and losses;

(E) a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system;



(F) a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, 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 of this chapter. If the customer intends to resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with applicable provisions of this chapter;

(G) 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. The reservoir systems operations plans shall include optimization of water supplies as one of the significant goals of the plan;

(H) 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; and

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

(2) Additional conservation strategies. Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of paragraph (1) of this section, 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:

(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) a program to assist agricultural customers in the development of conservation pollution prevention and abatement plans;

(C) a program for reuse and/or recycling of wastewater and/or graywater; and



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

(3) Review and update requirements. The wholesale water supplier 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. A wholesale water supplier shall review and update the next revision of its water conservation plan every five years to coincide with the regional water planning group.

Source Note: The provisions of this §288.5 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 C

MODEL WATER CONSERVATION PLAN AND MODEL WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN



APPENDIX D

NORTH TEXAS MUNICIPAL WATER DISTRICT

WATER UTILITY PROFILE BASED ON TCEQ FORMAT

APPENDIX D
North Texas Municipal Water District Water Utility Profile Based on TCEQ Format

Name of Utility: North Texas Municipal Water District
 Address & Zip: P.O. Box 2408, Wylie, TX 75098
 Telephone Number: (972) 442-5405
 Fax Number: (972) 295-6440
 Form Completed by: Denise Hickey
 Title: Water Resource & Public Education Manager
 Signature: _____
 Date: _____

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

Name: Denise Hickey
 Phone Number: (972) 442-5405

I. CUSTOMER DATA

A. Population and Service Area Data

Service area map is included as Figure 3.2.

1. Service area size (square miles): 2,200 (Estimated 2017 total population of member cities and customers)
2. Current population of service area: 1,699,173
3. Current (2012) population served by utility:
 - water: 1,699,173
 - wastewater: 1,461,289
4. Population served by utility for the previous five years:

Year	Estimated Population
2013	1,534,084
2014	1,572,330
2015	1,602,714
2016	1,667,020
2017	1,699,173

Populations are based on estimates generated by NTWMD each year

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

Year	Estimated Population
2020	1,797,279
2030	2,093,105
2040	2,454,133
2050	2,889,282
2060	3,333,931
2070	3,814,388

Projected 2020-2070 population for current and potential Member Cities and Customers from Region C projections for the 2016 regional water plan (as approved by TWDB)

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

As described above, the estimates are total populations of current Member Cities and Customers, based on yearly estimates generated by NTWMD and projections made for the 2016 *Region C Water Plan* and approved by the TWDB.

B. Customers Data

List the names of all wholesale customers, amount of annual contract, and amount of the annual use for each for the previous year:

Note: NTMWD is primarily a wholesale water provider. However, NTMWD does provide retail service to 29 retail customers.

Customer	Contracted Amount (Acre-Feet)	Year 2017 Water Delivered (Acre-Feet)
Member Cities		
Allen		16,855
Farmersville		571
Forney		5,443
Frisco		30,388
Garland	Demand Based Contract with Minimum Take or Pay	31,565
McKinney		32,912
Mesquite		17,034
Plano		63,078
Princeton		1,481
Richardson		24,864
Rockwall		9,687
Royse City		1,321
Wylie		5,119
Subtotal Members		
Customers		
Ables Springs SUD		248
Bear Creek SUD	Demand Based Contract with Minimum Take or Pay	658
BHP WSC		366
Bonham		1,458
Caddo Basin SUD		960
Cash SUD		799
College Mound WSC		489
Copeville SUD		254

Customer	Contracted Amount (Acre-Feet)	Year 2017 Water Delivered (Acre-Feet)
Crandall		395
East Fork SUD		1,367
Fairview		2,363
Fate		1,190
Forney Lake WSC		970
Gastonia-Scurry SUD		1,036
GTUA		1,811
Josephine		178
Kaufman		1,198
Little Elm		4,183
Lucas	Demand	1,592
Melissa	Based	952
Milligan WSC	Contract	316
Mt. Zion WSC	with	261
Murphy	Minimum	3,985
Nevada WSC	Take or Pay	281
N. Collin WSC		898
Parker		1,302
Prosper		4,714
Rose Hill SUD		309
Rowlett		6,885
Sachse		3,118
Seis Lagos MUD		347
Sunnyvale		1,606
Terrell		3,696
Wylie NE SUD		666
Subtotal Customers		50,851
Retail Customers		
Subtotal		10
Total		291,179

II. WATER USE DATA FOR SERVICE AREA

A. Water Delivery

Indicate if the water provided under wholesale contracts is treated or raw water and the annual amount for each for previous year.

Total amount sold for Year 2017 (acre-feet)

Treated	291,179
Raw	0

B. Water Accounting Data

- Total amount of water diverted at point of diversion(s) for previous five years (in acre-feet) for all water uses:

Raw Water Diversions from Lavon Lake, Lake Bonham and Lake Tawakoni (acre-feet)

Year	2013	2014	2015	2016	2017
January	17,736	17,555	16,998	17,587	18,362
February	16,348	15,977	15,308	17,941	17,213
March	20,788	18,756	17,085	19,890	21,778
April	21,637	20,848	18,043	21,418	22,021
May	25,840	24,161	17,928	22,350	28,892
June	26,683	24,175	24,446	27,378	27,914
July	32,323	26,352	36,325	37,081	32,484
August	39,218	27,005	45,693	37,043	32,725
September	33,189	29,112	38,371	32,939	35,468
October	24,727	25,366	32,881	30,686	31,439
November	18,650	18,342	19,314	23,202	24,712
December	18,365	17,460	18,103	19,525	20,889
Total	295,504	265,108	300,497	307,040	313,897

- Wholesale population served and total amount of water diverted for **municipal** use for previous five years:

Year	Total Population Served	Total Annual Water Diverted for Municipal Use (Acre-Feet)
2013	1,534,084	295,504
2014	1,572,330	265,108
2015	1,602,714	300,497
2016	1,667,020	307,040
2017	1,699,173	313,897

C. Projected Water Demands

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

Year	Projected Demand (AF/Y) (with Plumbing Code Reductions)	Source of data
2020	371,743	2016 Region C Plan
2021	377,603	Interpolated
2022	383,462	Interpolated
2023	389,322	Interpolated
2024	395,181	Interpolated
2025	401,041	Interpolated
2026	406,900	Interpolated
2027	412,760	Interpolated
2028	418,619	Interpolated
2029	424,479	Interpolated
2030	430,338	2016 Region C Plan
2040	504,964	2016 Region C Plan
2050	582,350	2016 Region C Plan
2060	646,378	2016 Region C Plan
2070	710,535	2016 Region C Plan

Note: Projections are for current and potential customers. Projections include TWDB estimated reductions for plumbing fixtures. Projections are from Region C Water Planning Group information for the 2016 Plan, as approved by TWDB.

III. WATER SUPPLY SYSTEM DATA

A. Water Supply Sources

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

Type ^a	Source	Amount Authorized (AF/Y)
Surface Water	Lavon Lake - municipal right	114,670
Surface Water	Lavon Lake - industrial or municipal	4,000
Surface Water	Lake Bonham	5,340
Surface Water	Lake Texoma ^b	197,000
Surface Water	Jim Chapman Lake	57,214
Surface Water	Upper Sabine Basin (contracted)	11,100
Indirect Reuse	Wilson Creek WWTP ^c	71,882
Indirect Reuse	East Fork Reuse Project ^c	157,393
Indirect Reuse	Main Stem Pump Station	56,100
Total		674,699

Notes: a. NTMWD does not have any groundwater supplies.

b. Availability from Lake Texoma is limited due to issues with zebra mussels and salt levels.

c. Availability from Wilson Creek WWTP and East Fork Raw Water Supply Project is limited to actual discharges and is currently less than amount authorized.

B. Treatment and Distribution System

1. Design daily capacity of system:

Plant 1	70 MGD
Plant 2	280 MGD
Plant 3	280 MGD
Plant 4	140 MGD
Lake Tawakoni	30 MGD
Lake Bonham	6.6 MGD
<u>Total</u>	<u>806.6 MGD</u>

2. Storage capacity:

Elevated	<u>0</u>	MG
Ground	<u>92.9</u>	MG

3. If surface water, do you recycle filter backwash to the head of the plant?

Yes X No ___. Approximately 5 MGD.

4. Please describe the water system and attach. Include the number of treatment plants, wells,

and storage tanks. If possible, attach a sketch of the system layout.

Plate 1 at the back of the report is a map of the NTMWD water system. Raw water is diverted from Lavon Lake and is blended with raw water from Lake Texoma at the Wylie WTP. (Raw water from , Jim Chapman Lake, the East Fork Reuse Project, Main Stem Pump Station and the Upper Sabine Basin is pumped to the Lavon Lake watershed through pipelines and delivered by bed and banks of streams. Treated effluent from Wilson Creek WWTP is released into Wilson Creek and delivered to Lavon Lake by the bed and banks.) The raw water is treated at four water treatment plants with a total treatment capacity of 770 mgd, all located near Lavon Lake in Wylie. NTMWD also operates the Bonham WTP which treats raw water from Lake Bonham and the Tawakoni WTP which can utilize Upper Sabine Basin raw water. The treated water is delivered to NTMWD Member Cities and Customers through the system of pump stations and pipelines shown on Plate 1. Treated water is delivered to member cities and customers through air gaps into ground storage facilities owned by the member cities and customers.

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data (if applicable)

1. Design capacity of wastewater treatment plant(s): 151.455 MGD

2. Briefly describe NTMWD's wastewater systems. Identify treatment plants with the TCEQ name and number, the operator, owner, and, if wastewater is discharged, the receiving stream. Please provide a location map showing the plants. Plants are described below. Locations are shown on Plate 1:

Treatment Plant Name	TCEQ Number	Permitted Discharge (MGD)	Operator	Owner	Receiving Stream
Bear Creek	14577-001	0.250	NTMWD	World Land Developers	Bear Creek to Lake Ray Hubbard
Buffalo Creek	12047-001	2.250	NTMWD	NTMWD	Buffalo Creek
Farmersville #1	10442-001	0.225	NTMWD	NTMWD	Unnamed tributary of Elm Creek
Farmersville #2	10442-002	0.530	NTMWD	NTMWD	Unnamed tributary of Elm Creek
Floyd Branch	10257-001	4.750	NTMWD	NTMWD	Floyd Branch to Cottonwood Creek
Muddy Creek	14216-001	10.000	NTMWD	NTMWD	Muddy Creek to Lake Ray Hubbard
Panther Creek	14245-001	10.000	NTMWD	NTMWD	Unnamed tributary of Panther Creek
Royse City	10366-001	0.500	NTMWD	NTMWD	Sabine Creek
Rowlett Creek	10363-001	24.000	NTMWD	NTMWD	Rowlett Creek
Sabine Creek	14469-001	1.500	NTMWD	NTMWD	Parker Creek
Seis Lagos	11451-001	0.250	NTMWD	NTMWD	Unnamed tributary of Lake Lavon
South Mesquite	10221-001	33.000	NTMWD	NTMWD	South Mesquite Creek
Squabble Creek	10262-001	1.200	NTMWD	NTMWD	Squabble Creek
Stewart Creek West	14008-001	5.000	NTMWD	NTMWD	Stewart Creek
Wilson Creek	12446-001	56.000	NTMWD	NTMWD	Lake Lavon Seg.# 0821
Wylie	10384-001	2.000	NTMWD	NTMWD	Unnamed tributary thence to Muddy Creek

B. Wastewater Data for Service Area (if applicable)

1. Percent of water service area served by wastewater system: 33%

2. Monthly volume treated for previous three years (in 1,000 gallons):

Year	2015	2016	2017
January	4,085,761	4,751,881	4,194,457
February	3,771,574	3,815,368	3,869,681
March	5,681,118	4,991,721	4,002,884
April	5,096,343	5,258,603	4,245,198
May	7,594,902	4,672,745	3,887,873
June	4,749,788	5,165,519	4,587,522
July	3,600,199	3,855,731	4,435,141
August	3,418,242	3,996,239	4,491,332
September	3,344,622	3,832,589	3,805,243
October	4,490,369	3,850,655	3,894,988
November	6,120,924	4,104,081	3,771,256
December	6,281,372	3,780,048	4,270,793
Total	58,235,212	52,075,179	49,456,366

SUMMARY OF YEAR 2017
NTMWD MEMBER CITY AND CUSTOMER WATER CONSERVATION REPORT

Water Utility Reporting: NTMWD
 Filled Out By: FNI
 Phone Number: 817-735-7300
 Email:
 Date Completed: 4/30/2018
 Year Covered: 2017
 # of Connections: 590,072
 Estimated Population: 1,721,899
 Source: Various; see individual tabs
 # of Backflow Preventers: 118,275

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

Month	Deliveries from NTMWD	Other Supplies	Sales by Category						Total	
			Residential	Commercial	Public/Institutional	Industrial	Metered Irrigation	Wholesale		Other
January	5,170.393	58.328	3,161.109	973.881	105.615	246.083	166.953	221.264	15.819	4,890.723
February	5,007.794	51.347	2,966.258	935.839	119.905	202.444	116.739	221.148	17.764	4,580.097
March	6,409.334	60.983	3,136.356	981.434	130.025	275.335	149.545	268.750	17.645	4,959.091
April	6,964.101	59.068	3,788.070	1,070.990	174.361	271.865	235.719	241.642	21.971	5,804.617
May	8,388.845	77.579	4,227.877	1,187.393	212.359	266.914	361.337	326.884	22.776	6,605.540
June	8,113.817	74.728	4,835.690	1,383.358	314.066	292.594	492.416	328.271	20.760	7,667.155
July	10,221.993	74.357	5,002.027	1,427.249	263.960	297.068	564.141	368.665	21.537	7,944.646
August	9,847.866	74.334	5,663.826	1,509.551	353.421	301.967	642.826	381.096	22.622	8,875.310
September	10,278.117	78.873	5,447.232	1,542.420	335.076	329.288	658.658	421.505	27.193	8,761.372
October	9,808.625	73.697	5,356.940	1,527.220	342.715	274.560	635.478	378.245	37.649	8,552.807
November	7,577.438	57.871	4,374.864	1,358.501	290.043	279.973	488.864	289.910	25.427	7,107.581
December	5,848.645	65.697	3,773.492	1,171.657	154.203	218.780	349.437	255.005	18.618	5,941.193
TOTAL	93,636.969	806.880	51,733.740	15,069.494	2,795.748	3,256.871	4,862.113	3,702.385	269.781	81,690.132

Peak Day Usage
 Peak Day (MG) 513.277
 Average Day (MG) 258.750
 Peak/Average Day Ratio 1.984

Authorized Consumption and Water Loss

Total System Input Volume:	90,741.464
Billed Metered:	77,987.747
Billed Unmetered:	145.122
Unbilled Metered:	762.906
Unbilled Unmetered:	3,074.194
Total Authorized Consumption:	81,969.969
Water Losses:	8,771.496
Total Loss Percent:	9.67%
Goal for Total Loss Percent:	12.00%

Per Capita Use (Gallons per person per day)

Municipal Use (MG)	82,353
Residential Use (MG)	51,733.740
Total Per Capita Use (gpcd)	144
Municipal Per Capita Use (gpcd)	131
Residential Per Capita Use (gpcd)	82
5-year Per Capita Goal	145
10-year Per Capita Goal	140

Historical Water Use Data for NTMWD

Year	Connections	Estimated Population	Deliveries from NTMWD (MG)	Other Supplies (MG)	Metered Sales by Category (Million Gallons)								Total
					Residential	Commercial	Public/ Institutional	Industrial	Metered Irrigation	Wholesale	Other		
1990	156,830	586,454	39,246	524	21,425	11,402	133	34			264	78	33,336
1991	156,576	600,162	36,719	526	20,139	10,609	125	32			279	73	31,257
1992	157,948	619,873	37,270	607	20,774	11,037	136	35			289	80	32,351
1993	171,229	656,529	43,015	869	23,634	12,212	154	39			351	90	36,481
1994	183,821	697,655	41,246	1,139	23,557	12,170	155	39			434	91	36,445
1995	189,669	723,207	46,577	1,359	25,682	13,074	171	43			464	100	39,534
1996	202,068	750,734	49,023	1,598	27,457	13,937	194	49			471	114	42,222
1997	206,050	785,268	51,096	762	28,483	14,664	219	56			542	128	44,092
1998	231,778	821,441	64,789	1,037	37,544	17,846	266	67			634	155	56,512
1999	262,824	883,270	68,570	658	39,039	20,283	278	254			699	162	60,716
2000	311,139	925,399	74,359	634	43,454	21,433	390	292			1,012	169	66,749
2001	327,171	970,025	76,588	621	43,169	20,891	361	272			1,134	167	65,995
2002	341,370	1,021,726	73,248	494	37,187	21,465	519	383			1,409	166	61,129
2003	359,188	1,073,848	79,032	518	44,347	21,451	968	631			1,691	355	69,443
2004	388,985	1,152,181	76,359	612	42,605	21,809	858	667			1,119	285	67,342
2005	412,301	1,210,539	88,503	729	51,810	25,432	1,437	894			2,191	442	82,205
2006	430,471	1,270,354	90,858	1,026	55,207	23,367	1,535	863			2,432	367	83,771
2007	447,324	1,334,711	75,775	963	43,350	18,967	1,603	1,100			2,477	470	67,967
2008	467,923	1,397,488	92,817	885	54,070	21,420	2,555	1,280			2,838	249	82,411
2009	471,475	1,410,416	85,687	578	48,903	19,392	2,642	1,219			2,838	267	75,261
2010	477,502	1,439,945	95,399	742	54,435	20,902	3,352	1,294			2,899	347	83,230
2011	500,666	1,469,951	102,697	754	61,807	21,572	4,056	1,769			3,740	93	93,037
2012	512,219	1,478,897	93,748	600	55,771	18,635	3,634	1,672			3,246	173	83,131
2013	525,858	1,522,230	87,148	550	52,151	17,810	3,223	1,718			3,094	225	78,222
2014	544,322	1,560,566	78,725	693	46,232	14,572	2,931	2,336			2,989	216	69,275
2015	554,414	1,615,861	90,128	817	52,364	17,064	3,926	2,728			3,524	319	79,925
2016	567,011	1,660,113	93,192	840	50,277	14,502	2,760	3,085			4,283	364	78,680
2017	590,072	1,721,899	93,637	807	51,734	15,069	2,796	3,257			3,702	270	81,690

Historical Per Capita Use Data and Water Loss for NTMWD

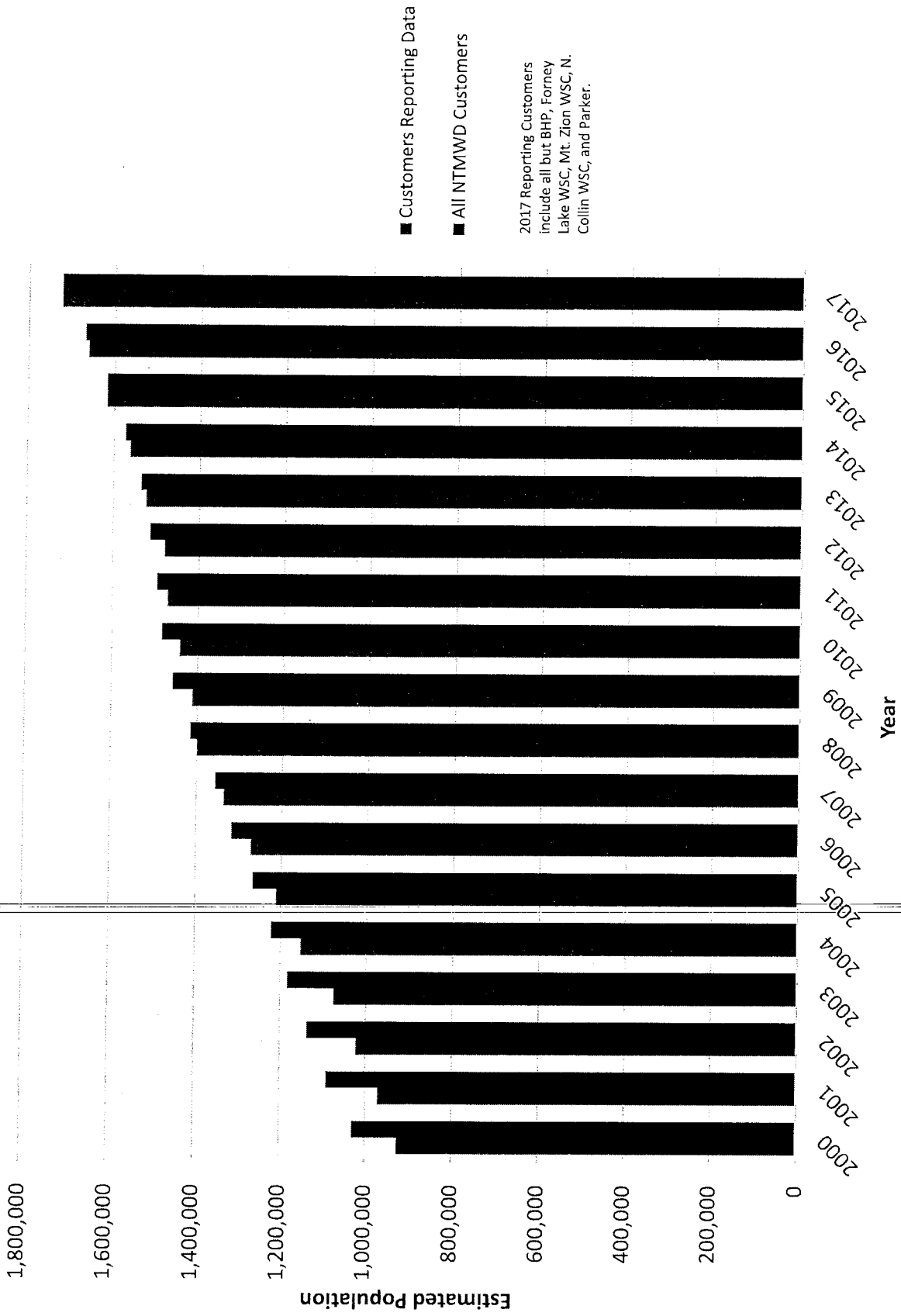
Year	Estimated Population	Deliveries from NTMWD (MG)	% Reuse	Reuse (MG)	In-City Municipal Use (MG)	In-City Municipal Use with Credit for Reuse	Per Capita Municipal Use (gpcd)	Per Capita Municipal Use with Credit	In-City Residential Use (MG)	Per Capita Residential Use (gpcd)	Other Supplies (MG)	Wholesale Sales (MG)	Billed Metered (MG)	Billed Unmetered (MG)	Unbilled Metered (MG)	Unbilled Unmetered (MG)	Water Losses (MG)	% Water Loss	
1995																			
1996																			
1997																			
1998																			
1999																			
2000	925,399	74,359	12.69%	9,438	73,521	64,083	218	190	43,454	129	634	1,012	66,749	0	602	557	7,085	9.45%	
2001	970,025	76,588	14.04%	10,752	75,635	64,883	214	184	43,169	122	621	1,134	65,995	0	617	577	10,020	12.98%	
2002	1,021,726	73,248	14.38%	10,535	71,784	61,249	193	165	37,187	100	494	1,409	61,129	0	636	606	11,372	15.42%	
2003	1,073,848	79,032	12.68%	10,019	76,873	66,854	197	171	44,347	113	518	1,691	69,443	0	646	607	8,855	11.13%	
2004	1,152,181	76,359	16.04%	12,246	74,901	62,655	179	150	42,605	101	612	1,119	67,175	0	664	718	8,247	10.71%	
2005	1,210,539	88,503	12.86%	11,379	85,705	74,326	195	169	51,810	117	729	2,191	82,017	0	689	779	5,559	6.23%	
2006	1,270,354	90,858	14.03%	12,749	88,221	75,472	191	164	55,207	119	1,026	2,531	83,969	0	697	870	6,547	7.12%	
2007	1,334,711	75,775	19.34%	14,658	72,691	58,033	149	120	43,331	89	963	2,623	68,110	0	807	916	7,055	9.19%	
2008	1,397,488	92,817	13.88%	12,882	89,335	76,453	175	150	53,266	104	885	3,023	81,920	0	335	2,013	8,924	10.65%	
2009	1,410,416	85,687	26.52%	22,724	81,940	59,216	159	115	47,862	93	578	2,943	74,848	0	80	1,586	9,186	10.55%	
2010	1,439,945	95,399	22.96%	21,904	91,601	69,697	174	133	54,392	103	742	3,101	83,006	0	87	1,493	11,299	11.75%	
2011	1,469,951	102,697	25.63%	26,321	97,850	71,579	182	133	61,487	115	754	3,740	92,678	0	76	1,465	8,862	8.57%	
2012	1,488,911	93,754	25.92%	24,301	89,256	64,955	164	119	55,553	102	677	3,246	82,871	0	101	1,089	10,044	10.64%	
2013	1,513,675	87,148	34.06%	29,683	82,661	52,978	150	96	51,886	94	550	3,090	77,920	0	116	828	8,557	9.76%	
2014	1,560,566	78,725	32.14%	25,302	73,877	48,575	130	86	46,234	81	693	2,999	69,106	0	112	1,300	8,721	10.98%	
2015	1,615,861	90,128	33.18%	29,905	84,374	54,469	143	92	52,364	89	817	3,524	79,724	0	92	1,523	9,380	10.31%	
2016	1,660,113	93,192	23.96%	22,329	82,891	60,562	137	100	50,277	83	840	3,410	78,424	0	75	3,510	11,718	12.46%	
2017	1,721,899	93,637	31.67%	29,655	82,353	52,698	131	84	51,734	82	807	3,702	77,988	145	763	3,074	8,771	9.67%	

Note:

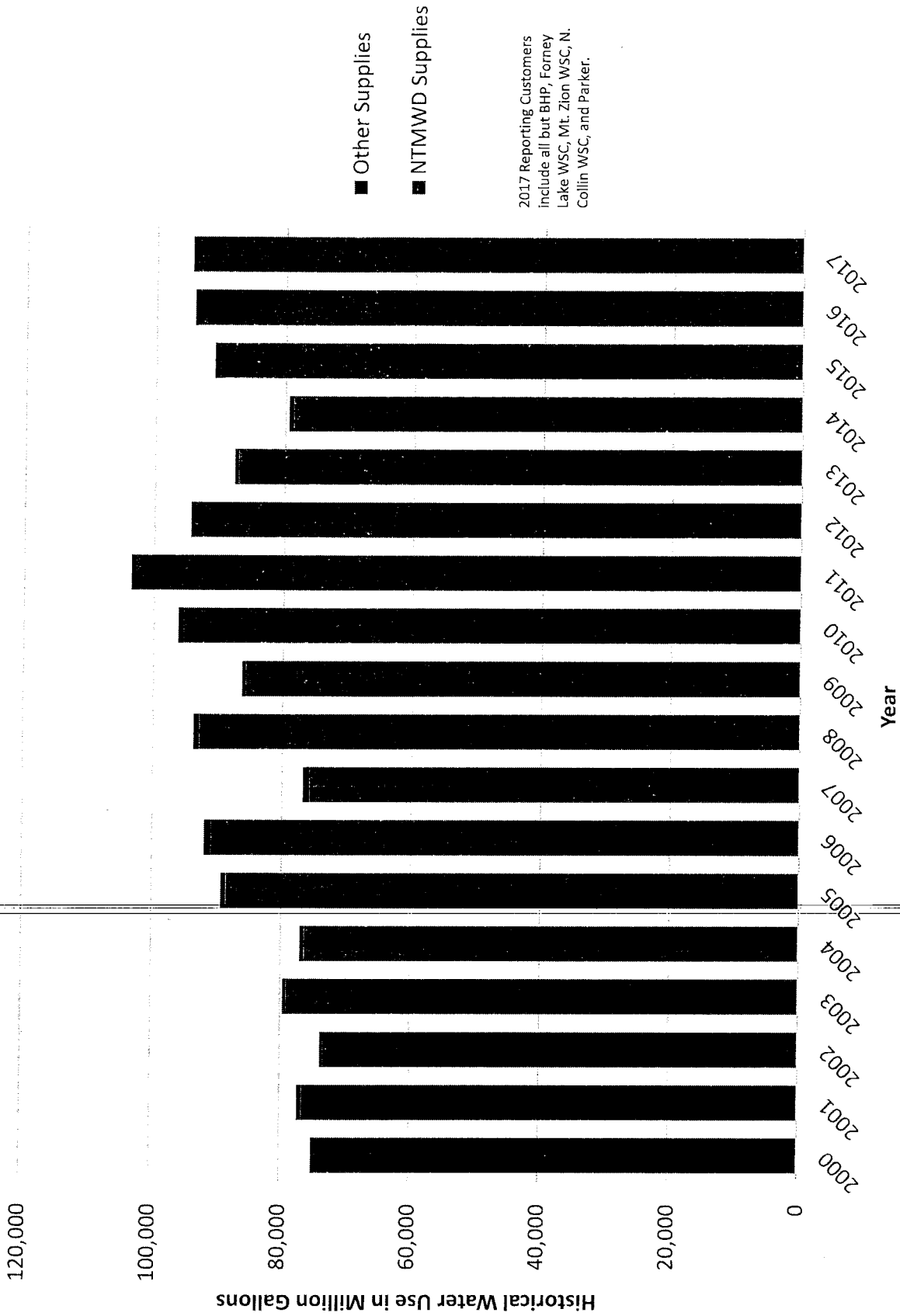
In-city municipal use = total water supplied less sales to industry, metered irrigation, wholesale sales and other sales.

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.

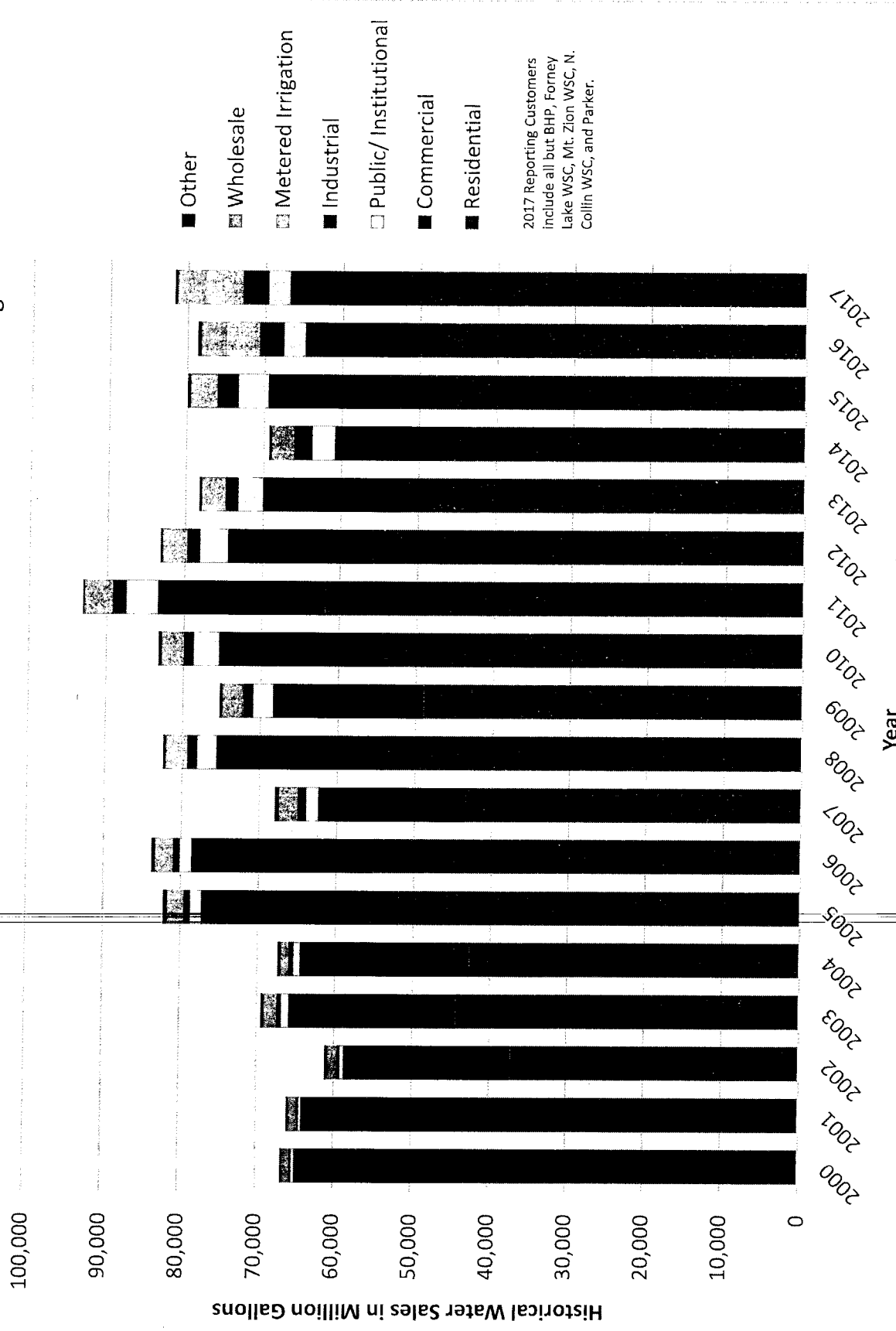
Estimated Historical Population for NTMWD Customers Providing Data for 2000-2017



Historical Water Use for NTMWD Customers Providing Data

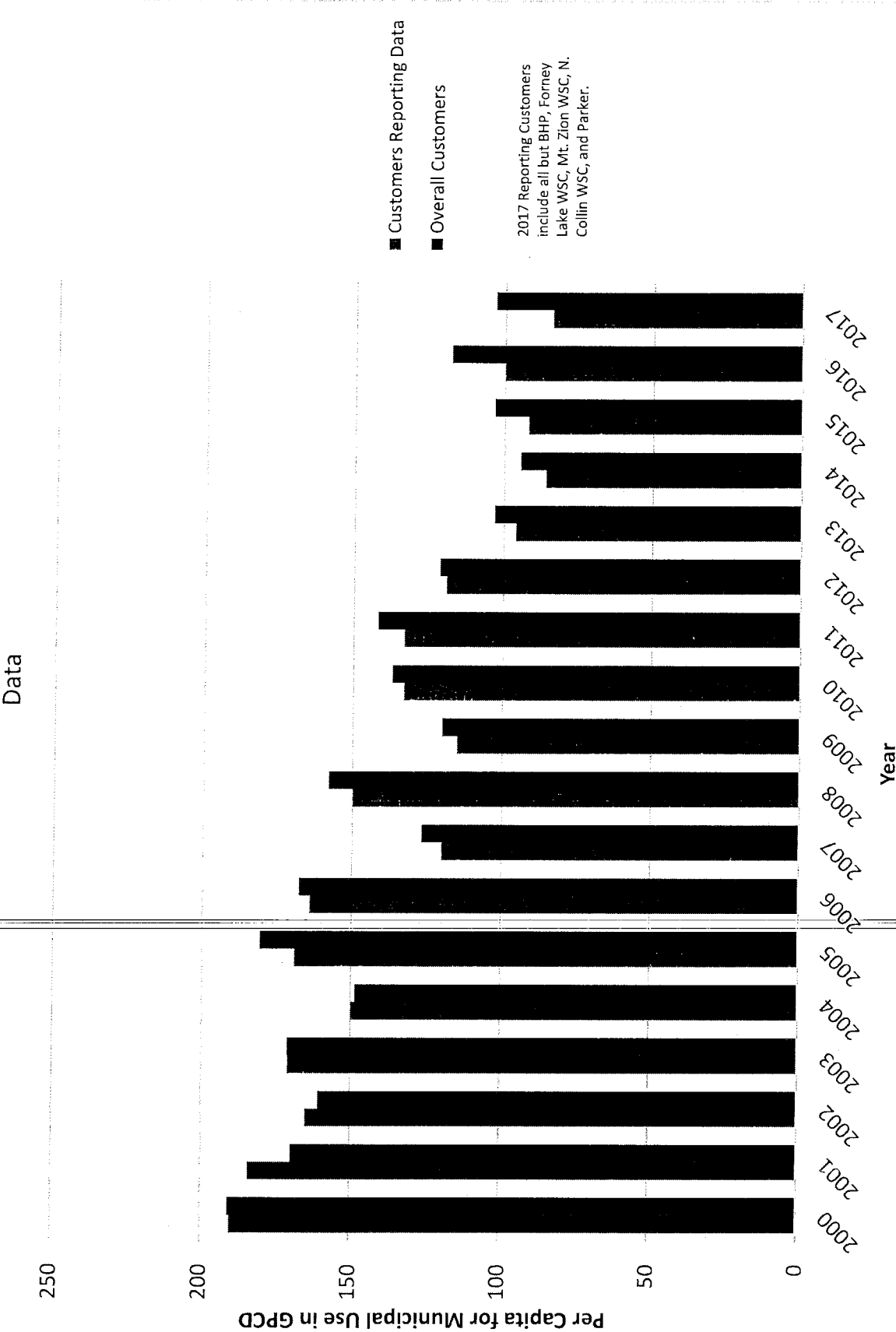


Historical Water Sales by Classification for NTMWD Customers Providing Data

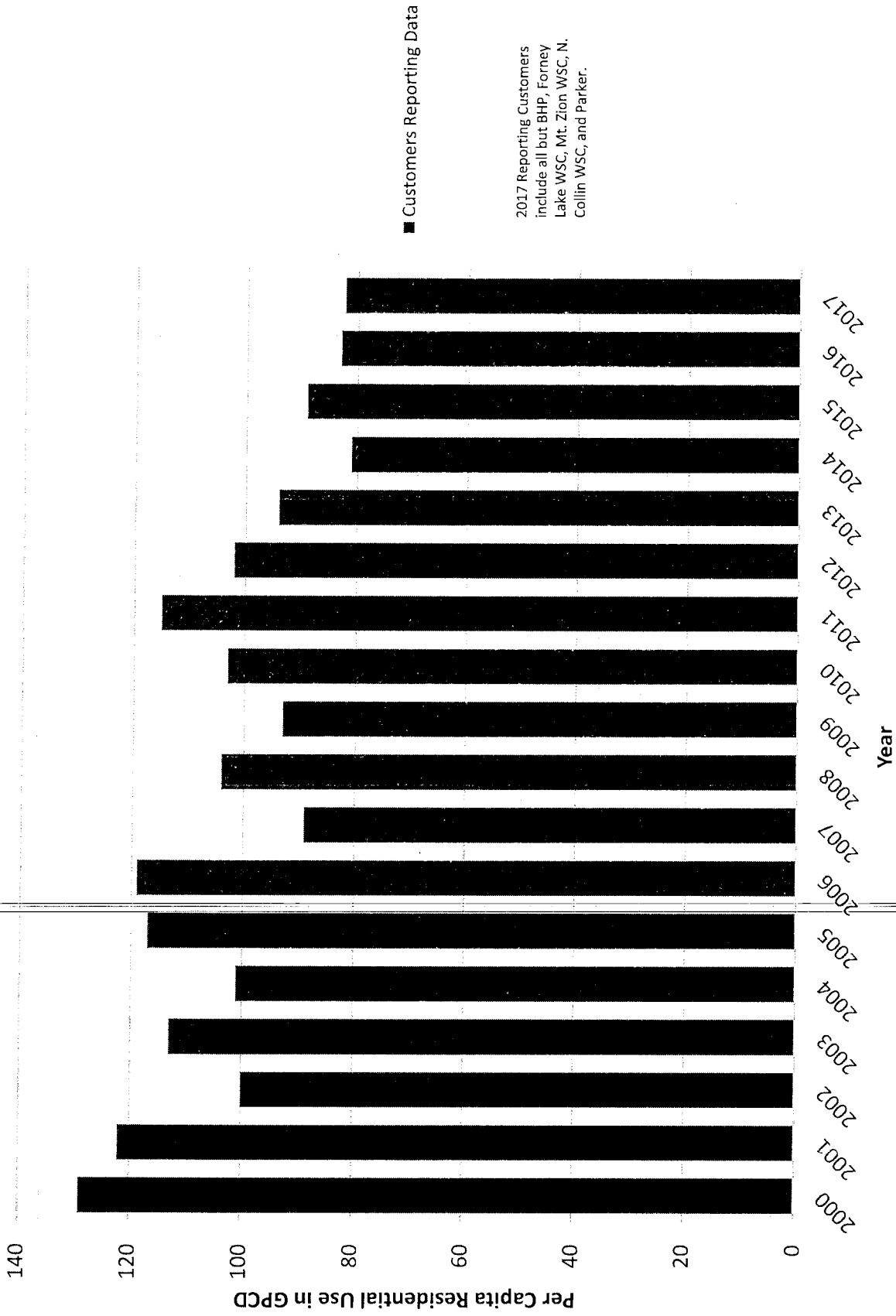


2017 Reporting Customers include all but BHP, Forney Lake WSC, Mt. Zion WSC, N. Collin WSC, and Parker.

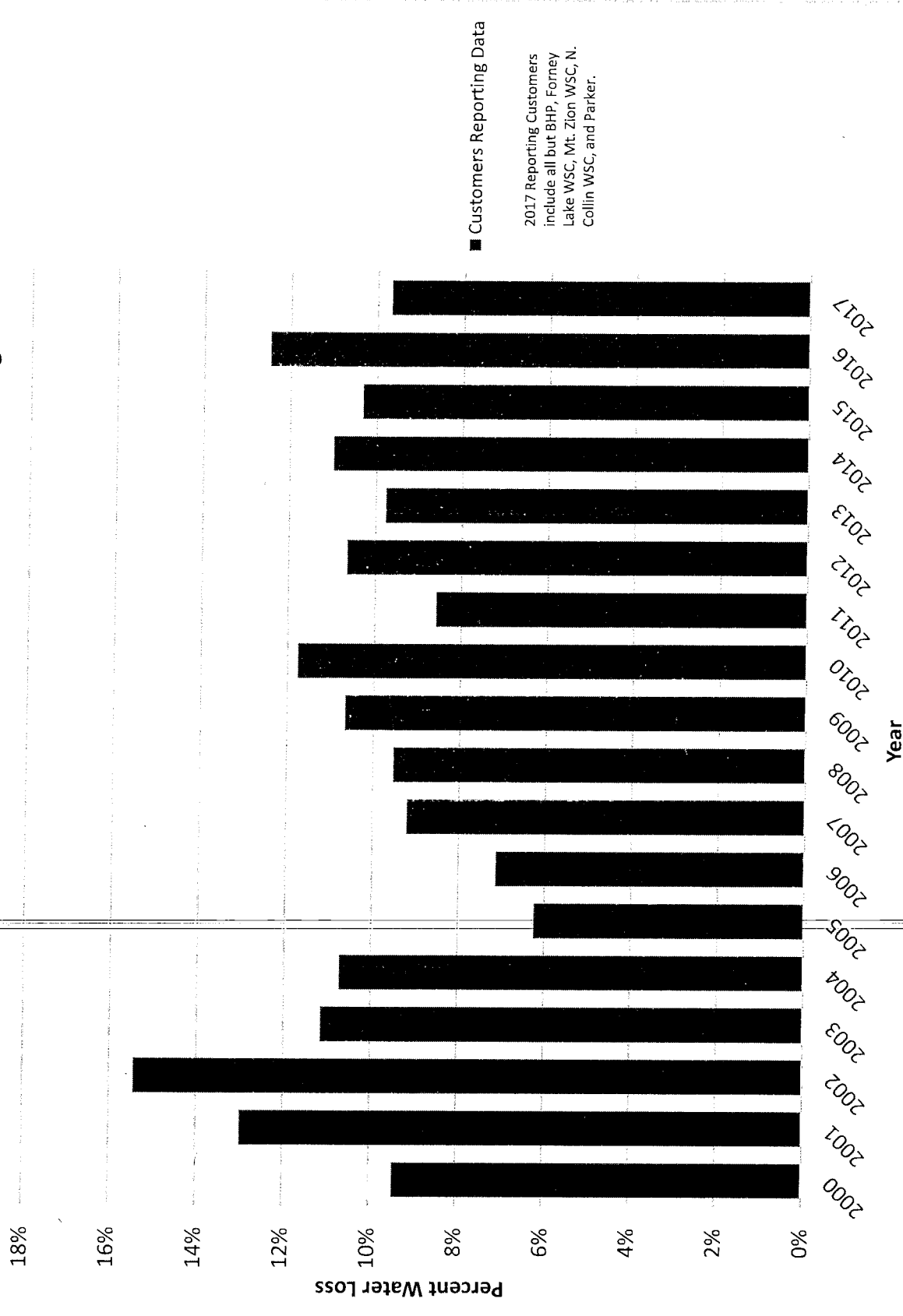
Historical Per Capita Municipal Use with Credit for Reuse for NTMWD Customers Providing Data



Historical Per Capita Residential Use for NTMWD Customers Providing Data



Historical Percent Water Loss for NTMWD Customers Providing Data





APPENDIX E

NTMWD MEMBER CITY AND CUSTOMER ANNUAL WATER CONSERVATION REPORT

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

Water Utility Reporting:
 Filled Out By: _____
 Phone Number: _____
 Email: _____
 Date Completed: _____
 Year Covered: _____
 # of Connections _____
 Estimated Population _____
 Source: _____
 # of Irrigation Systems _____

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

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

Peak Day Usage
 Peak Day (MG)
 Average Day (MG)
 Peak/Average Day Ratio

Authorized Consumption and Water Loss

Total System Input Volume:
 Billed Metered:
 Billed Unmetered:
 Unbilled Metered:
 Unbilled Unmetered:
 Total Authorized Consumption:
 Water Losses:
 Total Loss Percent:
 Goal for Total Loss Percent:

Per Capita Use (Gallons per person per day)

Municipal Use (MG)
 Residential Use (MG)
 Total Per Capita Use (gpcpd)
 Municipal Per Capita Use (gpcpd)
 Residential Per Capita Use (gpcpd)
 5-year Per Capita Goal
 10-year Per Capita Goal

Recorded Wholesale Sales by Month (in Million Gallons):

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

Information on Wholesale Customers:

Customer	Estimated Total Population

Unusual Circumstances (use additional sheets if necessary):

--

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

--

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

--	--

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

--	--

Other (use additional sheets if necessary):

--	--

Historical Water Use Data for

Year	Connections	Estimated Population	Deliveries from NTMWD (MG)	Other Supplies (MG)	Metered Sales by Category (Million Gallons)						Total	
					Residential	Commercial	Public/Institutional	Industrial	Metered Irrigation	Wholesale		Other
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0

Historical Per Capita Use Data and Water Loss for

Year	Estimated Population	In-City Municipal Use (MG)	Per Capita Municipal Use (gpcd)	Per Capita Residential Use (gpcd)	Deliveries from NTMWD (MG)	Other Supplies (MG)	Wholesale Sales (MG)	Billed Metered (MG)	Billed Unmetered (MG)	Unbilled Metered (MG)	Unbilled Unmetered (MG)	Water Losses (MG)	% Water Loss
1995	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1996	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1997	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1998	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1999	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2000	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2001	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2002	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2003	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2004	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2005	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2006	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2007	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2008	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2009	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2010	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2011	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2012	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2013	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2014	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2015	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2016	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2017	0	0	0	0	0	0	0	0	0	0	0	0	0.00%

Note:

In-city municipal use = total water supplied less sales to industry, metered irrigation, 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.

Estimated Historical Population

1

1

1

1

Estimated Population

1

0

0

0

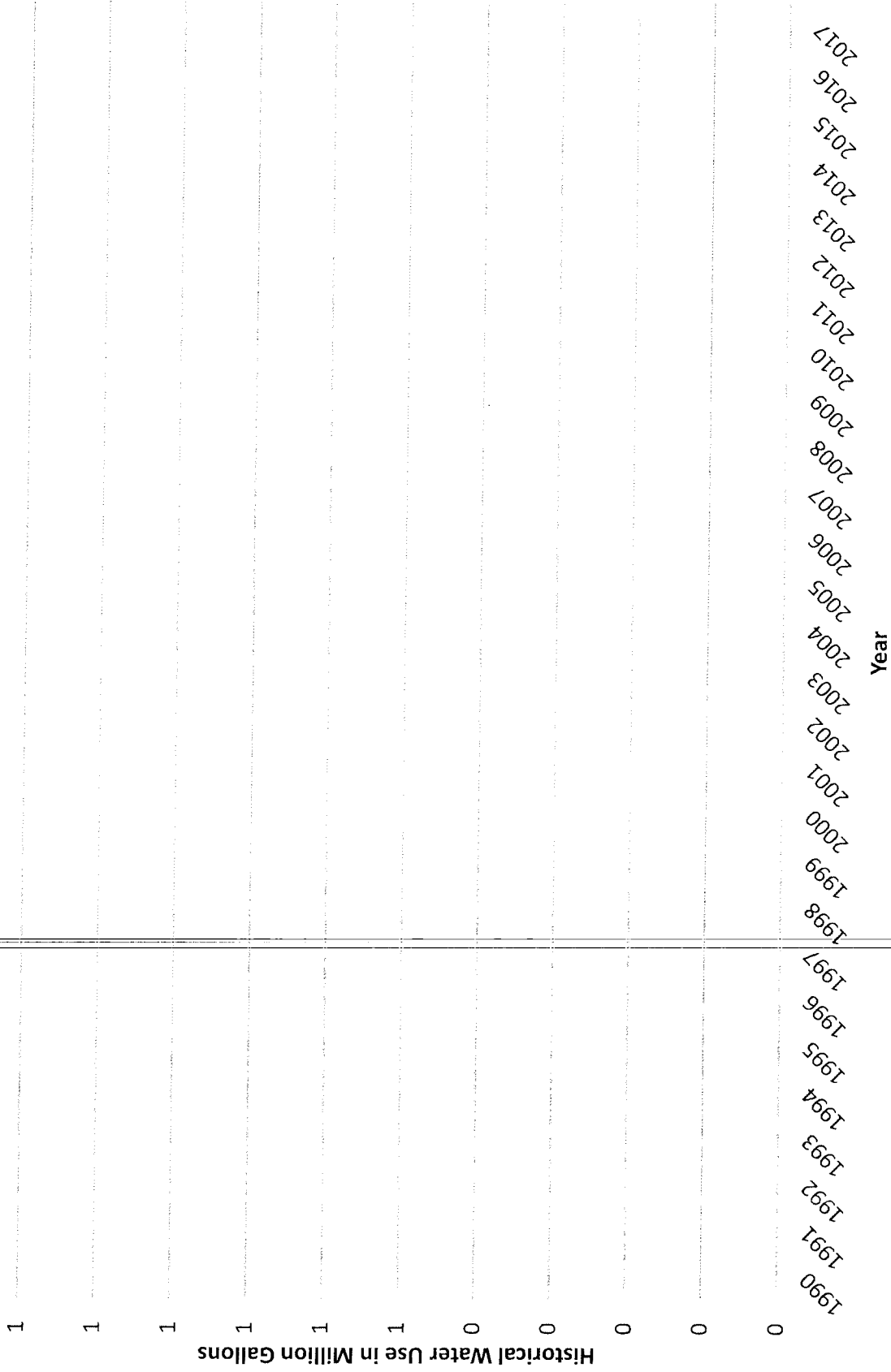
0

0

1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

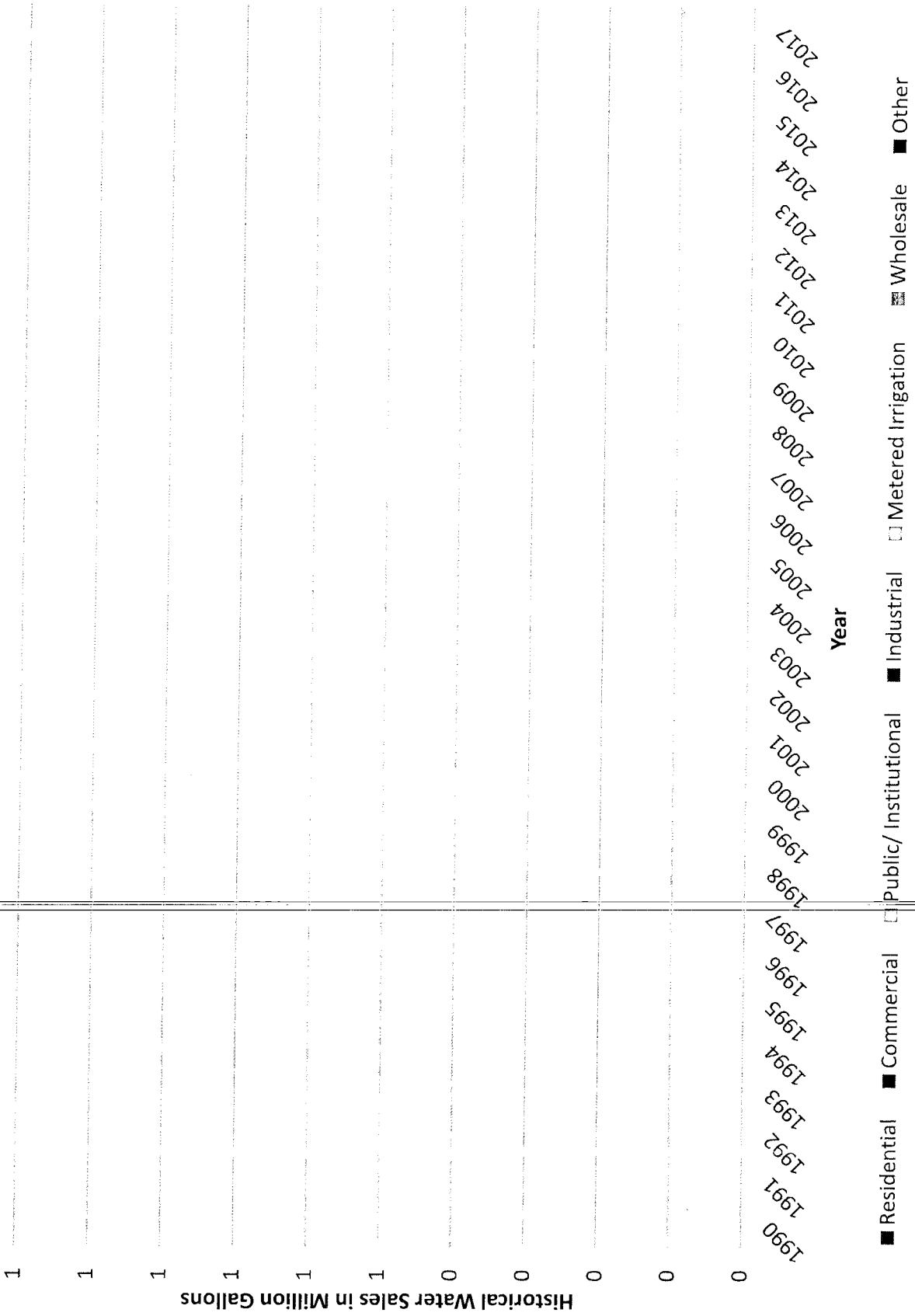
Year

Historical Water Use

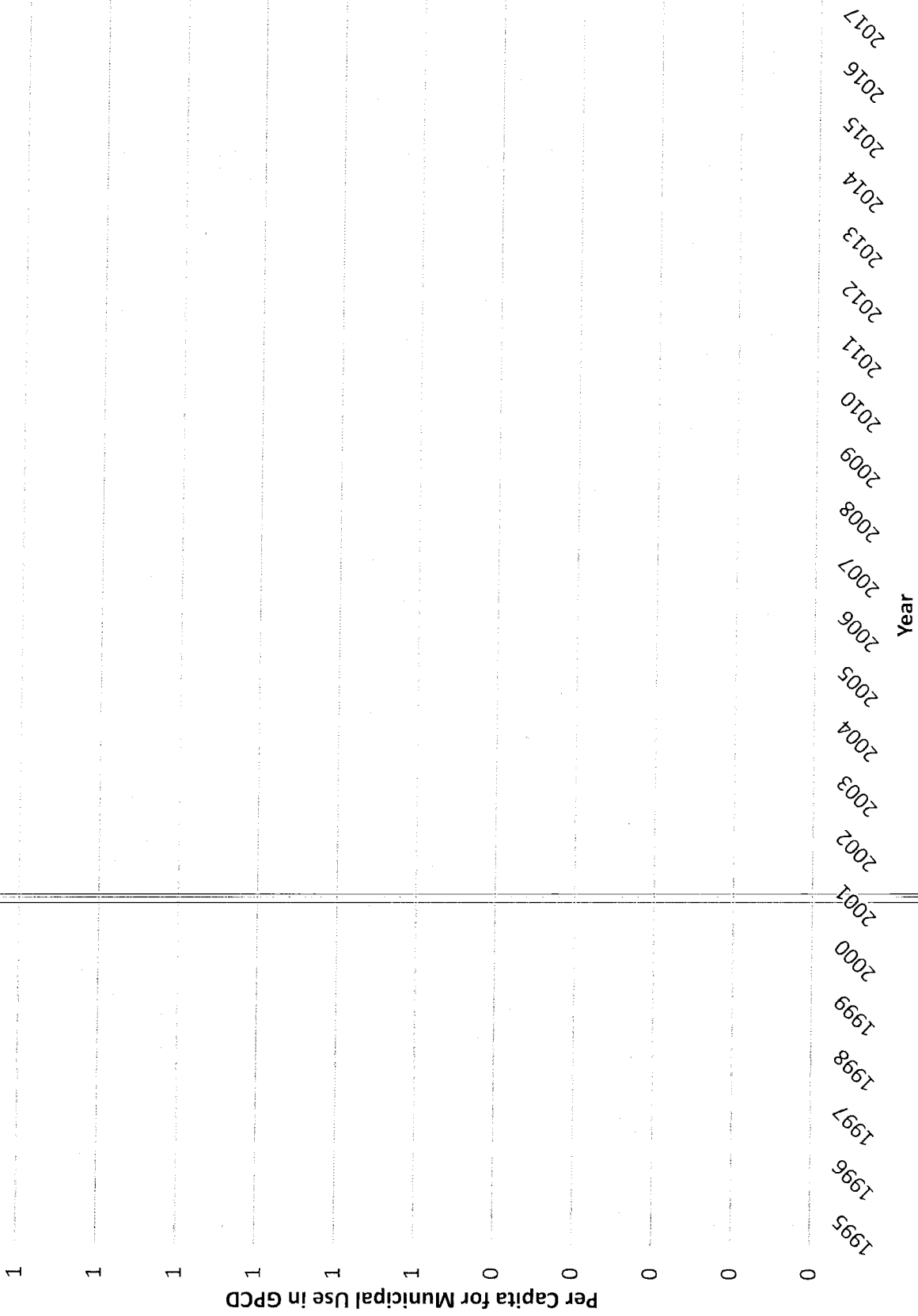


■ NTMWD Supplies ■ Other Supplies

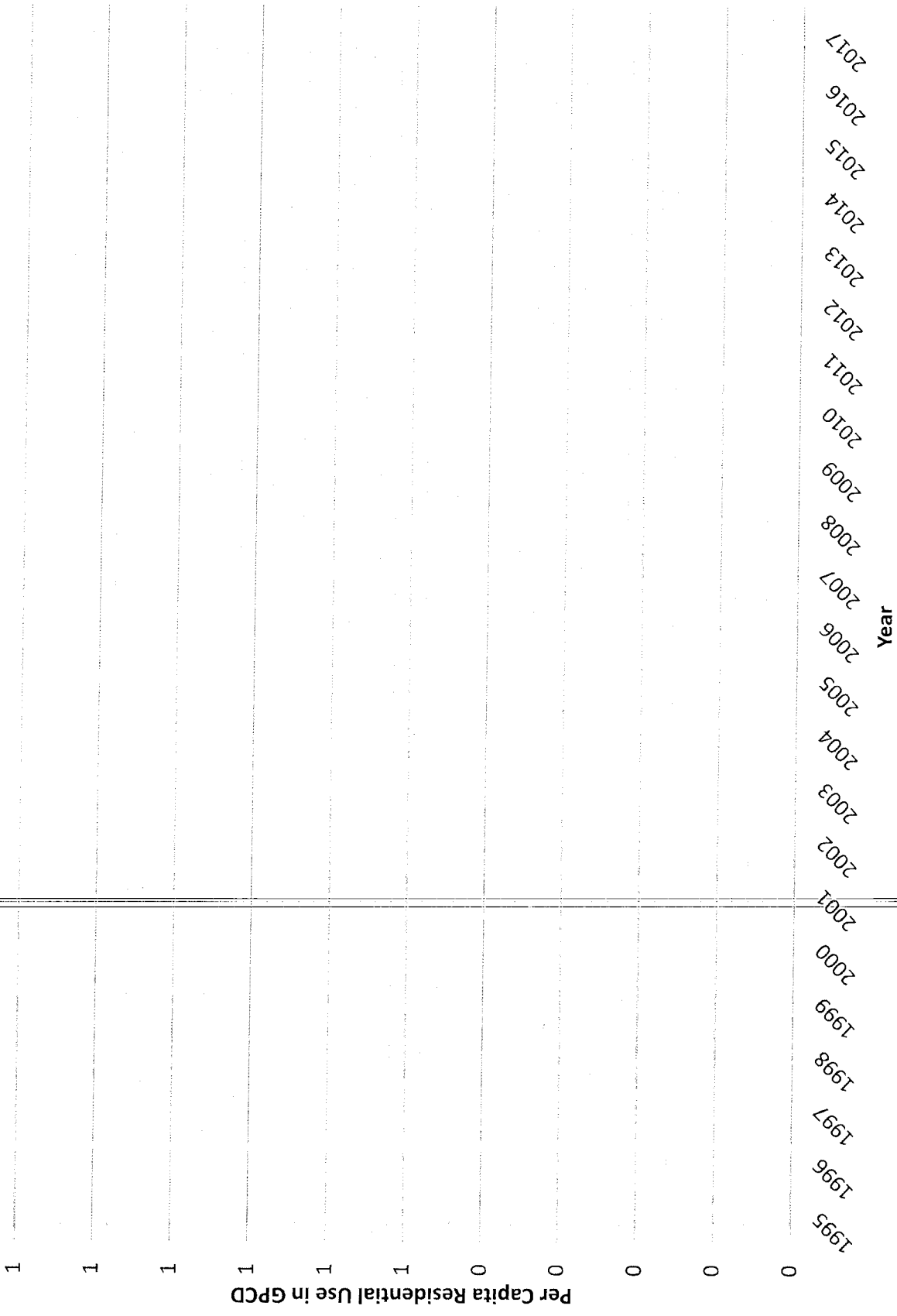
Historical Water Sales by Classification



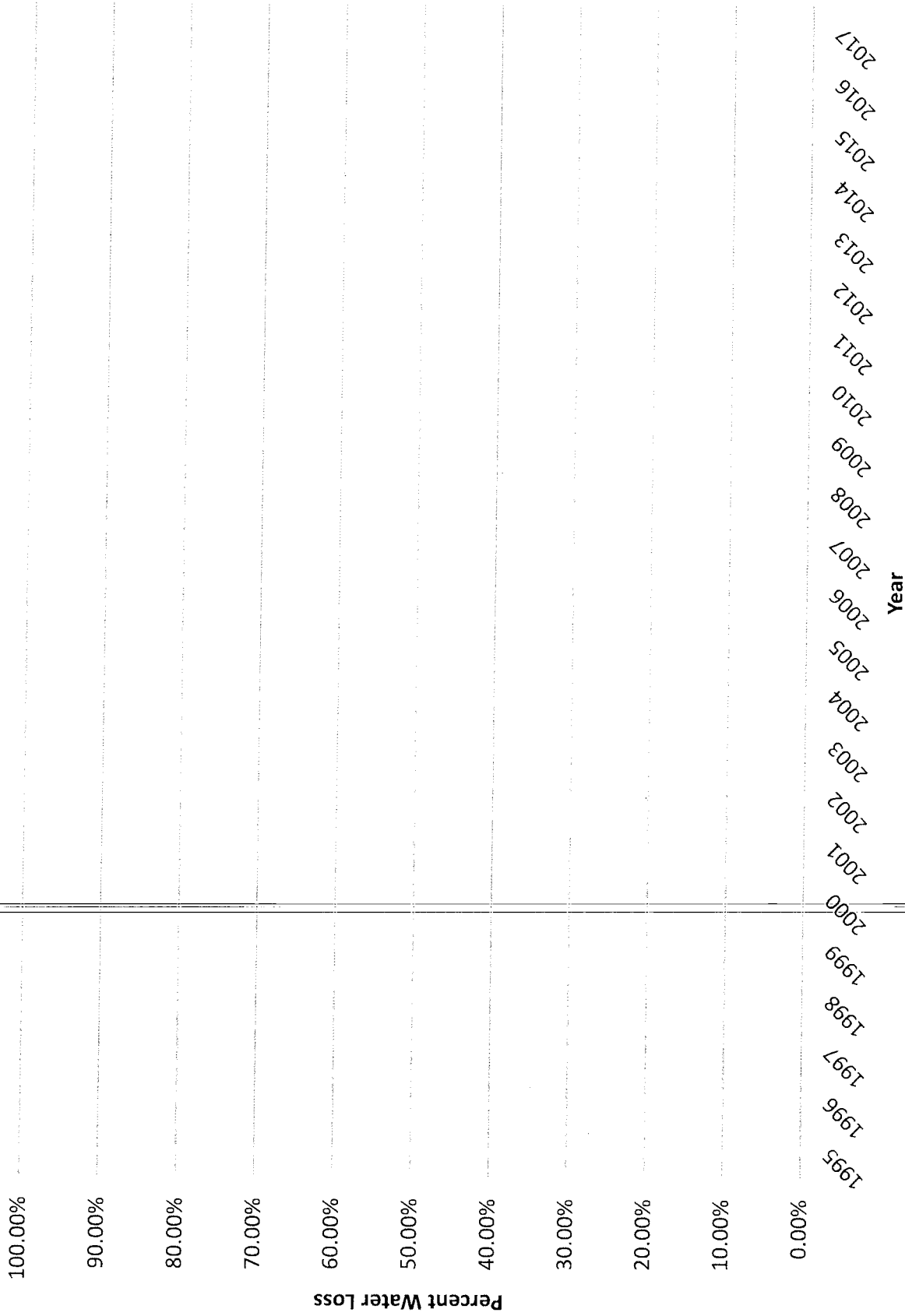
Historical Per Capita for Municipal Use



Historical Per Capita for Residential Use



Historical Percent Water Loss





APPENDIX F
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) 239-4691, 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. The most current five-year submittal deadline is **May 1st, 2019**. 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: _____
2. Water Right Permit or Certificate Nos. _____

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

- _____ Municipal Water Use by Public Water Supplier
 _____ Wholesale Public Water Supplier
 _____ Industrial Use

_____ Mining Use

_____ 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 _____ 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 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 512-239-4691 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, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.

Yes _____ No _____

If the targets were not met, please provide an explanation.

7. 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 _____ No _____

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

8. 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.

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

Contact Person Title/Position: _____

Contact Address: _____

Contact Phone Number: _____ Contact Email Address: _____

Signature: _____ Date: _____



APPENDIX G
LETTERS TO REGION C AND REGION D
WATER PLANNING GROUPS



Regional. Reliable. Everyday.

March 15, 2022

Mr. Kevin Ward
Chair, Region C Water Planning Group
c/o Trinity River Authority
P.O. Box 60
Arlington, Texas 76004

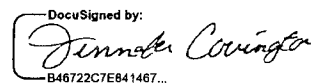
Re: North Texas Municipal Water District (NTMWD) Supplemented Water Conservation Plan

Dear Mr. Ward:

Please find enclosed a copy of the North Texas Municipal Water District (NTMWD) Supplemented Water Conservation Plan. NTMWD is 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 2019 Water Conservation Plan for the NTMWD was supplemented to include an additional appendix (Appendix J) to comply with the requirements of the Texas Commission on Environmental Quality for submission of a water use permit application for return flows from Sister Grove Regional Water Resource Recovery Facility. The Board of Directors of the NTMWD originally adopted the plan on January 24, 2019. The supplemented plan was adopted on January 27, 2022.

Sincerely,

DocuSigned by:

B46722C7E841467...

JENNAFER P. COVINGTON
Executive Director

JPC/HD/bb

xc: Billy George
Galen Roberts
Wayne Larson, APR, CPC
Helen Dulac



Regional. Reliable. Everyday.

March 15, 2022

Mr. Jim Thompson
Chair, Region D Water Planning Group
c/o Northeast Texas Municipal Water District
P.O. Box 955
Hughes Springs, Texas 75656

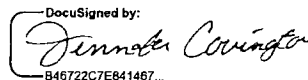
Re: North Texas Municipal Water District (NTMWD) Supplemented Water Conservation Plan

Dear Mr. Thompson:

Please find enclosed a copy of the North Texas Municipal Water District (NTMWD) Supplemented Water Conservation Plan. NTMWD is submitting a copy of this plan to the Region D Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules.

The 2019 Water Conservation Plan for the NTMWD was supplemented to include an additional appendix (Appendix J) to comply with the requirements of the Texas Commission on Environmental Quality for submission of a water use permit application for return flows from Sister Grove Regional Water Resource Recovery Facility. The Board of Directors of the NTMWD originally adopted the plan on January 24, 2019. The supplemented plan was adopted on January 27, 2022.

Sincerely,

DocuSigned by:

B46722C7E841467...

JENNAFER P. COVINGTON
Executive Director

JPC/HD/bb

xc: Billy George
Galen Roberts
Wayne Larson, APR, CPC
Helen Dulac



Regional. Reliable. Everyday.

March 15, 2022

Resource Protection Team, MC-160
c/o Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711

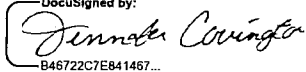
Re: North Texas Municipal Water District (NTMWD) Supplemented Water Conservation Plan

To Whom It May Concern:

Please find enclosed a copy of the North Texas Municipal Water District (NTMWD) Supplemented Water Conservation Plan. NTMWD is submitting a copy of this plan to the Texas Commission on Environmental Quality (TCEQ) in accordance with TCEQ rules.

The 2019 Water Conservation Plan for the NTMWD was supplemented to include an additional appendix (Appendix J) to comply with the requirements of the Texas Commission on Environmental Quality for submission of a water use permit application for return flows from Sister Grove Regional Water Resource Recovery Facility. The Board of Directors of the NTMWD originally adopted the plan on January 24, 2019. The supplemented plan was adopted on January 27, 2022.

Sincerely,

DocuSigned by:

B46722C7E841467...
JENNAFER P. COVINGTON
Executive Director

JPC/HD/bb

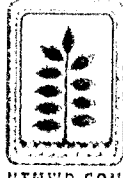
xc: ~~Billy George~~
Galen Roberts
Wayne Larson, APR, CPC
Helen Dulac



APPENDIX H

NORTH TEXAS MUNICIPAL WATER DISTRICT BOARD MINUTES SHOWING ADOPTION OF THE WATER CONSERVATION AND WATER RESOURCE MANAGEMENT PLAN

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NTMWD.COM

NORTH TEXAS MUNICIPAL WATER DISTRICT

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MINUTES OF REGULAR MEETING OF THE BOARD OF DIRECTORS JANUARY 27, 2022

The North Texas Municipal Water District (NTMWD) Board of Directors met in a regular meeting on Thursday, January 27, 2022, at 2:30 p.m. Notice of the meeting was legally posted in accordance with Government Code, Title 551, Open Meetings.

I. CALL TO ORDER

President Phil Dyer called the meeting to order at approximately 2:30 p.m.

President Dyer advised the following regarding the meeting:

The meeting today is being conducted in person with two-way video and audio communication between Board members participating by videoconference, establishing a quorum. The public may attend the meeting in person. Audio and video of Board members participating by videoconference will be visible. Members of the public wishing to listen to live audio from the meeting may do so by calling in.

II. INVOCATION

Director Chip Imrie offered the invocation.

III. PLEDGE OF ALLEGIANCE

President Dyer led the Pledge of Allegiance.

IV. PLEDGE OF ALLEGIANCE TO THE TEXAS FLAG

President Dyer led the Pledge of Allegiance to the Texas Flag.

V. ROLL CALL/ANNOUNCEMENT OF QUORUM

The roll was called, and attendance was confirmed as follows:

	DIRECTORS	ABSENT	REMOTE
1	Anderson, Terry Sam		√
2	Appolito, Robert	√	
3	Boren, Kalen		√
4	Carr, John		

5	Crump, George		
6	Dyer, Phil		
7	Farmer, Joe		
8	Fuller, Marvin		
9	Gordon, Don		
10	Hollifield, David		
11	Imrie, Chip		
12	Johnson, Blair		√
13	Kelley, Ron		
14	Kerr, James (Jim)		
15	Keever, Geralyn		
16	May, Jack		
17	Murphy, John		√
18	Parks, Larry		
19	Patrick, Brenda Jean		√
20	Peasley, Richard		
21	Shuylar, Lynn		
22	Stephens, Keith		
23	Sweeden, John		√
24	VACANCY- Princeton		
25	VACANCY- Princeton		

The following NTMWD legal and professional consultants attended the meeting:

- Lauren Kalisek, Mike Gershon, and Sara Thornton– Lloyd Gosselink Rochelle & Townsend
- Mark Walsh – Saunders Walsh & Beard
- Alan Raynor – McCall Parkhurst & Horton
- David Medanich – Hilltop Securities
- Mike Rickman – Rickman Consulting, LLC
- Kevin Smith – Crowe LLP

VI. OPENING REMARKS

A. President’s Remarks concerning current events, conduct of meeting, posted agenda items, committee assignments, and related matters

President Dyer reviewed the tentative list of meetings for February 2022 as follows:

- o Wednesday, February 9th – Executive and Legislative Committees
- o Wednesday, February 23rd – Wastewater and Water Committees
- o Thursday, February 24th – Board Meeting

B. Executive Director’s Status Report concerning legislation and regulatory matters, budgets, current projects and ongoing programs of the District including the Regional Water System, Regional Wastewater System, Regional Solid Waste System, Watershed Protection, and Water Conservation

Executive Director Jenna Covington introduced newly promoted and appointed Executive Team members and reviewed the roles of each in their new positions.

Promotions

Mike Friesen, Assistant Deputy for Solid Waste and Fleet
Galen Roberts, Assistant Deputy for Water Resources
Zeke Campbell, Assistant Deputy for Water Treatment and Conveyance
David Brewster, Assistant Deputy for Wastewater Operations

New Appointments

Jeanne Chipperfield, Deputy Director of Administrative Services
Wayne Larson, Director of Communications

Executive Director Covington provided some background on the District's Carl W. Riehn Award for Employee of the Year and introduced the four finalists as follows:

Kathleen Vaught, Public Relations Specialist
Walter Miller, Transfer Station Foreman- Custer
Kevin Briones, Shift Supervisor- Wylie Water Treatment Plant
Jennifer Adkins, Information Systems Assistant- Wilson Creek

Executive Director Covington announced that the 2021 Employee of the Year is Kevin Briones. Kevin has been with the District since 2010. Comments from the nominations were read.

Executive Director Covington then spoke regarding the Team of the Year program that began in 2020. She advised that due to COVID the District was not able to recognize the 2020 team, so it is being done now. The 2020 Team of the Year is the Facility Services Custodial Team. The comments regarding the team were read recognizing their efforts during the COVID pandemic. Those team members include:

Michael Hammond
Jamie Phillips
Robin Clarke
Larry Bishop (Retired)
Ronnie McGuire (Retired)
Josh Haynes (Former Employee)
Legacy Pickrom (Former Employee)

Next, the 2021 Team of the Year was announced. Executive Director Covington advised the award is going to the group of individuals who responded to the Wastewater leak that occurred at the Richardson Spring Creek Force Main. She advised that employees from across the District worked together to resolve the wastewater leak with minimal impact to the environment. Those recognized include the following employees:

Lauren Kubin Jamie Nichols Bradley Pollard Bengie Hughes Larry Gorum Marty Luke	Eben Gibbs Behzad Maboudi Phillip Hicks Dwayne Gallagher Drake House Shawn Kirkpatrick
--	---

Clint Coker Tino Tolentino Justin Diviney Floyd Cress Gary Bentley Colton West Brandon Stowe Rory Watkins Jason Natali Efren Martinez Josh Andrews Adam Strickland Raul Hernandez	Josh Jackson Esteban Davis Clay Cullen Juan Gonzalez William McDowell Josh Crowell Bryon Stanton Darren Adams Coy Cowart Carlos Rodriguez Francisco Rico Steven Kennemer Kathleen Vaught
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Executive Director Covington advised that on Monday there will be Member and Customer City meetings held with Amawalk regarding the independent financial review. She also advised that the annual water system maintenance is planned for March 1-29. She reviewed that this is the required temporary change in water disinfectant and noted that the public will be notified.

VII. PUBLIC COMMENTS

Prior to the start of the meeting, speakers must complete and submit a “Public Comment Registration Form.” During the public comment portion of the meeting, speakers will be recognized by name and asked to provide their comments. The time limit is three (3) minutes per speaker, not to exceed a total of thirty (30) minutes for all speakers. The Board may not discuss these items but may respond with factual or policy information.

Mr. Justin Jinright addressed the Board regarding his ongoing concerns over the District’s policies. He advised he has spoken to other landowners who have also been adversely impacted and some will be coming to speak to the Board in the future. Mr. Jinright offered his congratulations to the new Executive Team members and new Board members.

VIII. DISCUSSION ITEMS

A. Update on Sister Grove Regional Water Resource Recovery Facility

Deputy Director Cesar Baptista presented this item. He provided a location map and a site map showing the Phase 1 and Phase 2 facility locations. He provided a financial update, noting that the current construction estimate is approximately \$554 million. Construction photos and on-going activities were provided.

In response to a Director’s question, Assistant Deputy R.J. Muraski advised that on February 22nd there will be a community meeting at the City of New Hope and a briefing will be provided at that time. He noted that the Facilities Manager for the Sister Grove facility has already been hired and is on-site monitoring construction. He will be the point of contact for the community. Mr. Baptista added that there are few people living in close proximity to the site.

B. Update on Long Range Water Supply Plan

Assistant Deputy Muraski presented this item. He advised that the Long Range Water Supply work session that was originally planned for January 2022 has been moved to February 17th at 1 p.m. He noted that as the population is increasing the demands for water are higher than originally planned and the supplies are less than expected. He advised this is happening across the state.

The purpose of the work session is to present strategies within five categories to evaluate and to gain input from the Directors on those strategies. Mr. Muraski advised that a handout with the strategies and evaluation criteria has been provided to the Directors so they can review them in advance of the work session. He asked that if Directors have specific questions, to please send them in to staff prior to the work session.

In response to a Director's question regarding the term "joint with partners", Mr. Muraski advised that some interlocal agreements are already in place for some of the strategies. Mr. Muraski advised that a high level cost estimate on the strategies will be provided in order to compare them.

IX. EXECUTIVE SESSION

At 3:19 p.m. President Dyer announced the need for an Executive Session of the Board of Directors to discuss the following agenda items:

- A. Update on Long Range Water Supply Plan
(Tex. Gov't Code Sections 551.071 and 551.072)
- B. Consult with legal counsel regarding pending or contemplated litigation
(Tex. Gov't Code Section 551.071)
 - 1. *NTMWD v. S.J. Louis Construction of Texas, Ltd., ACT Pipe and Supply, Inc., North American Pipe Corporation, J-M Manufacturing, Inc., d/b/a JM Eagle, Inc.*, Cause No. 429-06607-2019, 429th Judicial District, Collin County, Texas
- C. Discuss Security Audit
(Tex. Gov't Code Sections 551.071 and 551.076)

President Dyer confirmed with staff that the public access line was disconnected and that the audio recording was disabled during the Executive Session discussion.

X. RECONVENE INTO REGULAR SESSION

In accordance with Texas Government Code, Chapter 551, the Board of Directors of NTMWD will reconvene into regular session to consider action, if any, on matters discussed in Executive Session.

Open Session reconvened at 4:16 p.m. The public teleconference line was reconnected.

No action was taken in Executive Session. No action was taken in open session as a result of Executive Session.

XI. CONSENT AGENDA ITEMS

President Dyer inquired whether any Director wished to remove an item from the Consent Agenda for separate discussion. Director John Carr requested separate discussion on Item. C.

Upon a motion to approve the Consent Agenda except for Item C. by Director Chip Imrie and a second by Director Geralyn Keever, the Board of Directors voted unanimously to approve the Consent Agenda items except for Item C.

- A. **Approval of Regular Board Meeting Minutes - Consent Agenda Item No. 22-01-01**
- Consider approval of December 16, 2021, Board of Directors Regular meeting minutes
- B. **Approval of Monthly Construction Report - Consent Agenda Item No. 22-01-02**
- Consider approval of January 2022 Monthly Construction Report
- ~~C. **Authorize execution of property acquisition program and adoption of Resolution No. 22-01 to acquire property for the Bonham Water Treatment Plant Intake Improvements project - Consent Agenda Item No. 22-01-03**~~
- ~~• Consider authorizing the Executive Director to execute a property acquisition program with a budget of \$86,000 and adoption of Resolution No. 22-01 authorizing use of eminent domain to acquire property for Project No. 101-0582-21, Lake Bonham Intake Improvements~~
- D. **Adoption of Resolution No. 22-02 authorizing the use of the Construction Manager At-Risk (CMAR) delivery methods - Consent Agenda Item No. 22-01-04**
- Consider adoption of Resolution No. 22-02 and authorizing the use of CMAR delivery methods for Leonard Water Treatment Plant Phase II, Project No. 101-0600-21; Bois d'Arc Lake Raw Water Pump Station Phase II, Project No. 101-0601-21; Leonard Water Treatment Plant Terminal Storage Reservoir Phase II Project No. 101-0602-21, and Leonard Water Treatment Plant High Service Pump Station - South, Project No. 101-0603-22
-
- ~~E. **Authorize supplementing of the NTMWD Water Conservation Plan - Consent Agenda Item No. 22-01-05**~~
- ~~• Consider authorizing the supplementing of the 2019 NTMWD Water Conservation Plan in order to comply with the requirements for the Texas Commission on Environmental Quality (TCEQ) for submission of a water use permit application for return flows from Sister Grove Regional Water Resource Recovery Facility~~
- F. **Authorize execution of an engineering services agreement for the East System Control Valve Vault project - Consent Agenda Item No. 22-01-06**
- Consider authorizing the Executive Director to execute an engineering services agreement with Pape-Dawson Engineers, Inc. in the amount of \$390,607 for final design on Project No. 101-0604-22, East System Control Valve
- Consent Item C.*

C. **Authorize execution of property acquisition program and adoption of Resolution No. 22-01 to acquire property for the Bonham Water Treatment Plant Intake Improvements project - Consent Agenda Item No. 22-01-03**

- Consider authorizing the Executive Director to execute a property acquisition program with a budget of \$86,000 and adoption of Resolution No. 22-01 authorizing use of eminent domain to acquire property for Project No. 101-0582-21, Lake Bonham Intake Improvements

Director David Hollifield, Real Estate Committee Chair, advised that the Real Estate Committee reviewed this item yesterday and voted to recommend the Board authorize the execution of property acquisition program with a budget of \$86,000.

Director John Carr advised he pulled this item from the Consent Agenda because he believes the ponds on the property were not taken into consideration when a value was placed. He reviewed that during the Real Estate Committee meeting Garrett Murphree advised the comps obtained were for unimproved property, and according to the Tax Code, ponds should be taken into consideration as an improvement. He expressed that he wants to be sure the District is appropriately compensating the landowner. He requested the matter be tabled and an appraisal done.

Director John Carr made a motion to table the vote on this item for a revaluation of the property value. Director Brenda Jean Patrick seconded the motion.

Discussion followed as to the normal procedures of the District for obtaining needed property. Mr. Baptista advised the \$86,000 amount is a starting point for negotiations with the landowner. If needed as part of those negotiations an appraisal would be done. He added that if an appraisal comes in higher than the offer, the District will adhere to the appraisal amount. If necessary, staff would come back to the Board for additional funding.

After receiving clarifying information on this item, Director Brenda Jean Patrick withdrew her second on the motion to table.

Director Larry Parks seconded the motion to table.

A roll call vote on the motion to table is as follows:

	DIRECTORS	Aye	Nay
1	Anderson, Terry Sam		√
2	Appolito, Robert Absent		
3	Boren, Kalen	√	
4	Carr, John	√	
5	Crump, George		√
6	Dyer, Phil		√
7	Farmer, Joe		√
8	Fuller, Marvin		√
9	Gordon, Don		√
10	Hollifield, David		√
11	Imrie, Chip		√

12	Johnson, Blair		√
13	Kelley, Ron		√
14	Kerr, James (Jim)		√
15	Kever, Geralyn		√
16	May, Jack		√
17	Murphy, John		√
18	Parks, Larry	√	
19	Patrick, Brenda Jean		√
20	Peasley, Richard		√
21	Shuyler, Lynn		√
22	Stephens, Keith		√
23	Sweeden, John		√
24	VACANCY- Princeton		
25	VACANCY- Princeton		

Motion to table failed.

President Dyer called for another motion.

Director David Hollifield made a motion to approve the item as presented. Director Don Gordon seconded motion.

A roll call vote on the motion to approve is as follows:

	DIRECTORS	Aye	Nay
1	Anderson, Terry Sam	√	
2	Appolito, Robert Absent		
3	Boren, Kalen	√	
4	Carr, John		√
5	Crump, George	√	
6	Dyer, Phil	√	
7	Farmer, Joe	√	
8	Fuller, Marvin	√	
9	Gordon, Don	√	
10	Hollifield, David	√	
11	Imrie, Chip	√	
12	Johnson, Blair	√	
13	Kelley, Ron	√	
14	Kerr, James (Jim)	√	
15	Kever, Geralyn	√	
16	May, Jack	√	
17	Murphy, John	√	
18	Parks, Larry		√
19	Patrick, Brenda Jean	√	
20	Peasley, Richard	√	
21	Shuyler, Lynn	√	
22	Stephens, Keith	√	
23	Sweeden, John	√	
24	VACANCY- Princeton		
25	VACANCY- Princeton		

Motion passed.

XII. AGENDA ITEMS FOR INDIVIDUAL CONSIDERATION

GENERAL / ADMINISTRATIVE SERVICES AGENDA ITEMS

A. Acceptance of Annual Audit Report for fiscal year 2021 - Administrative Memorandum No. 5794

- Consider acceptance of the Annual Audit Report included in the Annual Comprehensive Financial Report

Director Chip Imrie advised that Crowe, LLP presented the audit results on January 12, 2022, to the Finance Committee. The District's audit partner, Kevin Smith, provided a high-level overview of the audit results via teleconference.

Upon a motion by Director Chip Imrie and second by Director George Crump, the Board of Directors voted unanimously to accept the Draft FY 2021 Annual Audit Report. Director Murphy was absent from the vote.

WATER AGENDA ITEMS

B. Authorize execution of a Cost Share Agreement and adopt Resolution No. 22-03 with the Greater Texoma Utility Authority (GTUA) – Administrative Memorandum No. 5795

- Consider adoption of Resolution No. 22-03 and authorizing the Executive Director to execute a cost share agreement with the GTUA in the amount of \$17,331,627 (GTUA Shared Cost: \$3,466,325; NTMWD Shared Cost: \$13,865,302) to document the distribution of proportionate costs for Project No. 101-0530-19, Lake Texoma Pump Station 2019 Electrical Improvements, Phase I

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board adopt Resolution No. 22-03 which authorizes the Executive Director to execute a Cost Share Agreement with the Greater Texoma Utility Authority. The cost share agreement commits both parties to fund their proportionate shares of electrical improvements to the jointly-owned pump station that are necessary to increase pumping capacity and to access additional Lake Texoma water supplies.

Upon a motion by Director Keith Stephens and second by Director Chip Imrie, the Board of Directors voted unanimously to approve. Director Murphy was absent from the vote.

C. Authorize execution of engineering services agreement for the Lake Texoma Pump Station 2019 Electrical Improvements Phase I project - Administrative Memorandum No. 5796

- Consider authorizing the Executive Director to execute an engineering services agreement with CDM Smith, Inc. in the amount of \$1,686,867 for final engineering design on Project No. 101-0530-19, Lake Texoma Pump Station 2019 Electrical Improvements, Phase I

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize the execution of an

Engineering Services Agreement with CDM Smith, Inc. for final design and construction phase services for the Lake Texoma Pump Station 2019 Electrical Improvements, Phase I.

This project is the first of two phases needed to improve pumping capacity and reliability of the electrical system to secure anticipated Lake Texoma raw water demands for the next 20 years.

Upon a motion by Director Keith Stephens and second by Director Chip Imrie, the Board of Directors voted unanimously to approve. Director Murphy was absent from the vote.

D. **Authorize execution of engineering services agreement for the Leonard Water Treatment Plant High Service Pump Station – South project - Administrative Memorandum No. 5797**

- Consider authorizing the Executive Director to execute an engineering services agreement with Carollo Engineers, Inc. in the amount of \$8,480,000 for preliminary engineering design, final engineering design, Operations and Maintenance Manuals update, and Startup and Commissioning support for Project No. 101-0603-22, Leonard Water Treatment Plant High Service Pump Station - South

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board authorize an engineering service agreement with Carollo Engineers, Inc. to design a new High Service Pump Station (South) at the Leonard Water Treatment Plant site and the required components to add capacity to the existing Leonard WTP High Service Pump Station (North).

These improvements will allow the Regional Water System to use more of the Bois d'Arc Lake water right and increase the treated water supply to the NTMWD's service area. Leonard WTP High Service Pump Station-South is included with Phase II of the Bois d'Arc Lake system expansion program, which will increase the raw water pumping capacity to 142 million gallons per day (MGD), storage capacity to 420 million gallons, and treatment capacity to 140 MGD.

Upon a motion by Director Keith Stephens and second by Director Don Gordon, the Board of Directors voted unanimously to approve. Director Murphy was absent from the vote.

E. **Authorize award of construction contract, inspection services agreement and internal inspection services for the North Water Transmission System SCADA Network Split project - Administrative Memorandum No. 5798**

- Consider authorizing award of a construction contract to Prime Controls, L.P. in the amount of \$4,172,601, authorizing inspection services agreement to Mbroh Engineering, Inc. in the amount of \$508,530 and authorizing internal inspection costs in the amount of \$115,800 for Project No. 101-0556-20, North Transmission System SCADA Network Split

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board award a construction contract and

authorize an inspection services agreement for the North Water Transmission System Supervisory Control and Data Acquisition (SCADA) Network Split Project. This project will improve the monitoring, control, and reliability of the system by incorporating the new Wylie WTP Plant IV Communication Tower into the radio communication network.

Upon a motion by Director Keith Stephens and second by Director Joe Farmer, the Board of Directors voted unanimously to approve. Director Murphy and Director Boren were absent from the vote.

F. **Authorize award of construction contract and internal inspection services for the Farm-to-Market Road (FM) 2514 and Interstate Highway (IH) 30 Pipeline Relocations project - Administrative Memorandum No. 5799**

- Consider authorizing award of construction contract to Canary Construction, Inc. in the amount of \$1,610,321 and internal inspection costs in the amount of \$214,500 for Project No. 101-0585-21, F.M. 2514 Pipeline Relocations

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board award a construction contract and authorize internal inspection services for the Farm-to-Market Road 2514 and Interstate Highway 30 Pipeline Relocations project. The purpose of this project is to relocate or protect NTMWD pipelines from impacts related to TxDOT's widening of FM 2514.

In response to a Director's question, Director Stephens advised this project is reimbursable by TxDOT.

Upon a motion by Director Keith Stephens and second by Director Blair Johnson, the Board of Directors voted unanimously to approve. Director Murphy was absent from the vote.

G. **Authorize award of construction contract and internal inspection services for the Forney Delivery Point No. 1 Site Improvements project - Administrative Memorandum No. 5800**

- Consider authorizing award of construction contract to Schofield Civil Construction, LLC in the amount of \$1,957,500 and internal inspection costs in the amount of \$176,900 for Project No. 101-0543-19, Forney Delivery Point No. 1 Site Improvements

Director Keith Stephens advised that the Water Committee reviewed this item yesterday and voted to recommend the Board award a construction contract and authorize inspection services for the Forney Delivery Point No. 1 Site Improvements project. This project includes the demolition of an obsolete ground storage tank, improvements to the remaining ground storage tank and changes to existing piping and appurtenances.

Upon a motion by Director Keith Stephens and second by Director James Kerr, the Board of Directors voted unanimously to approve. Director Murphy was absent from the vote.

WASTEWATER AGENDA ITEMS

H. **Authorize award of construction contract and internal inspection services for the Upper East Fork Interceptor System Relocation of 60-inch Wastewater Pipeline project - Administrative Memorandum No. 5801**

- Consider authorizing award of construction contract to McKee Utility Contractors, Inc. in the amount of \$10,695,000 and internal inspection costs in the amount of \$248,400 for Project No. 101-0544-19, Upper East Fork Interceptor System Relocation of 60-inch Wastewater Pipeline

Deputy Director Baptista presented this item. He advised that TxDOT's project to widen F.M. 2514 is resulting in the need to relocate one of the District's two 60 inch wastewater lines in that area. If the District relocates only one of its lines, there could be excavation issues for repairs to the remaining line in the future, so the District has opted instead to install one 84 inch line. It will be 4700 linear feet long. There will also be 100 linear feet of 60 inch line installed. He confirmed that this project will be partially reimbursed by TxDOT.

Upon a motion by Director James Kerr and second by Director Joe Farmer, the Board of Directors voted unanimously to approve. Director Murphy was absent from the vote.

I. **Authorize award of inspection services agreement for the Sloan Creek Lift Station project - Administrative Memorandum No. 5802**

- Consider authorizing award of inspection services agreement to TEC Consulting, LLC in the amount of \$977,560 for Project No. 501-0521-18, Sloan Creek Lift Station

Director George Crump advised that the Wastewater Committee discussed this item on October 27, 2021 and recommended the Board authorize award of an Inspection Services Agreement for the Sloan Creek Lift Station project. This will provide inspection services during construction of a new 10 million gallon per day Sloan Creek Lift Station to serve the projected growth within the City of Allen and Town of Fairview.

Upon a motion by Director George Crump and second by Director Joe Farmer, the Board of Directors voted unanimously to approve. Director Murphy was absent from the vote.

LAND ACQUISITION / RIGHT-OF-WAY AGENDA ITEMS

J. **Authorize execution of an Interlocal Agreement with the City of Wylie for conveyances of real property - Administrative Memorandum No. 5803**

- Consider authorizing the Executive Director to execute an Interlocal Agreement with the City of Wylie for the conveyances of real property, contingent upon execution of the Interlocal Agreement by the City of Wylie; and consider adoption of Resolution No. 22-04 authorizing execution of Interlocal Agreement for conveyances of property

Director David Hollifield advised that the Real Estate Committee discussed this item on November 17, 2021 and recommended the Board execute an Interlocal Agreement with the City of Wylie for conveyances of real property. He noted that on Tuesday the Wylie City Council voted to approve the Agreement.

This easement is to allow for a pipeline relocation due to the expansion of Farm-to Market 2514

Upon a motion by Director David Hollifield and second by Director Larry Parks, the Board of Directors voted unanimously to approve. Director Murphy was absent from the vote.

XIII. CLOSING ITEMS

- A. Review of items for follow up raised during meeting

Director Terry Sam Anderson asked to have timelines for water supply options be included in the February 17th meeting.

Director Joe Farmer requested more information on the work session planned for February 17th. R.J. Muraski responded that it is planned for the session to last approximately 3½ hours. Supply and demand will be discussed, as well as 24 possible strategies to include in a Long Range Water Supply Plan. The evaluation criteria for each will be discussed. Mr. Muraski advised that the staff will supply information and would like input from the Directors regarding the strategies.

- B. Opportunity for Board members to request potential future agenda items

Director Jack May requested an update on the zebra mussels.

Director Don Gordon requested a review of the District's water rights prior to the upcoming work session. Director Lynn Shuyler requested an explanation of "overdrafting" of water, such as is done at Lake Lavon, as part of the water rights discussion.

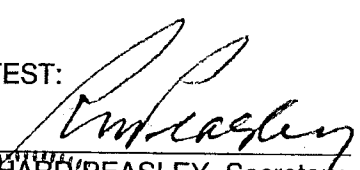
XIV. ADJOURNMENT

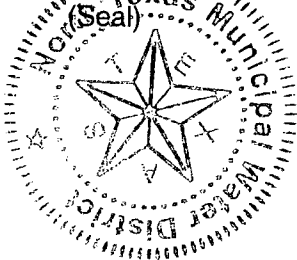
There being no further business, the meeting adjourned at approximately 5:15 p.m.

APPROVED:


PHIL DYER, President

ATTEST:


RICHARD PEASLEY, Secretary





APPENDIX I

TEXAS WATER CODE SECTION 11.039

APPENDIX I

TEXAS WATER CODE SECTION 11.039

§ 11.039. DISTRIBUTION OF WATER DURING SHORTAGE.

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

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

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

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

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

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

SUPPLEMENT TO NORTH TEXAS MUNICIPAL WATER DISTRICT WATER CONSERVATION PLAN - APPENDIX J

DATA REQUIREMENTS FOR WATER RIGHT APPLICATION FOR NEW OR ADDITIONAL STATE WATER – REUSE OF DISCHARGES FROM THE SISTER GROVE REGIONAL WATER RESOURCE RECOVERY FACILITY

Texas Administrative Code (TAC) Title 30, Part 1, Rule 288.7(a) addresses water conservation plans that accompany an application for a water right:

§288.7. Plans Submitted With a Water Right Application for New or Additional State Water.

- (a) A water conservation plan submitted with an application for a new or additional appropriation of water must include data and information which:
- (1) supports 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.

The North Texas Municipal Water District (NTMWD) is currently preparing an application for the reuse of treated wastewater discharged to the Lavon Lake Watershed. The source of the discharges will be a new wastewater treatment plant that will discharge up to 64 MGD to Sister Grove Creek, the Sister Grove Regional Water Resource Recovery Facility (Sister Grove RWRRF). Since this facility is currently under construction and there are no historical discharges, all future discharges are requested under this new appropriation request.

This appendix to the NTMWD Water Conservation Plan addresses the requirements of TAC §288.7 (a) for reuse from the proposed Sister Grove RWRRF.

J.1 Consideration of Water Conservation Goals - 288.7(a)(1)

The NTMWD provides wholesale treated water to customers within a nine-county area in North-Central Texas. The area served by the NTMWD is one of the fastest growing regions in the country. Population served by NTMWD has increased from 32,000 when the District was formed in 1951 to about 2.0 million as of 2021, and this growth is expected to continue. To meet the anticipated growth and increased water demands, the NTMWD is actively promoting water conservation measures with its Member Cities and Customers, and the NTMWD is currently implementing the largest wastewater reuse program in the State, and potentially the largest in the U.S. This section describes the NTMWD's conservation activities and the resulting water savings.

The NTMWD Water Conservation Plan (the NTMWD Plan) includes a variety of conservation measures that are actively implemented and monitored by the NTMWD. This suite of water conservation measures goes above and beyond the minimum requirements for conservation plans for a wholesale

provider. In accordance with the Texas Administrative Code, Title 30, §288.5, the minimum requirements are:

- Description of the wholesaler’s service area;
- Specification of quantifiable conservation goals;
- Description of the means to measure the amount of water from a source;
- Monitoring and record managing program;
- Metering, leak detection and repair program;
- Requirement that wholesale customers must develop and implement a water conservation plan that incorporates the measures in the wholesale water provider plan;
- Reservoir systems operation plan;
- Means for implementing and enforcing the plan; and
- Documentation of coordination with associated regional water planning groups.

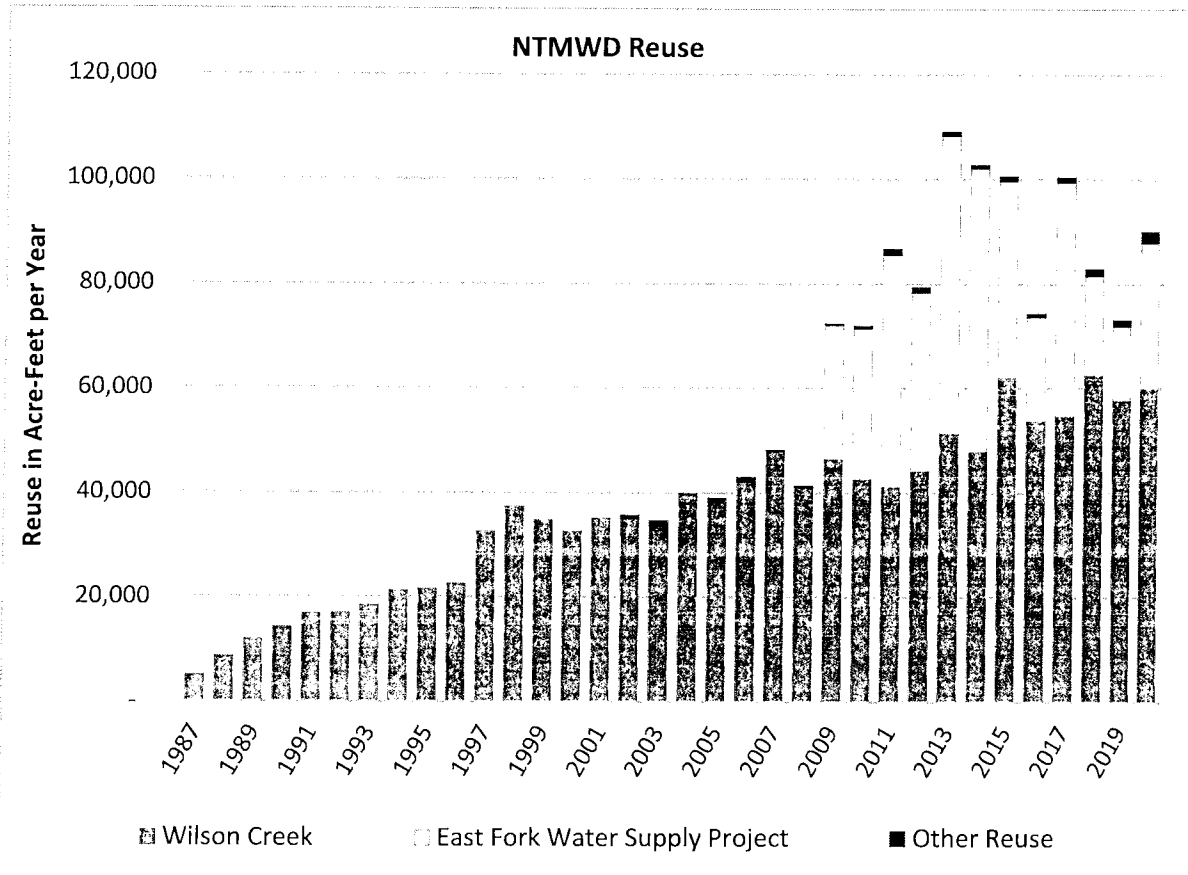
The NTMWD Plan meets these minimum requirements and specifies other conservation activities that the NTMWD and/or its Member Cities and Customers are undertaking to achieve water conservation and efficiency. These other measures include:

- Water conservation workshops for wholesale customers;
- Model Water Conservation and Drought Contingency / Water Emergency Response Plans for Member Cities and Customers, including compulsory landscape and water management measures to conserve water;
- Annual reports and tracking of customer water use;
- Reuse and recycling of wastewater;
- Public education and outreach programs;
- Technical assistance to customers;
- Zero discharge from water treatment plants;
- In-house conservation efforts; and
- Landscape water management measures, including developing the Water My Yard program and the installation of weather stations to assess outdoor irrigation needs.

Each of these measures is described elsewhere in this NTMWD Plan. As noted above, reuse and recycling of wastewater is a major part of the NTMWD Plan. NTMWD has the largest reuse program in the State of Texas, with plans for further development. This intent is captured in the goals of the 2019 NTMWD Conservation Plan: “Continue to utilize wastewater reuse as a major source of water supply, as discussed in Section 7.1. Seek TCEQ authorization for additional reuse to increase the efficiency of the NTMWD water supply system.”¹ The reuse of discharges from the Sister Grove RWRRF is part of the District’s long-term reuse plan to increase available wastewater return flows for reuse, and the project is consistent with NTMWD’s Water Conservation Plan goals. Figure J-1 shows NTMWD’s historical water supplies from reuse.

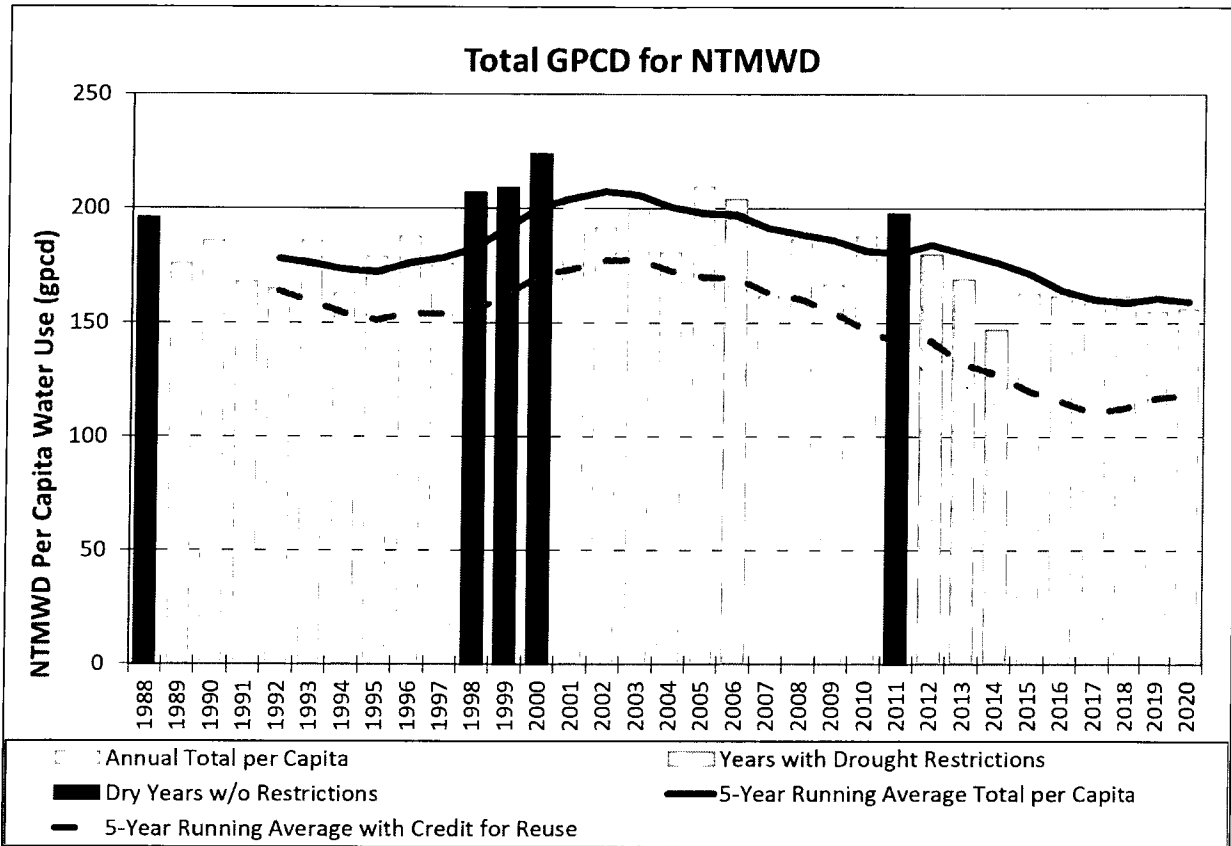
¹ NTMWD Water Conservation Plan, January 2019.

Figure J-1



Conservation Water Savings Realized by NTMWD

NTMWD collects water use data annually from its Member Cities and Customers and uses this information to track per capita water use. Figure J-2 shows the annual and five-year running average total per capita use for NTMWD Member Cities and Customers from 1992 to 2020. Consistent with NTMWD’s Plan, total per capita use is defined as the amount of water used divided by the population served. As shown in this figure, the average per capita water use peaked during the early 2000s and has continued to decline over time. NTMWD’s total per capita use in 2000 (the year of highest historical per capita use) was 224 gallons per person per day. The 2020 dry year use for NTMWD in the 2021 Region C Water Plan is 185.7 gallons per person per day, a reduction of 15% from the year 2000 level. This shows the success of the conservation efforts of NTMWD, its Member Cities, and its Customers. When considering credit for indirect reuse, there is an even greater decline in per capita water use since the early 2000s. This reflects the District’s robust reuse program.



J.2 Conservation as an Alternative to the Proposed Appropriation - 288.7 (a)(2)

NTMWD water use in 2020 totaled 342,135 acre-feet. 2020 was not a dry year, and demands would be higher in a dry year. The projected dry year demands for NTMWD in 2020 in the *2021 Region C Water Plan* are 408,700 acre-feet per year. The *2021 Region C Water Plan* and *2022 State Water Plan* project that these demands will nearly double by the year 2070. Based on current water supplies, the District will need to develop an additional 369,000 acre-feet of supply to meet the 2070 demands projected in the *2021 Region C Water Plan*. NTMWD expects to meet a portion of this demand via conservation. The *2022 State Water Plan* indicates that additional water conservation efforts (beyond what NTMWD has already accomplished) will provide 26,000 acre-feet of NTMWD’s total water supplies by 2030 and approximately 44,400 acre-feet by 2070.

NTMWD plans to meet a significant part of its projected demands by reuse. Reuse comprises 37 percent of NTMWD’s existing 2020 water supply in the *2021 Region C Water Plan*. Increases in available reuse due to population growth and the development of specific reuse projects are expected to provide up to 106,400 acre-feet of additional reuse supplies by 2070. Combined, conservation and reuse are estimated to provide 255,000 acre-feet of water supplies by 2070, which represents approximately 33%

of NTMWD's projected total water demand in 2070.

Both conservation and reuse are integral strategies in NTMWD's plans to meet projected water demands. The reuse of discharges from the Sister Grove RWRRF is one of several identified reuse strategies for NTMWD, which are needed to provide supplies for both existing and future reuse development. However, in light of NTMWD's projected total demand for nearly 770,000 acre-feet of water by 2070, intensified conservation and reuse alone cannot provide enough water to address all demands. Thus, conservation and reuse strategies are part of the portfolio of strategies that will be pursued by NTMWD to meet the rapidly rising demand for municipal water supplies in the NTMWD service area.

J.3 Feasible Alternatives to New Water Development – 288.7(a)(3)

As part of the 2022 state water planning process, many potential water management strategies were identified and evaluated. The *2022 State Water Plan* considered 16 different water management strategies to meet the projected water supply shortages for NTMWD through 2070. Of these considered strategies, nine strategies were recommended for implementation by the NTMWD.

Some of these strategies are currently being implemented by NTMWD and include:

- Water Conservation (implemented)
- Bois d'Arc Lake (currently being constructed and expected to be in operation in 2022)

The other strategies recommended in the *2022 Texas State Water Plan* for implementation include:

- Additional Lake Texoma Blend Phase I (water will be blended with new supplies from Bois d'Arc Lake at the new Leonard water treatment plant currently under construction)
- Additional measures to access full Lavon Lake yield
- Additional reuse supplies
 - Expanded wetland reuse
 - Additional Lavon Lake watershed reuse
- Additional Lake Texoma water with blending with new fresh water supply Phase II
- Marvin Nichols Reservoir
- ~~Wright-Patman Reallocation~~
- Oklahoma water supply

Each of these strategies is scheduled for implementation based on the projected water needs and the time to implement the strategy, including considerations for planning and permitting.

Potential alternatives considered for NTMWD but not recommended for implementation in the *2021 Region C Water Plan* include developing other new reservoirs (George Parkhouse North and George Parkhouse South), transporting water from existing reservoirs (Toledo Bend and Lake O' the Pines), development of new groundwater supplies, aquifer storage and recovery, and desalination of Lake Texoma water. Most of these alternative strategies will require water rights for new appropriations and/or interbasin transfers, and they all will require the construction of infrastructure to store and transport water supplies to the NTMWD service area.

To continue its water supply development, NTMWD is applying for a water right from the TCEQ for reuse

and bed and banks authorization for wastewater discharges from the Sister Grove Regional Water Resources Recovery Facility. This application is a part of the continuing use and additional development of Lavon Lake watershed reuse recommended in the *2021 Region C Water Plan* and the *2022 State Water Plan*. Reuse from the Sister Grove RWRRF is expected to supply up to 64 MGD of new supplies when the plant is fully developed. As with all reuse supplies, the actual amount of reuse available for use is limited to the amount of treated wastewater discharged.

This discussion focuses on alternatives to the reuse from the Sister Grove RWRRF. Only alternative projects that have not been implemented and are not currently under construction are discussed here. Descriptions of potential project alternatives are presented below. Table J-2 presents a synopsis of the applicability of these potential strategies as feasible alternatives to reuse from the Sister Grove RWRRF.

Each potential project alternative was vetted through the State water planning process and the discussions herein are consistent with the *2021 Region C Water Plan* and the *2022 State Water Plan*. Strategies that are recommended for implementation by NTMWD are part of suite of strategies to meet NTMWD's water needs. As such, these strategies are not alternatives to reuse from the Sister Grove RWRRF but rather complement this project. For completeness, all potential alternatives are discussed in this Appendix, including strategies that are recommended for implementation after reuse from the Sister Grove RWRRF.

NTMWD's evaluation of the potential alternatives considered many factors, including cost of the water, quantity, reliability, the potential impacts of developing the project on the environment, natural resources and other water users, timing to develop the strategy, and potential implementation issues. Table J-3 and Figure J-3 show a comparison of the unit costs for the alternative strategies.

The *2021 Region C Water Plan* and the *2022 State Water Plan* project that NTMWD will have water shortages of approximately 82,300 acre-feet per year by 2030, increasing to nearly 369,000 acre-feet per year by 2070. The near-term shortage is expected to be met through conservation and Bois d'Arc Lake. Expanded reuse through the District's existing reuse projects and new reuse projects could provide up to nearly 25,000 acre-feet per year in 2030 and 106,400 acre-feet per year by 2070. However, to provide this level of reuse, authorizations for reuse from new or expanded wastewater treatment facilities are needed. As shown, additional reuse is a critical component of the District's water supply portfolio and conservation program.

Table J-2: List of Potential Water Supply Alternatives for NTMWD

Strategy ¹	Feasible alternative (Yes/No)	Comment
Additional Lavon Lake	No	This strategy is considered an emergency response during times of drought and not a source of long-term supply.
Expanded Wetland Reuse	No	The source of water for this strategy is not available until population grows and generates more return flows.
New Lake Texoma Blend (Phase I – Bois d’Arc Lake)	No	Cannot be implemented until after 2030 and more costly than Sister Grove RWRRF Reuse Project.
New Lake Texoma Blend (Phase II)	No	Requires additional new source of fresh water to blend to meet drinking water quality standards.
Marvin Nichols Reservoir	No	Has greater environmental impacts than reuse of discharges from Sister Grove RWRRF. Requires other participants to make project cost effective. Could take between 30 and 40 years to implement.
Wright Patman Reallocation	No	Has greater environmental impacts than reuse of discharges from Sister Grove RWRRF. Could take between 30 and 40 years to implement.
Oklahoma Water	No	Current political and legal impediments.
Toledo Bend Reservoir	No	High costs and energy use. Requires agreements with other providers.
New Lake Texoma (Desalinate)	No	High costs and energy use.
Lake O’ the Pines	No	Water rights are held by other entities. Competing local interests. High costs and energy use to transport.
Carrizo-Wilcox Groundwater	No	Supply uncertainty and competing local interests for water.
Aquifer Storage and Recovery	No	Suitable geologic formation to store water has not been identified. Quantity is small.
George Parkhouse North	No	Has greater environmental impacts than reuse of discharges from Sister Grove RWRRF. Yield is impacted by potential upstream reservoirs. Will take longer to implement.
George Parkhouse South	No	Has greater environmental impacts than reuse of discharges from Sister Grove RWRRF. Yield is impacted by upstream reservoir. Will take longer to implement.

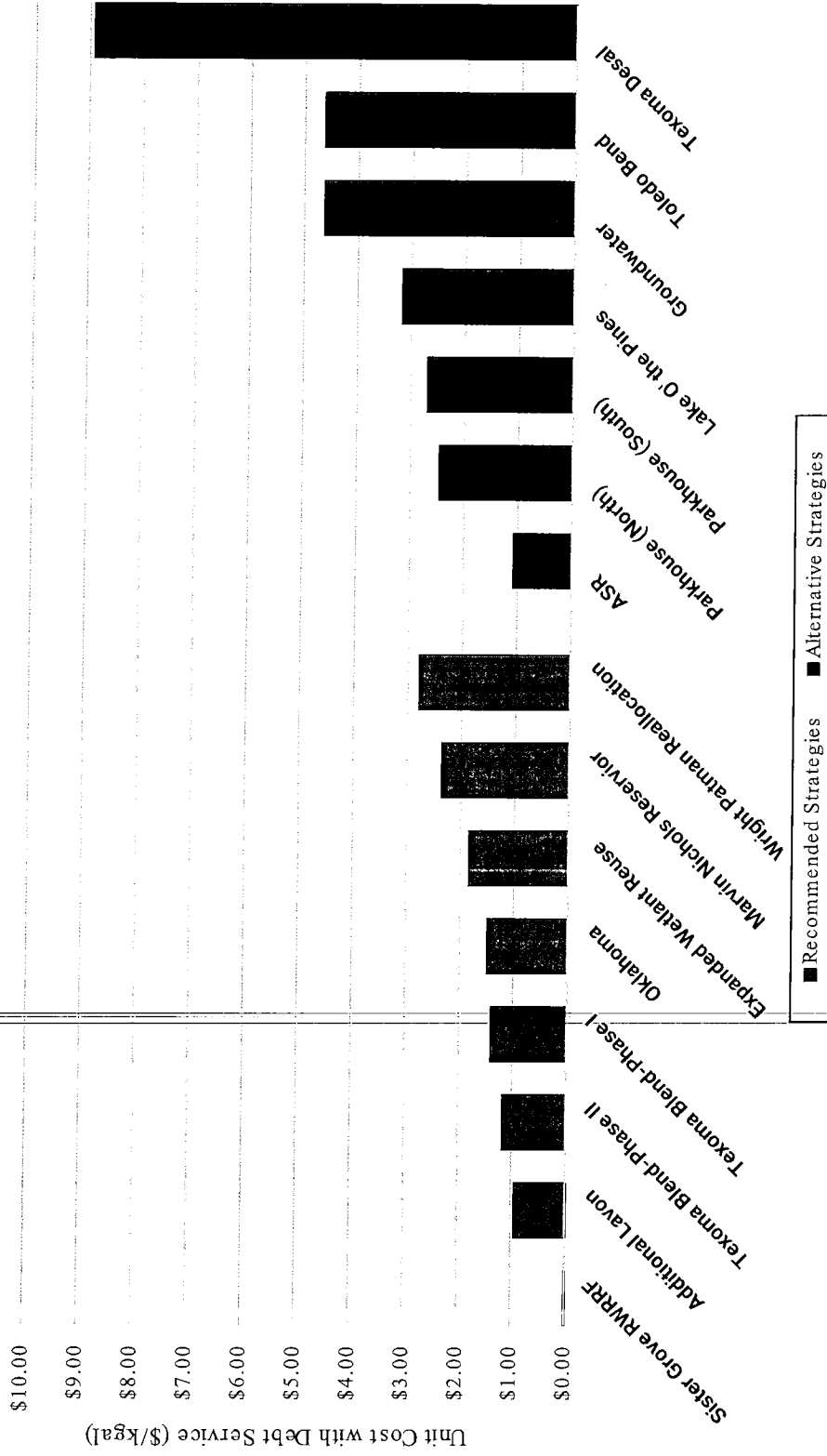
1. Each of these strategies was vetted through the State water planning process. Strategies that are recommended for implementation by NTMWD are part of suite of strategies to meet NTMWD’s water needs. Some strategies that are identified as not practicable at this time may be a viable water supply project in the future.

Table J-3: Costs for Potential Supply Alternatives

Strategy	Costs Reported in State Water Plan ¹		
	Capital Cost for NTMWD	Unit Cost for NTMWD (\$/kGal.)	
		Pre-Amortization	Post-Amortization
Proposed Project			
Sister Grove RWRRF Reuse Project	\$600,000	\$0 ²	\$0
Potential Alternatives			
Additional Lavon Lake	\$36,546,000	\$0.94	\$0.35
Expanded Wetland Reuse	\$313,864,000	\$1.83	\$0.48
Lake Texoma Blend – Phase I	\$263,135,000	\$1.40	\$0.30
Lake Texoma Blend - Phase II	\$398,694,000	\$1.17	\$0.34
Marvin Nichols Reservoir	\$1,888,324,000	\$2.35	\$0.45
Toledo Bend Reservoir	\$1,856,658,000	\$4.63	\$1.41
Oklahoma Water	\$308,163,000	\$1.48	\$0.45
Lake O' the Pines	\$654,391,000	\$3.17	\$0.99
Wright Patman Reallocation	\$774,769,000	\$2.78	\$0.67
George Parkhouse North	\$1,051,889,000	\$2.46	\$0.54
George Parkhouse South	\$1,329,355,000	\$2.70	\$0.50
Lake Texoma Desalinate	\$989,141,000	\$8.92	\$4.01
Carrizo-Wilcox - Brazos Co.	\$818,677,000	\$4.62	\$1.37
Aquifer Storage and Recovery	\$6,747,000	\$1.07	\$0.49

1. Only projects considered in the 2022 State Water Plan are included in Table J-3 and Figure J-3. Costs in Table J-3 are reported in 2021 dollars.
2. Costs for Sister Grove RWRRF Reuse Project are \$0.84 per acre-foot, which is less than \$0.01 per 1000 gallons.

Figure J-3 Cost Comparison of Potential Alternatives to Sister Grove RWRRF Reuse Project



Supply from Other Reuse Projects

Expanded Wetland Reuse

NTMWD currently diverts return flows from the East Fork and Main Stem of the Trinity River to a constructed wetland facility in Kaufman and Ellis counties (East Fork Wetlands). The return flows are treated through the constructed wetlands facility before being blended in Lavon Lake. With the projected population growth and an agreement with Dallas Water Utilities for access to these return flows, it is expected that the quantity of return flows available from these sources will exceed the treatment capacity of the existing East Fork Wetlands by the year 2030. This project proposes to expand the diversion and treatment capacity of the return flows through the development of new constructed wetlands followed by membrane treatment to remove nutrients. The level of treatment proposed would allow NTMWD to transport the treated return flows either to Lavon Lake or directly to a water treatment plant.

This project is part of the District's long-term reuse program and is considered a complement to the reuse of discharges from Sister Grove RWRRF but is not a feasible alternative to the project. Due to the required infrastructure for this project, the costs are higher and the time to implement is longer than the reuse of discharges from Sister Grove RWRRF. This project also requires an agreement with Dallas Water Utilities, which has not yet been developed.

Supply from New (Undeveloped) Reservoirs

Marvin Nichols Reservoir Alternative

Marvin Nichols Reservoir is a proposed reservoir in the Sulphur River Basin in Titus and Red River Counties, about 45 miles west of Texarkana. It is a recommended strategy in the 2022 Texas State Water Plan for NTMWD, the Tarrant Regional Water District (TRWD), and the Upper Trinity Regional Water District (UTRWD). The total available supply from the Marvin Nichols Reservoir to Region C providers is 361,200 acre-feet per year.

The proposed reservoir, if constructed, would be the largest lake contained completely within the State of Texas. At the recommended conservation pool elevation of 328 feet msl, the reservoir would inundate approximately 66,100 acres. Approximately 31,600 acres are classified as bottomland hardwoods or forested wetlands. The U.S. Fish and Wildlife Service has classified some of this acreage as Priority 1 bottomland hardwoods, which is the highest quality classified by USFWS (USFWS, 1984). Additional studies are needed to confirm the quality and extent of these resources.

The Marvin Nichols Reservoir would provide considerable amounts of new water supply to the North Texas area at a relatively low cost. However, the development of this strategy would have greater environmental impacts than the proposed reuse of discharges from Sister Grove RWRRF. Environmental impacts of the reuse of discharges from Sister Grove RWRRF are negligible, as NTMWD already has a TPDES to discharge from the Sister Grove RWRRF. The reuse of this treated wastewater after it is discharged will have negligible impacts on the environment.

The development of the Marvin Nichols Reservoir also requires multiple participants to effectively achieve the cost benefits and full utilization of the available supply. As a result, the timing for this

strategy is dependent upon the needs of other participants. In addition, development of this project could take between 30 and 40 years due to the permitting requirements and current opposition.

The Marvin Nichols Reservoir is not a feasible alternative to the reuse of discharges from Sister Grove RWRRF because it has greater environmental impacts and cannot be implemented within the time frame required to satisfy the purpose and need of this project.

George Parkhouse South Lake Alternative.

George Parkhouse Lake (South) is a potential reservoir located on the South Sulphur River in Hopkins and Delta Counties. It is located immediately downstream from Jim Chapman Lake and would yield 116,000 acre-feet per year. At conservation elevation 401 feet msl, George Parkhouse Lake (South) would inundate approximately 29,000 acres and store 652,000 acre-feet. The yield of George Parkhouse Lake (South) would be reduced substantially by the development of Marvin Nichols Reservoir. The yield studies conducted as part of the Reservoir Site Protection Studies indicate the yield of this lake would be reduced by up to 60 percent (46,400 acre-feet per year) if constructed after Marvin Nichols (HDR *et al*, 2007).

The lake, as currently configured, would abut the dam for Jim Chapman Lake, and over fifty percent of the land impacted would be bottomland hardwood forest or marsh (HDR *et al*, 2007).

The proposed George Parkhouse Lake (South) is not a feasible alternative due to the uncertainty of the reliable supply with the development of other reservoirs in the river basin and the environmental impacts. Also, the project probably could not be implemented within the time frame needed for additional water for NTMWD. Since the Marvin Nichols Reservoir is part of long-range water supply plan for NTMWD and other North Texas water suppliers, it is highly unlikely that George Parkhouse (South) Lake or George Parkhouse (North) Lake will also be developed.

George Parkhouse North Lake Alternative

George Parkhouse Lake (North) is a potential reservoir located on the North Sulphur River in Lamar and Delta Counties, about 15 miles east of the City of Paris. At a proposed conservation elevation of 410.0 feet msl, the reservoir would store 331,000 acre-feet of water and inundate 14,400 acres. The firm yield would be 106,500 acre-feet per year, but its yield would be reduced substantially by the development of the Marvin Nichols Reservoir (HDR *et al*, 2007).

The reservoir site is located upstream of a designated Priority 1 bottomland hardwood preservation site known as Sulphur River Bottoms West. Most of the land impacted by this alternative is grassland or agricultural lands. Only about 1,200 acres are classified as wetlands. However, the acreage of affected wetlands would require field surveys and verification.

Similar to the George Parkhouse South Lake alternative, the economic viability of the project is dependent upon the ultimate yield of the project. The proposed reservoir is not a feasible alternative to the reuse of discharges from Sister Grove RWRRF due to the uncertainty of the reliable supply with the development of other reservoirs in the river basin. Also, the project probably could not be implemented within the time frame needed for additional water for NTMWD.

Transporting Water From Existing Reservoirs

Transporting water from existing reservoirs to NTMWD's service area requires agreements with the owner of the existing water supplies and often long transmission pipelines. Existing reservoirs that may have uncommitted supplies are commonly located in the eastern part of the State where there is more available surface water. However, most of these sources would require transporting the water over long distances with substantial vertical lift. NTMWD considered the following alternatives:

Additional Measures to Access Full Lavon Lake Yield

Currently, NTMWD does not have access to the full storage volume in Lavon Lake due to limitations of its diversion facilities. During most times these facilities provide the full authorized diversion from the lake. This strategy would provide for emergency measures to be taken during drought conditions when access to the full storage volume is limited. These measures may include, not are not limited to, development of raw water pump station #4 with a deep water intake, extension and/or dredging intake channels to the pumping facilities, and floating barges equipped with pumps.

This strategy would provide additional supplies only during periods of drought and does not provide supply to help meet growing demands associated with population growth. This strategy is considered an emergency response rather than an alternative to the Sister Grove RWRRF Reuse Project.

Lake Texoma Alternatives

Lake Texoma is an existing USACE reservoir on the Red River on the border between Texas and Oklahoma. NTMWD has water rights to divert up to 197,000 acre-feet per year of water from Lake Texoma. Water from Lake Texoma is relatively high in dissolved salts and does not meet secondary drinking water standards. Until 2009, NTMWD diverted up to 84,000 acre-feet of Texoma water and blended the water in Lake Lavon for subsequent use. With the detection of zebra mussels in Lake Texoma, this practice has ceased. NTMWD now transports water from Lake Texoma directly to the Wylie Treatment Plant and blends the water with supplies from Lavon Lake, but the amount of water that can be blended and still provide drinking water of acceptable quality is limited. Once the Bois d'Arc Lake and Leonard Treatment Plant are completed, NTMWD intends to blend Texoma water with water from Bois d'Arc Lake. NTMWD also plans to make additional supplies available from Lake Texoma either through blending with new fresh water sources or desalination.

Blending and desalination are very different and are considered two different alternatives to Sister Grove Creek Reuse Project. Each alternative is discussed below.

Transport and Blend Lake Texoma Water with New Fresh Water Supplies

Due to environmental concerns and additional costs associated with large desalination projects, the NTMWD's preferred use of this water source is to blend the Texoma water with new fresh water supplies. It is anticipated that Texoma water would be blended in a constructed balancing reservoir near a treatment facility and not in an existing lake or stream. This would reduce potential impacts of added dissolved solids to local lakes or streams.

Texoma Blending Phase I

Phase I of the Texoma Blending strategy would transport up to 40,000 acre-feet per year of Texoma water through a new pipeline to the Howe Balancing Reservoir. From there, the water would be transported through an existing pipeline and a new connector pipeline to the Leonard Treatment Plant terminal storage facility. Construction of Bois d'Arc Lake is expected to be completed in 2022, with filling during the next couple of years, depending on inflows. The Texoma Blending Phase I strategy is expected to be implemented between 2030 and 2040 to allow for filling of Bois d'Arc Lake and construction of the expanded infrastructure. This project is recommended for NTMWD and is part of its long-range water supplies. Due to the timing and higher cost to develop the Texoma Blending Phase I project, it is not considered an alternative to the Sister Grove RWRRF reuse project.

Texoma Blending Phase II

Texoma Blending Phase II would increase the use of water from Lake Texoma by blending with new fresh water supplies. Aside from Bois d'Arc Lake (Texoma Blending Phase I), there are no other readily available fresh water supplies in the amount needed to blend with the new water supply from Lake Texoma and existing supplies are not sufficient to provide a blended water of acceptable quality for municipal use. Therefore, the blended alternative cannot be implemented without also implementing another water supply alternative to provide fresh water to NTMWD for blending. NTMWD does plan to make use of water supplies from this source, but only after development of other significant fresh water sources (such as Marvin Nichols Reservoir). Blending cannot be considered an alternative to reuse of discharges from Sister Grove RWRRF without implementation of another water supply source; thus blending of Lake Texoma water with existing fresh water supplies is not a feasible alternative.

Transport and Desalinate Lake Texoma Water

One option to use Lake Texoma water for municipal purposes is to desalinate the water using reverse osmosis water treatment or another similar treatment method. Desalination can result in the loss of up to one fourth of the raw supply to the treatment process. For this strategy, it was assumed that 20 percent of the source water would be discharged as waste. Therefore for 40,000 acre-feet per year of source water, the amount of treated water for use is approximately 33,600 acre-feet per year. This strategy assumes a new 60 million gallons per day (mgd) desalination facility would be constructed at the Leonard Treatment Plant. Texoma water would be transported directly to the Leonard Treatment Plant through a new pipeline and the desalination waste would be discharged to the Red River.

Desalination is a much more expensive strategy than blending, and there are considerable uncertainties in the operation and long-term costs of a large-scale desalination facility. The estimated costs for desalination of water from Lake Texoma are based on current cost information for large desalination facilities. However, they are more uncertain than other cost estimates developed for the potential alternatives because few large inland desalination facilities have been built to date. The Fort Bliss/ El Paso Water Utilities desalination facility, which is the largest inland desalination plant in the United States, produces 27.5 mgd. The technology for desalination is improving but it is still costly.

Desalination is also an energy intensive process, and as energy costs continue to increase, these costs are expected to increase. Large scale desalination of Lake Texoma water (>50 mgd) is not a feasible alternative to the proposed project due to the cost uncertainty and the greater energy usage associated with large-scale brine operations.

Toledo Bend Reservoir Alternative

Toledo Bend Reservoir is a 181,600-acre lake located in East Texas on the Texas-Louisiana state line. The total permitted supply from this source for Texas is 970,067 acre-feet per year (an additional authorization of 220,067 acre-feet per year was granted in August 2019). The Sabine River Authority of Texas operates the Texas portion of this lake. In the *2022 Texas State Water Plan* the transport of water from Toledo Bend Reservoir to the North Texas area is an alternate joint strategy for the NTMWD, TRWD, DWU, and UTRWD. This project, as presented in the *2021 Region C Water Plan*, could deliver a total of 650,000 acre-feet per year, with 200,000 acre-feet per year for NTMWD, in two phases.

This alternative will require multiple transmission pipelines to transport the water approximately 200 miles to North Texas. The current concept for this project includes the use and storage of existing reservoirs as part of the transmission system. This transfer of water is anticipated to have a low to medium low impact on the receiving reservoirs.

This strategy requires cooperation with other water providers and an agreement with the Sabine River Authority to purchase the water. The high capital costs for Phase 1 and energy usage associated with the long transmission pipelines result in a unit cost of over \$4 per 1000 gallons for raw water delivered to NTMWD. Costs for the other partners are higher. This project requires multiple agreements, which have not been reached, and an interbasin transfer to use the water in the North Texas area. Considering the costs, time to implement, and uncertainty of agreements, this strategy is not a feasible alternative to the Sister Grove RWRRF Reuse Project.

Water from Oklahoma Alternative

Another potential alternative is the use of water from Oklahoma. At the present time, the Oklahoma Legislature has established a moratorium on the export of water from the state. Assuming the moratorium may be lifted in the future, the *2022 Texas State Water Plan* recommends that the NTMWD develop a project to use water from Oklahoma. It is an alternate strategy for the City of Irving and UTRWD. The recommended project is for 50,000 acre-feet per year and is planned for 2070.

The NTMWD has applied for Oklahoma water rights to use water from the Kiamichi River, Muddy Boggy Creek, and stored water in Lake Hugo. At this time, the state cannot act upon these permits without ~~further direction from the Oklahoma Legislature.~~

The challenges with this strategy are the development issues, including the political moratorium on out-of-state water sales and the Lacey Act. Under the Lacey Act, it is unlawful to transport invasive species across state lines. Since there is considerable uncertainty as to when these obstacles could be overcome, this strategy cannot be counted on for near-term water supplies. Thus, it is not a feasible alternative to the Sister Grove Creek RWRRF Project.

Lake O' the Pines Alternative

Lake O' the Pines is an existing USACE reservoir in the Cypress River Basin with Texas water rights held by the Northeast Texas Municipal Water District (NETMWD). The NTMWD has explored the possibility of purchasing supplies in excess of local needs from the Cypress Basin. According to the *2021 Region D Water Plan*, there is no water available for export from the basin. However, there may be excess supplies from existing contracts.

Lake O' the Pines is about 120 miles from the Metroplex, and the distance and limited supply make this a relatively expensive water management strategy. Development of this source would require contracts with the NETMWD and other Cypress River Basin suppliers with excess supplies. At this time, agreements have not been reached to purchase this water. Due to this uncertainty, Lake O' the Pines is not a feasible alternative to the Sister Grove RWRRF Reuse Project.

Lake Wright Patman Alternatives

The Wright Patman Reallocation strategy involves development of new surface water supplies from the Sulphur River Basin through a reallocation of storage at Wright Patman Lake from its current purpose, flood control, to water conservation storage. The supply quantity and cost identified above are for a specific reallocation of Wright Patman at elevation 235 ft MSL. At that conservation pool elevation, the pool raise at Wright Patman Lake would inundate an additional 14,372 acres above the permitted conservation pool elevation (ultimate rule curve). Infrastructure would be developed to transport the water to the Region C water providers.

The Wright Patman Reallocation strategy is considered for NTMWD, UTRWD, TRWD, Dallas and the City of Irving, and recommended for NTMWD, TRWD and UTRWD.

The firm yield with reallocation of Wright Patman to elevation 235 ft MSL, above the 180,000 acre-feet per year permitted to Texarkana, would be 122,200 acre-feet per year. It is assumed that all the reallocation supplies would be available to Region C providers. These quantities assume that Marvin Nichols is senior to the Lake Wright Patman reallocation.

Reallocation to elevation 235 ft MSL was selected to minimize impacts to the White Oak Creek Wildlife Management Area (WOCWMA). This site is located upstream of Lake Wright Patman and is designated as mitigation for the construction of Jim Chapman Reservoir. At elevation 235 ft MSL, the increase in the conservation pool at Lake Wright Patman would increase water levels on approximately 450 acres of the WOCWMA and affect some riparian bottomland hardwoods. However, reallocation at this elevation would not affect the functioning of constructed wetland structures and would still allow the wetland structures to function as designed. Also, the USACE owns property up to the 235 ft MSL elevation, which simplifies additional land acquisition.

~~Reallocation of Lake Wright Patman would be sponsored by the USACE and would require additional environmental studies. Currently, the USACE is reluctant to approve reallocations of flood storage to water conservation storage. Further study would be needed to ensure that there is no increase in flooding risks after reallocation.~~

Due to the uncertainty of authorizing reallocation of flood storage, reaching agreements with strategy partners, and higher costs, this strategy is not a feasible alternative to the Sister Grove RWRRF Reuse Project.

New Groundwater Supplies

There are limited new groundwater sources that could supply the quantity of water needed by NTMWD. The Ogallala Aquifer in the Texas Panhandle has large quantities of water, but much of this supply is committed to users in the area, including agricultural users and local municipalities. Another potential source is the Carrizo-Wilcox Aquifer. This aquifer is also heavily used by local entities.

Carrizo-Wilcox Aquifer Groundwater Alternative.

The Carrizo-Wilcox aquifer covers a large area of east, central, and south Texas. Organizations and individuals have been studying the development of water supplies in Anderson County and surrounding counties for export. Anderson County is about 100 miles from the NTMWD service area. There are some uncertainties about developing such a large quantity of groundwater and exporting this water to North Texas. The Modeled Available Groundwater (MAG) values adopted through the Groundwater Joint Planning Process for the Carrizo-Wilcox in Anderson County are less than 25,000 acre-feet per year. Some of this groundwater is currently used by local producers. Due to the uncertainty of available supply and competition for this water source, the Carrizo-Wilcox groundwater alternative is not a feasible alternative to the proposed action.

Aquifer Storage and Recovery

Aquifer Storage and Recovery (ASR) is a water management approach that stores surplus water in local aquifers during periods of excess water availability and withdraws the stored water later during periods of drought or peak demands. This strategy can provide additional supply during drought. It requires a suitable aquifer formation and excess supplies that have been treated to a level that will not degrade existing water quality in the aquifer. The small-scale ASR strategy considered for NTMWD assumes a suitable formation can be identified near an existing water treatment facility, and the operations could provide up to 2,500 acre-feet per year during drought.

This quantity of water could help with peak demands but would not provide a significant source of new water. Further study is needed to determine if there are suitable geologic formations that are economically feasible for ASR, and the operation of the system may pose challenges for infrastructure that may not be used regularly. ASR is not a feasible alternative to the reuse of discharges from Sister Grove RWRRF due to the small quantity of supply and technical uncertainties with implementation.

Conclusion

Based upon the aforementioned information and analysis, there are no feasible alternatives to the reuse of discharges from Sister Grove RWRRF at this time. Furthermore, this project is consistent with NTMWD's conservation goals to fully develop its available reuse to meet its future water needs.



PLACEHOLDER:

**North Texas Municipal Water District
Reservoir Accounting Plan for Lake Lavon
will be submitted during technical
review of the Application**

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