



# Technical Package Cover Page

**This file contains the following documents:**

1. Summary of application (in plain language)
2. First notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
3. Second notice (NAPD-Notice of Preliminary Decision)
4. Application materials
5. Draft permit
6. Technical summary or fact sheet

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



## NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR TPDES PERMIT FOR INDUSTRIAL WASTEWATER

### MINOR AMENDMENT

PERMIT NO. WQ0004996000

**APPLICATION AND PRELIMINARY DECISION.** The Texas Commission on Environmental Quality (TCEQ) has initiated a minor amendment of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004996000 issued to North Texas Municipal Water District, P.O. Box 2408, Wylie, Texas, 75098, which proposes to operate North Texas Municipal Water District Water Treatment Plant, a drinking water treatment facility, to correct Other Requirement No. 7.c. and add Other Requirement No. 8. The existing permit authorizes the discharge of desalination concentrate at a daily average flow not to exceed 9,300,000 gallons per day via Outfall 001.

The facility is located approximately 700 feet north of the intersection of County Road 4965 and State Highway 78, west of the City of Leonard, Fannin County, Texas 75452. This link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-96.278888,33.386388&level=18>

The effluent is discharged via pipe to an unnamed tributary, thence to Red River Below Lake Texoma in Segment No. 0202 of the Red River Basin. Segment 0202 is within 300 feet of the outfall. The discharge is considered direct to segment and the unnamed tributary is not assessed. The designated uses for Segment No. 0202 are primary contact recreation, public water supply, and high aquatic life use.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements.

**PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application.** The purpose of a public meeting is to provide the opportunity to submit written or oral comment or to ask questions about the application. Generally, the TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

**Written public comments should be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at <https://www.tceq.texas.gov/goto/comment> within 30 days of the date this notice is mailed.**

After the deadline for public comments, the Executive Director will consider the comments and prepare a response to all relevant and material, or significant public comments. **The response to comments will be mailed to everyone who submitted public comments or who requested to be on a mailing list for this application.**

**MAILING LISTS.** In addition to submitting public comments, you may ask to be placed on a mailing list to receive future public notices mailed by the Office of the Chief Clerk. You may request to be added to: (1) the mailing list for this specific application; (2) the permanent mailing list for a specific applicant name and permit number; and (3) the permanent mailing list for a specific county. Clearly specify which mailing list(s) to which you wish to be added and send your request to the TCEQ Office of the Chief Clerk at the address above. Unless you otherwise specify, you will be included only on the mailing list for this specific application.

**INFORMATION AVAILABLE ONLINE.** For details about the status of the application, visit the Commissioners' Integrated Database at <https://www.tceq.texas.gov/goto/cid/>. Search the database using the permit number for this application, which is provided at the top of this notice.

**AGENCY CONTACTS AND INFORMATION.** Public comments and requests must be submitted either electronically at <https://www.tceq.texas.gov/goto/comment>, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address, and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, toll free, at 1-800-687-4040 or visit their website at <https://www.tceq.texas.gov/agency/decisions/participation/permitting-participation>. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from North Texas Municipal Water District at the address stated above or by calling Mr. Jerry Allen, Permitting Manager, at 469-626-4634.

Issued: May 13, 2026

# Texas Commission on Environmental Quality

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INTEROFFICE MEMORANDUM

DATE: December 29, 2025

**To:** Erwin Madrid, Team Leader  
Application Review & Processing Team  
Water Quality Division Support Section (MC-145)

**Thru:** Matthew Kennington, Team Leader  
Industrial Permits Team  
Industrial Wastewater Section (MC-148)

**From:** John Hocher, Permit Writer  
Industrial Permits Team  
Industrial Wastewater Section (MC-148)

**Subject:** STAFF-INITIATED MINOR AMENDMENT  
North Texas Municipal Water District, Permit No. WQ0004996000  
(CN601365448, RN106437320)

Other Requirement No. 7.c. needs to be updated, and Other Requirement No. 8 needs to be added to the current permit, issued on May 14, 2025, for the following reasons. Other Requirement No. 7.c. includes an outdated dilution series and critical dilution for the whole effluent toxicity (WET) testing requirements. Other Requirement No. 8 needs to be added for continued coordination with the Oklahoma Department of Environmental Quality.

**The following existing Other Requirement No. 7.c.:**

The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These additional effluent concentrations are 4%, 5%, 7%, 9%, and 12% effluent. The critical dilution, defined as 9% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical flow or critical mixing conditions

**Proposed to be changed to:**

The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These additional effluent concentrations are 3%, 5%, 6%, 8%, and 11% effluent. The critical dilution, defined as 8% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical flow or critical mixing conditions.

**Proposed Other Requirement No. 8 to be added:**

Copies of the reports required for submittal under Other Requirement No. 5 must also be submitted to the following:

Oklahoma Department of Environmental Quality  
Municipal Wastewater Group, Program Manager  
Water Quality Division  
P.O. Box 1677  
Oklahoma City, Oklahoma 73101  
(405) 702-8182, General (405) 702-8100  
Patrick.rosch@deq.ok.gov

**The permittee's contact information is provided below:**

Mr. Jerry Allen, Permitting Manager  
North Municipal Water District  
P.O. Box 2408  
Wylie, Texas 75098  
Phone: (469) 626-4634  
Email: jallen@ntmwd.com

Thank you,

*John Hocher*  
\_\_\_\_\_  
John Hocher

## Erwin Madrid

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**From:** John Hocher  
**Sent:** Monday, December 29, 2025 8:21 AM  
**To:** Erwin Madrid  
**Cc:** Matthew Kennington  
**Subject:** RE: WQ0004996000 SIA Memo Draft  
**Attachments:** 4996 SIA Memo.docx

Hi Erwin,  
Here is the corrected memo that includes the applicant contact info.

Thanks,  
John Hocher

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**From:** Erwin Madrid <Erwin.Madrid@tceq.texas.gov>  
**Sent:** Tuesday, December 23, 2025 2:24 PM  
**To:** Matthew Kennington <Matthew.Kennington@tceq.texas.gov>  
**Cc:** John Hocher <John.Hocher@tceq.texas.gov>  
**Subject:** RE: WQ0004996000 SIA Memo Draft

Hey John,

I am looking at this memo for the staff-initiated minor amendment and I see that the contact information for the applicant is missing. We need this information to create the routing sheets. For reference, please see attached, an example of what I am referring to.

Regards,

Erwin Madrid  
Team Lead  
ARP Team | Water Quality Division  
512-239-2191  
Texas Commission on Environmental Quality



Please consider whether it is necessary to print this e-mail.

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**From:** Matthew Kennington <[Matthew.Kennington@tceq.texas.gov](mailto:Matthew.Kennington@tceq.texas.gov)>  
**Sent:** Wednesday, December 17, 2025 11:26 AM  
**To:** Erwin Madrid <[Erwin.Madrid@tceq.texas.gov](mailto:Erwin.Madrid@tceq.texas.gov)>  
**Cc:** John Hocher <[John.Hocher@tceq.texas.gov](mailto:John.Hocher@tceq.texas.gov)>  
**Subject:** FW: WQ0004996000 SIA Memo Draft

Howdy Erwin,

Please see the attached memo for a staff initiated amendment to WQ0004996000.

Let us know if you need anything else,

-M

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**From:** John Hocher <[John.Hocher@tceq.texas.gov](mailto:John.Hocher@tceq.texas.gov)>  
**Sent:** Wednesday, December 17, 2025 11:20 AM  
**To:** Matthew Kennington <[Matthew.Kennington@tceq.texas.gov](mailto:Matthew.Kennington@tceq.texas.gov)>  
**Subject:** WQ0004996000 SIA Memo Draft

Let me know if anything needs to be changed.

Thanks,  
John



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 North Texas Municipal Water District Leonard Water Treatment Plant, a drinking water treatment facility (SIC 4941)

located approximately 700 feet north of the intersection of County Road 4965 and State Highway 78, west of the City of Leonard, Fannin County, Texas 75452

via pipe to an unnamed tributary, thence to Red River Below Lake Texoma in Segment No. 0202 of the Red 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, May 14, 2030.

ISSUED DATE:

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For the Commission

TPDES PERMIT NO.  
WQ0004996000  
*[For TCEQ office use only -  
EPA I.D. No. TX0133671]*

This minor amendment replaces  
TPDES Permit No.  
WQ0004996000, issued on May 14,  
2025.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge desalination concentrate subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 9.3 million gallons per day (MGD). The daily maximum flow shall not exceed 18.6 MGD.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	9.3 MGD	18.6 MGD	N/A	Continuous	Meter
Total Suspended Solids	20	30	30	1/week	Grab
Total Dissolved Solids	Report	Report	N/A	1/month	Grab
Chloride	Report	Report	N/A	1/month	Grab
Sulfate	Report	Report	N/A	1/month	Grab

2. The pH must not be less than 6.0 standard units nor greater than 9.0 standard units and must be monitored 1/day by grab sample.
3. There must be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
4. Effluent monitoring samples must be taken at the following location: At Outfall 001, following final treatment and prior to entering the receiving waters.

**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 Texas Water Code §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 a 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 (Fecal coliform, *E. coli*, or Enterococci) – the number of colonies 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 substitute 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 × Concentration, mg/L × 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(c).
  - 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 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 Enforcement Division (MC 224), by the 20th day of the following month for each discharge that 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; TWC Chapters 26, 27, and 28; and THSC Chapter 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 Chapter 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 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 Enforcement Division (MC 224).

## 7. Noncompliance Notification

- a. In accordance with 30 TAC §305.125(9) any noncompliance that may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. 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 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 that deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the regional office and 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 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 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 that 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) that 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 that would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant that 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 that 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 that 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 Texas Water Code §§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 Chapter 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 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 that are not described in the permit application or that 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 that 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 Texas Water Code 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(15)) 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;
  - ii. the permit number(s);
  - iii. 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, Industrial Wastewater 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, Industrial Wastewater 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 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, 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 or upgrading of the domestic wastewater treatment 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 or collection facilities. In the case of a domestic wastewater treatment facility that 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 127) 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 Remediation 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 Chapter 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 Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC Code Chapter 361.

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**OTHER REQUIREMENTS**

1. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 4 within 24 hours from the time the permittee becomes aware of the violation, followed by a written report within five working days to TCEQ Region 4 and Compliance Monitoring Team (MC 224): None.
2. The mixing zone is defined as 300 feet downstream and 100 feet upstream from the point of discharge. Chronic toxic criteria apply at the edge of the mixing zone.
3. This permit does not authorize the discharge of domestic wastewater. All domestic wastewater must be disposed of in an approved manner, such as routing to an approved on-site septic tank and drainfield system or to an authorized third party for treatment and disposal.
4. Reporting requirements pursuant to 30 TAC Sections 319.1-319.11 and any additional effluent reporting requirements contained in the permit are suspended from the effective date of the permit until plant startup or discharge, whichever comes first, from the facility described by this permit. The permittee shall provide written notice to the TCEQ Region 4 Office and the Applications Review and Processing Team (MC-148) of the Water Quality Division at least forty-five (45) 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.
5. Wastewater discharged via Outfall 001 must be sampled and analyzed as directed below for those parameters listed in Tables 1, 2, 3, and 4 of Attachment A of this permit. Analytical testing for Outfall 001 must be completed within 60 days of initial discharge. Results of the analytical testing must be submitted within 90 days of initial discharge to the TCEQ Industrial Permits Team (MC-148). Based on a technical review of the submitted analytical results, an amendment may be initiated by TCEQ staff to include additional effluent limitations, monitoring requirements, or both.

Table 1: Analysis is required for all pollutants in Table 1. Wastewater must be sampled and analyzed for those parameters listed in Table 1 for a minimum of four sampling events that are each at least one week apart.

Table 2: Analysis is required for those pollutants in Table 2 that are used at the facility that could in any way contribute to contamination in the Outfall 001 discharge. Sampling and analysis must be conducted for a minimum of four sampling events that are each at least one week apart.

Table 3: For all pollutants listed in Table 3, the permittee shall indicate whether each pollutant is believed to be present or absent in the discharge. Sampling and analysis must be conducted for each pollutant believed present for a minimum of one sampling event.

Table 4: Analysis is required for the appropriate pollutants listed in Table 4. Wastewater must be sampled and analyzed for the appropriate parameters listed in Table 4 for a minimum of four sampling events that are each at least one week apart.

The permittee shall report the flow at Outfall 001 in MGD in the attachment. The permittee shall indicate on each table whether the samples are composite (C) or grab (G) by checking the appropriate box.

6. Water treatment plant sludge may be disposed of either at an approved landfill or by another method in accordance with 30 TAC Chapter 312, Subchapter F. The permittee shall give 180 days prior notice to the Executive Director of any planned change in the water treatment sludge disposal practice.

The permittee shall comply with the following sludge requirements:

- a. The permittee shall handle and dispose of water treatment sludge in accordance with the requirements of 30 TAC Section 312.121 and Title 40, Part 257 of the Code of Federal Regulations 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.
- b. If the permittee generates water treatment sludge and supplies that water treatment 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 to ensure compliance with the permit for that MSWLF. The permittee shall ensure that the water treatment sludge meets the requirements in 40 CFR Part 258 concerning the quality of the sludge disposed in a municipal solid waste landfill.
- c. The permittee shall report the following information annually to the TCEQ's Enforcement Division (MC-224) and to the Region 4 Office in September of each year:
  - i. Annual sludge production in dry tons/year.
  - ii. For land application:
    - (a) Amount of sludge disposed of in dry tons/year.
    - (b) Certification that the water treatment sludge meets the requirements of 40 CFR Part 257 concerning the quality of the sludge being land applied.
  - iii. For sludge disposed of in a municipal solid waste landfill:
    - (a) Amount of sludge in dry tons/year.
    - (b) Date(s) of disposal.
    - (c) Identity of hauler and TCEQ transporter registration number.
    - (d) Owner and location of disposal site.
    - (e) Registration or permit number of disposal facility.
    - (f) Certification that the water treatment sludge meets the requirements of 40 CFR Part 258 concerning the quality of the sludge disposed in a MSWLF.

The above records must be maintained on-site on a monthly basis and must be made available to the TCEQ upon request.

- d. Sludge which has come into contact with reject water from the water treatment unit may not be disposed of on-site.
  - e. The pH of the sludge and soil mixture must be 6.5 standard units or greater.
7. WHOLE EFFLUENT TOXICITY (WET) TESTING REQUIREMENTS
    - a. The permittee shall conduct the following whole effluent toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," Fourth Edition (EPA-821-R-02-013), or the most recent update.

- 1) Chronic static renewal, survival, and reproduction test using the water flea (*Ceriodaphnia dubia*) (Method 1002.0 or the most recent update). 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 comes first.
  - 2) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (*Pimephales promelas*) (Method 1000.0 or the most recent update). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.
- b. The tests must be conducted once per quarter during each of the first four full calendar quarters following the initial discharge representative of regular operations at the facility. The permittee shall perform and report a valid test for each species during each of the four quarters. An invalid test must be repeated during the same quarter. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirement specified in the above-referenced test methods. The endpoint will be Inhibition Concentration 25% (IC25) and the statistical analyses used to determine the inhibition concentration of effluent that would cause a 25% reduction (IC25) in survival or production as described in the methods manual referenced in Part 1.b.
  - c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These additional effluent concentrations are 3%, 5%, 6%, 8%, and 11% effluent. The critical dilution, defined as 8% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical flow or critical mixing conditions.
  - d. Dilution water used in the toxicity tests must be moderately hard synthetic dilution water.
  - e. If any of the tests exhibit a significant effect at the critical dilution, three retests must be performed within the following 90 days. A significant effect is defined as an IC25 of a specified endpoint (survival, growth, or reproduction) less than the critical dilution. If two of the retests also exhibit a significant effect, the permittee shall conduct a study with the objective of determining the cause of the test failures and identifying actions that will eliminate test failures due to that cause.
  - f. Reports for all of the tests specified above must be submitted to the TCEQ Standards Implementation Team (MC 150) of the Water Quality Division within 45 days of completion of the final quarterly test.
8. Copies of the reports required for submittal under Other Requirement No. 5 must also be submitted to the following:

Oklahoma Department of Environmental Quality  
Municipal Wastewater Group, Program Manager  
Water Quality Division  
P.O. Box 1677  
Oklahoma City, Oklahoma 73101  
(405) 702-8182, General (405) 702-8100  
Patrick.rosch@deq.ok.gov

**Attachment A**

**Table 1**

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G	Effluent Concentration (mg/L)				
		Samp.	Samp.	Samp.	Samp.	Average
Pollutants						
Flow (MGD)						
BOD (5-day)						
CBOD (5-day)						
Chemical Oxygen Demand						
Total Organic Carbon						
Dissolved Oxygen						
Ammonia Nitrogen						
Total Suspended Solids						
Nitrate Nitrogen						
Total Organic Nitrogen						
Total Phosphorus						
Oil and Grease						
Total Residual Chlorine						
Total Dissolved Solids						
Sulfate						
Chloride						
Fluoride						
Temperature (°F)						
Total Alkalinity (mg/L as CaCO <sub>3</sub> )						
pH (Standard Units; min/max)						

	Effluent Concentration (µg/L)					MAL <sup>1</sup> (µg/L)
Total Aluminum						2.5
Total Antimony						5
Total Arsenic						0.5
Total Barium						3
Total Beryllium						0.5
Total Cadmium						1
Total Chromium						3
Trivalent Chromium						N/A
Hexavalent Chromium						3
Total Copper						2
Cyanide						10
Total Lead						0.5
Total Mercury						0.005
Total Nickel						2
Total Selenium						5
Total Silver						0.5
Total Thallium						0.5
Total Zinc						5.0

<sup>1</sup> Minimum Analytical Level

## Attachment A

Table 2

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G	Samp. 1 (µg/L)*	Samp. 2 (µg/L)*	Samp. 3 (µg/L)*	Samp. 4 (µg/L)*	Avg. (µg/L)*	MAL (µg/L)
Pollutant							
Acrylonitrile							50
Anthracene							10
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
Carbon Tetrachloride							2
Chlorobenzene							10
Chlorodibromomethane							10
Chloroform							10
Chrysene							5
Cresols							10
1,2-Dibromoethane							10
<i>m</i> -Dichlorobenzene							10
<i>o</i> -Dichlorobenzene							10
<i>p</i> -Dichlorobenzene							10
3,3'-Dichlorobenzidine							5
1,2-Dichloroethane							10
1,1-Dichloroethylene							10
Dichloromethane							20
1,2-Dichloropropane							10
2,4-Dimethylphenol							10
Di- <i>n</i> -Butyl Phthalate							10
Ethylbenzene							10
Fluoride							500
Hexachlorobenzene							5
Hexachlorobutadiene							10
Hexachlorocyclopentadiene							10
Hexachloroethane							20
Methyl Ethyl Ketone							50
Nitrobenzene							10
<i>N</i> -Nitrosodiethylamine							20
<i>N</i> -Nitroso-di- <i>n</i> -Butylamine							20
Nonylphenol							333
Pentachlorobenzene							20
Pentachlorophenol							5
Phenanthrene							10
Polychlorinated Biphenyls (PCBs) (**)							0.2
Pyridine							20
1,2,4,5-Tetrachlorobenzene							20
1,1,2,2-Tetrachloroethane							10

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G	Samp. 1 (µg/L)*	Samp. 2 (µg/L)*	Samp. 3 (µg/L)*	Samp. 4 (µg/L)*	Avg. (µg/L)*	MAL (µg/L)
<b>Pollutant</b>							
Tetrachloroethylene							10
Toluene							10
1,1,1-Trichloroethane							10
1,1,2-Trichloroethane							10
Trichloroethylene							10
2,4,5-Trichlorophenol							50
TTHM (Total Trihalomethanes)							10
Vinyl Chloride							10

\* Indicate units if different from µg/L.

\*\* Total PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, PCB-1016

**Attachment A**

**Table 3**

Pollutants	Believed Present	Believed Absent	Average Concentration (mg/L)	Maximum Concentration (mg/L)	No. of Samples	MAL (µg/L)*
Bromide						400
Color (PCU)						—
Nitrate-Nitrite (as N)						—
Sulfide (as S)						—
Sulfite (as SO <sub>3</sub> )						—
Surfactants						—
Boron, total						20
Cobalt, total						0.3
Iron, total						7
Magnesium, total						20
Manganese, total						0.5
Molybdenum, total						1
Tin, total						5
Titanium, total						30

\* Indicate units if different from µg/L.

**Table 4 for Outfall No.**

**; Samples are (check one):**

**Composites**

**Grabs**

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	Average	MAL
Tributyltin (µg/L)						0.010
Enterococci (cfu or MPN/100 mL)						N/A
E. coli (cfu or MPN/100 mL)						N/A

STATEMENT OF BASIS/TECHNICAL SUMMARY AND  
EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

**DESCRIPTION OF APPLICATION**

Applicant: North Texas Municipal Water District; Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004996000 (EPA I.D. No. TX0133671)

Regulated activity: Industrial wastewater permit

Type of application: **Minor amendment without renewal**

Request: **Staff initiated amendment to to correct Other Requirement No. 7.c. and add Other Requirement No. 8.**

Authority: Federal Clean Water Act (CWA) §402; Texas Water Code (TWC) §26.027; 30 Texas Administrative Code (TAC) Chapter 305, Subchapters C-F, and Chapters 307 and 319; commission policies; and Environmental Protection Agency (EPA) guidelines

**This is a Staff Initiated Amendment without renewal; therefore, only the items in the amendment request were considered during the drafting of this permit and Statement of Basis/Technical Summary and Executive Director's Preliminary Decision. The information provided in this document, except for portions related to the amendment request, is continued from the Statement of Basis/Technical Summary and Executive Director's Preliminary Decision for the permit issued on May 14, 2030. Sentences in bold represent action taken with this amendment.**

**EXECUTIVE DIRECTOR RECOMMENDATION**

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. **The draft permit retains the current expiration date of May 14, 2030**

**REASON FOR PROJECT PROPOSED**

**The Texas Commission on Environmental Quality (TCEQ) has initiated a minor amendment of its existing permit. The proposed staff-initiated minor amendment would correct Other Requirement No. 7.c. and add Other Requirement No. 8.**

**PROJECT DESCRIPTION AND LOCATION**

The applicant proposes to operate North Texas Municipal Water District Leonard Water Treatment Plant, a drinking water treatment facility.

The wastewater system consists of conventional treatment of raw wastewater (e.g. coagulation, filtrations, etc.) followed by multi-stage desalination processes to remove dissolved solids and produce potable water. The desalination process will most likely include a pretreatment operation, and some of the conventionally treated water will be bypassed around the selected desalination process. Presently, both electro dialysis reversal (EDR) and multi-stage reverse osmosis (RO) are being considered for the desalination process. The final determination will be made based on the performance of pilot studies. Brine residuals (concentrate) from the desalination process will be discharged at a daily average flow not to exceed 9.3 million gallons per day (MGD) via Outfall 001. Domestic wastewater will either be routed to the City of Leonard Publicly Owned Treatment Works (POTW) or to an on-site sewage facility. All of the other waste generated at the facility, (which may include clarifier blowdown, filter

STATEMENT OF BASIS / TECHNICAL SUMMARY AND  
EXECUTIVE DIRECTOR'S PRELIMINARY DECISION  
TPDES Permit No. WQ0004996000

backwash, and backwash from maintenance and pretreatment membranes) is expected to be trucked to a permitted landfill or disposed of in accordance with 30 TAC Chapter 312, Subchapter F.

The TCEQ and the Oklahoma Department of Environmental Quality (ODEQ) began discussing the application for the initial issuance of this permit in August 2012. These discussions included a conference call in November 2012 between the TCEQ, ODEQ, and the Oklahoma Water Resources Board (OWRB). Based on these discussions, monitoring and reporting requirements for Total Dissolved Solids (TDS), Sulfate, and Chloride, Whole Effluent Toxicity Testing requirements, and a Total Suspended Solids daily average limit of 20 mg/L and a daily maximum limit of 30 mg/L were included in the permit at the request of ODEQ.

Continued discussion between the ODEQ and the TCEQ took place during March 2023 to confirm the draft permit is compliant with Oklahoma's updated Surface Water Quality Standards, specifically for TDS and Reasonable Potential Analysis. The facility has yet to be built, so no analytical data has been submitted to TCEQ. Other Requirement No. 5 is continued in the draft permit to require full effluent testing, including TDS, Sulfate, Chloride, and Whole Effluent Toxicity Testing, upon commencement of discharge. The draft permit would require the permittee to submit copies of the reports stated in Other Requirement No. 5 to both TCEQ and ODEQ. Upon submittal, test results will be reviewed by both TCEQ and ODEQ, and the permit may be reopened to add numeric effluent limits, monitoring and reporting requirements, or both as needed.

The facility is located approximately 700 feet north of the intersection of County Road 4965 and State Highway 78, west of the City of Leonard, Fannin County, Texas 75452.

#### **Discharge Route and Designated Uses**

The effluent is discharged via pipe to an unnamed tributary, thence to Red River Below Lake Texoma in Segment No. 0202 of the Red River Basin. Segment 0202 is within 300 feet of the outfall. The discharge is considered direct to segment and the unnamed tributary is not assessed. The designated uses for Segment No. 0202 are primary contact recreation, public water supply, and high aquatic life use. The effluent limits in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and revisions.

#### **Endangered Species Review**

The discharge from this permit is not expected to have an effect on any federal endangered or threatened aquatic or aquatic-dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS's) biological opinion on the State of Texas authorization of the TPDES (September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and the EPA only considered aquatic or aquatic-dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS's biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

#### **Impaired Water Bodies**

Segment No. 0202 is not currently listed on the state's inventory of impaired and threatened waters, the 2020 CWA §303(d) list.

#### **Completed Total Maximum Daily Loads (TMDLs)**

There are no completed TMDLs for Segment No. 0202.

#### **Dissolved Oxygen**

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**Due to the low levels of oxygen-demanding constituents expected from this type of discharge, no significant dissolved oxygen depletion is anticipated in the receiving waters as a result of this discharge.**

**SUMMARY OF EFFLUENT DATA**

Self-reporting data is not available because the facility has not been constructed

**DRAFT PERMIT CONDITIONS**

The draft permit authorizes the discharge of desalination concentrate at a daily average flow not to exceed 9.3 MGD via Outfall 001.

Effluent limitations are established in the draft permit as follows:

Outfall	Pollutant	Daily Average mg/L	Daily Maximum mg/L
001	Flow	9.3 MGD	18.6 MGD
001	Total Suspended Solids (TSS)	20	30
	Total Dissolved Solids (TDS)	Report	Report
	Chloride	Report	Report
	Sulfate	Report	Report
	pH (SU)	6.0, min.	9.0

**OUTFALL LOCATIONS<sup>1</sup>**

Outfall	Latitude	Longitude
001	33.687257 N	96.355432 W

**Technology-Based Effluent Limitations**

Regulations in Title 40 of the Code of Federal Regulations (40 CFR) require that technology-based limitations be placed in wastewater discharge permits based on effluent limitations guidelines, where applicable, or on best professional judgment (BPJ) in the absence of guidelines. No federal effluent limitation guidelines apply to the discharge of desalination concentrate. Daily average and daily maximum limitations on total suspended solids are included in the draft permit at the request of the applicant and are continued in the draft permit based on antibacksliding.

**Water Quality-Based Effluent Limitations**

Calculations of water quality-based effluent limitations for the protection of aquatic life and human health are presented in Appendix A. Aquatic life criteria established in Table 1 and human health criteria established in Table 2 of 30 TAC Chapter 307 are incorporated into the calculations, as are recommendations in the Water Quality Assessment Team's memorandum dated June 30, 2022. TCEQ practice for determining significant potential is to compare the reported analytical data from the facility against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70 percent of the calculated daily average water quality-based effluent limitation. No effluent data was submitted with the application because the facility has yet to be built. Best professional estimates of pollutant concentrations were provided in the application. It is TCEQ practice to reserve its evaluation of the need for effluent limits

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<sup>1</sup> Latitude and longitude values are approximations of the location for administrative purposes.

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until actual effluent data is available. Other Requirement No.6 is included in the draft permit to require full effluent testing upon commencement of discharge. Test results will be reviewed, and the permit may be reopened to add numeric effluent limits, monitoring and reporting requirements, or both as needed.

**Total Dissolved Solids (TDS), Chloride, and Sulfate Screening**

Screening procedures and effluent limitations for TDS, chloride, and sulfate are calculated using the methodology in the *Procedures to Implement the Texas Surface Water Quality Standards*, June 2010, and criteria in the *Texas Surface Water Quality Standards* (30 TAC Chapter 307). No effluent data was submitted with the application because the facility has yet to be built. Best professional estimates of pollutant concentrations were provided in the application. It is TCEQ practice to reserve its evaluation of the need for effluent limits until actual effluent data is available. Other Requirement No. 5 is included in the draft permit to require full effluent testing upon commencement of discharge. Test results will be reviewed, by both TCEQ and ODEQ, and the permit may be reopened to add numeric effluent limits, monitoring and reporting requirements, or both as needed. However, TDS, chloride, and sulfate are expected to be present in the discharge, and monitoring and reporting requirements for TDS, chloride, and sulfate are included in the draft permit based on BPJ.

**pH Screening**

The existing permit includes pH limits of 6.0 – 9.0 SU at Outfall 001, which discharges via pipe to an unnamed tributary; thence to Red River Below Lake Texoma in Segment No. 0202 of the Red River Basin. Screening was performed to ensure that these existing pH limits would not cause a violation of the 6.5 – 9.0 SU pH criteria for Red River Below Lake Texoma (see Appendix B). The existing effluent limits of 6.0 – 9.0 SU are adequate to ensure that the discharge will not violate the pH criteria in Red River Below Lake Texoma. These limits have been carried forward in the draft permit.

**Whole Effluent Toxicity Testing (Biomonitoring)**

Biomonitoring requirements are included in the draft permit at Outfall 001. Based on the permittee's request, whole effluent toxicity (WET) testing requirements have been included in the Other Requirement Section, Item No. 7 of the draft permit. WET testing is the most direct measure of potential toxicity, which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit are as follows:

The permittee shall conduct the following whole effluent toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," Fourth Edition (EPA-821-R-02-013), or the most recent update.

- 1) Chronic static renewal, survival, and reproduction test using the water flea (*Ceriodaphnia dubia*) (Method 1002.0 or the most recent update). 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 comes first.
- 2) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (*Pimephales promelas*) (Method 1000.0 or the most recent update). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.

The tests must be conducted once per quarter during each of the first four full calendar quarters following the initial discharge representative of regular operations at the facility. The permittee shall perform and report a valid test for each species during each of the four quarters. An invalid test must be repeated during the same quarter. An invalid test is herein defined as any test failing to satisfy the

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test acceptability criteria, procedures, and quality assurance requirement specified in the above-referenced test methods. The end point will be Inhibition Concentration 25% (IC25) and the statistical analyses used to determine the inhibition concentration of effluent that would cause a 25% reduction (IC25) in survival or production as described in the methods manual referenced in Part 1.b.

The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These additional effluent concentrations are **3%, 5%, 6%, 8%, and 11%** effluent. The critical dilution, defined as **8%** effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical flow or critical mixing conditions.

Dilution water used in the toxicity tests must be moderately hard synthetic dilution water. If any of the tests exhibit a significant effect at the critical dilution, three retests must be performed within the following 90 days. A significant effect is defined as a statistically significant difference at the 95% confidence level, between a specified endpoint (survival, growth, or reproduction) of the test organism in a specified effluent dilution when compared to the specified endpoint of the test organism in the control. If two of the retests also exhibit a significant effect, the permittee shall conduct a study with the objective of determining the cause of the test failures and identifying actions that will eliminate test failures due to that cause.

Reports for all of the tests specified above must be submitted to the TCEQ Standards Implementation Team (MC 150) of the Water Quality Division within 45 days of completion of the final quarterly test.

#### **SUMMARY OF CHANGES FROM APPLICATION**

No changes were made from the permit application.

#### **SUMMARY OF CHANGES FROM EXISTING PERMIT**

The following additional change has been made to the draft permit.

1. Pages 3-13 were updated (May 2021 version).
2. **The critical dilution and dilution series in Other Requirement No. 7.c have been updated to reflect the latest critical conditions memo.**
3. **Other Requirement No. 8 has been included in the draft permit requiring the permittee submit copies of the reports required for submittal under Other Requirement No. 5 to the Oklahoma Department of Environmental Quality's point of contact.**

#### **BASIS FOR DRAFT PERMIT**

The following items were considered in developing the draft permit:

1. Application received on May 23, 2022, and additional information received on June 9, 2022 and June 14, 2022.
2. Existing permits: TPDES Permit No. WQ0004996000 issued on **May 14, 2025**.
3. TCEQ Rules.
4. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10 effective March 1, 2018, as approved by EPA Region 6.
5. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective March 6, 2014, as approved by EPA Region 6, for portions of the 2018 standards not approved by EPA Region 6.
6. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective July 22, 2010, as approved by EPA Region 6, for portions of the 2014 standards not approved by EPA Region 6.

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7. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 standards not approved by EPA Region 6.
8. *Procedures to Implement the Texas Surface Water Quality Standards* (IPs), Texas Commission on Environmental Quality, June 2010, as approved by EPA Region 6.
9. *Procedures to Implement the Texas Surface Water Quality Standards*, Texas Commission on Environmental Quality, January 2003, for portions of the 2010 IPs not approved by EPA Region 6.
10. Memos from the Standards Implementation Team and Water Quality Assessment Team of the Water Quality Assessment Section of the TCEQ.
11. *Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits*, TCEQ Document No. 98-001.000-OWR-WQ, May 1998.
12. EPA Effluent Guidelines: N/A
13. Consistency with the Coastal Management Plan: N/A
14. Letter dated May 28, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for pH evaluation procedures).
15. Letter dated June 2, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for pH evaluation procedures).
16. Letter dated December 28, 2015, from L'Oreal Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).
17. Letter dated December 28, 2015, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).

## PROCEDURES FOR FINAL DECISION

**Once the draft permit is completed, it is sent to the Office of the Chief Clerk of the TCEQ. The Chief Clerk mails the Notice of Application and Preliminary Decision to any interested persons. This notice informs the public about the application and provides that an interested person may file comments on the application or request a public meeting. The notice is also published in the Texas Register. This notice sets a deadline that is 30 days from the date this notice is mailed for making public comments or requesting a public meeting.**

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case hearing. **As this is a minor amendment, there is no right to a contested case hearing.**

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments and final decision to people who have filed comments or requested to be on the mailing list. If the Executive Director calls a public meeting, the commission will give notice of the date, time, and place of the meeting.

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For additional information about this application, contact **John Hocher** at **512-239-5210**.

*John Hocher*  
**John Hocher**

April 27, 2026  
Date

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**Appendix A**  
**Calculated Water Quality-Based Effluent Limits**

**TEXTOX MENU #3 - PERENNIAL STREAM OR RIVER**

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2018 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

**PERMIT INFORMATION**

Permittee Name:	North Texas Municipal Water District
TPDES Permit No.:	WQ0004996000
Outfall No.:	001
Prepared by:	Alyssa Loveday
Date:	July 5, 2022

**DISCHARGE INFORMATION**

Receiving Waterbody:	Red River Below Lake Texoma
Segment No.:	0202
TSS (mg/L):	19
pH (Standard Units):	7.3
Hardness (mg/L as CaCO <sub>3</sub> ):	175
Chloride (mg/L):	197
Effluent Flow for Aquatic Life (MGD):	9.3
Critical Low Flow [7Q2] (cfs):	174.66
% Effluent for Chronic Aquatic Life (Mixing Zone):	7.61
% Effluent for Acute Aquatic Life (ZID):	24.79
Effluent Flow for Human Health (MGD):	9.3
Harmonic Mean Flow (cfs):	495.06
% Effluent for Human Health:	2.82
Human Health Criterion (select: PWS, FISH, or INC)	<b>PWS</b>

**CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):**

<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Source</i>	<i>Water Effect Ratio (WER)</i>	<i>Source</i>
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	55784.03	0.485		1.00	Assumed
Cadmium	6.60	-1.13	142892.17	0.269		1.00	Assumed
Chromium (total)	6.52	-0.93	214170.25	0.197		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	214170.25	0.197		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	118501.09	0.308		1.00	Assumed
Lead	6.45	-0.80	267298.87	0.165		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	91434.57	0.365		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	115580.29	0.313		1.00	Assumed
Zinc	6.10	-0.70	160277.47	0.247		1.00	Assumed

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AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	FW		WLA <sub>a</sub> (µg/L)	WLA <sub>c</sub> (µg/L)	LTA <sub>a</sub> (µg/L)	LTA <sub>c</sub> (µg/L)	Daily Avg. (µg/L)	Daily Max. (µg/L)
	FW Acute Criterion (µg/L)	FW Chronic Criterion (µg/L)						
Aldrin	3.0	N/A	12.1	N/A	6.94	N/A	10.1	21.5
Aluminum	991	N/A	3998	N/A	2291	N/A	3367	7125
Arsenic	340	150	2826	4060	1619	3126	2380	5035
Cadmium	14.8	0.363	222	17.7	127	13.6	20.0	42.4
Carbaryl	2.0	N/A	8.07	N/A	4.62	N/A	6.79	14.3
Chlordane	2.4	0.004	9.68	0.0526	5.55	0.0405	0.0594	0.125
Chlorpyrifos	0.083	0.041	0.335	0.539	0.192	0.415	0.282	0.596
Chromium (trivalent)	901	117	18428	7806	10559	6011	8835	18693
Chromium (hexavalent)	15.7	10.6	63.3	139	36.3	107	53.3	112
Copper	24.1	15.3	316	653	181	502	265	562
Cyanide (free)	45.8	10.7	185	141	106	108	155	329
4,4'-DDT	1.1	0.001	4.44	0.0131	2.54	0.0101	0.0148	0.0314
Demeton	N/A	0.1	N/A	1.31	N/A	1.01	1.48	3.14
Diazinon	0.17	0.17	0.686	2.23	0.393	1.72	0.577	1.22
Dicofol [Kelthane]	59.3	19.8	239	260	137	200	201	426
Dieldrin	0.24	0.002	0.968	0.0263	0.555	0.0202	0.0297	0.0629
Diuron	210	70	847	920	485	708	713	1509
Endosulfan I ( <i>alpha</i> )	0.22	0.056	0.888	0.736	0.509	0.567	0.747	1.58
Endosulfan II ( <i>beta</i> )	0.22	0.056	0.888	0.736	0.509	0.567	0.747	1.58
Endosulfan sulfate	0.22	0.056	0.888	0.736	0.509	0.567	0.747	1.58
Endrin	0.086	0.002	0.347	0.0263	0.199	0.0202	0.0297	0.0629
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.131	N/A	0.101	0.148	0.314
Heptachlor	0.52	0.004	2.10	0.0526	1.20	0.0405	0.0594	0.125
Hexachlorocyclohexane ( <i>gamma</i> ) [Lindane]	1.126	0.08	4.54	1.05	2.60	0.809	1.18	2.51
Lead	118	4.60	2896	368	1660	283	416	880
Malathion	N/A	0.01	N/A	0.131	N/A	0.101	0.148	0.314
Mercury	2.4	1.3	9.68	17.1	5.55	13.2	8.15	17.2
Methoxychlor	N/A	0.03	N/A	0.394	N/A	0.303	0.446	0.943
Mirex	N/A	0.001	N/A	0.0131	N/A	0.0101	0.0148	0.0314
Nickel	752	83.5	8302	3003	4757	2312	3398	7190
Nonylphenol	28	6.6	113	86.7	64.7	66.8	95.1	201
Parathion (ethyl)	0.065	0.013	0.262	0.171	0.150	0.132	0.193	0.409
Pentachlorophenol	11.8	9.0	47.6	119	27.3	91.5	40.0	84.7
Phenanthrene	30	30	121	394	69.4	303	101	215
Polychlorinated Biphenyls [PCBs]	2.0	0.014	8.07	0.184	4.62	0.142	0.208	0.440
Selenium	20	5	80.7	65.7	46.2	50.6	67.9	143
Silver	0.8	N/A	115	N/A	65.8	N/A	96.7	204
Toxaphene	0.78	0.0002	3.15	0.00263	1.80	0.00202	0.00297	0.00629
Tributyltin [TBT]	0.13	0.024	0.524	0.315	0.301	0.243	0.356	0.755
2,4,5 Trichlorophenol	136	64	549	841	314	647	462	977
Zinc	188	190	3073	10088	1761	7768	2588	5475

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HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Water and Fish Criterion (µg/L)</i>	<i>Fish Only Criterion (µg/L)</i>	<i>Incidental Fish Criterion (µg/L)</i>	<i>WLAh (µg/L)</i>	<i>LTAh (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Acrylonitrile	1.0	115	1150	35.4	32.9	48.4	102
Aldrin	1.146E-05	1.147E-05	1.147E-04	0.000406	0.000377	0.000554	0.00117
Anthracene	1109	1317	13170	39264	36516	53678	113563
Antimony	6	1071	10710	212	198	290	614
Arsenic	10	N/A	N/A	729	678	997	2109
Barium	2000	N/A	N/A	70810	65853	96804	204804
Benzene	5	581	5810	177	165	242	512
Benzo(a)anthracene	0.0015	0.107	1.07	0.0531	0.0494	0.0726	0.153
Benzo(a)pyrene	0.0025	0.0025	0.025	0.0885	0.0823	0.121	0.256
Bis(chloromethyl)ether	0.0024	0.2745	2.745	0.0850	0.0790	0.116	0.245
Bis(2-chloroethyl)ether	0.60	42.83	428.3	21.2	19.8	29.0	61.4
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	6	7.55	75.5	212	198	290	614
Bromodichloromethane [Dichlorobromomethane]	10.2	275	2750	361	336	493	1044
Bromoform [Tribromomethane]	66.9	1060	10600	2369	2203	3238	6850
Cadmium	5	N/A	N/A	658	612	899	1902
Carbon Tetrachloride	4.5	46	460	159	148	217	460
Chlordane	0.0025	0.0025	0.025	0.0885	0.0823	0.121	0.256
Chlorobenzene	100	2737	27370	3541	3293	4840	10240
Chlorodibromomethane [Dibromochloromethane]	7.5	183	1830	266	247	363	768
Chloroform [Trichloromethane]	70	7697	76970	2478	2305	3388	7168
Chromium (hexavalent)	62	502	5020	2195	2041	3000	6348
Chrysene	2.45	2.52	25.2	86.7	80.7	118	250
Cresols [Methylphenols]	1041	9301	93010	36857	34277	50386	106600
Cyanide (free)	200	N/A	N/A	7081	6585	9680	20480
4,4'-DDD	0.002	0.002	0.02	0.0708	0.0659	0.0968	0.204
4,4'-DDE	0.00013	0.00013	0.0013	0.00460	0.00428	0.00629	0.0133
4,4'-DDT	0.0004	0.0004	0.004	0.0142	0.0132	0.0193	0.0409
2,4'-D	70	N/A	N/A	2478	2305	3388	7168
Danitol [Fenprothrin]	262	473	4730	9276	8627	12681	26829
1,2-Dibromoethane [Ethylene Dibromide]	0.17	4.24	42.4	6.02	5.60	8.22	17.4
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	322	595	5950	11400	10602	15585	32973
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	600	3299	32990	21243	19756	29041	61441
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	75	N/A	N/A	2655	2470	3630	7680
3,3'-Dichlorobenzidine	0.79	2.24	22.4	28.0	26.0	38.2	80.8
1,2-Dichloroethane	5	364	3640	177	165	242	512
1,1-Dichloroethylene [1,1-Dichloroethene]	7	55114	551140	248	230	338	716
Dichloromethane [Methylene Chloride]	5	13333	133330	177	165	242	512
1,2-Dichloropropane	5	259	2590	177	165	242	512
1,3-Dichloropropene [1,3-Dichloropropylene]	2.8	119	1190	99.1	92.2	135	286
Dicofol [Kelthane]	0.30	0.30	3	10.6	9.88	14.5	30.7
Dieldrin	2.0E-05	2.0E-05	2.0E-04	0.000708	0.000659	0.000968	0.00204
2,4-Dimethylphenol	444	8436	84360	15720	14619	21490	45466
Di- <i>n</i> -Butyl Phthalate	88.9	92.4	924	3148	2927	4302	9103
Dioxins/Furans [TCDD Equivalents]	7.80E-08	7.97E-08	7.97E-07	0.0000028	0.0000026	0.0000038	0.0000080
Endrin	0.02	0.02	0.2	0.708	0.659	0.968	2.04
Epichlorohydrin	53.5	2013	20130	1894	1762	2589	5478
Ethylbenzene	700	1867	18670	24784	23049	33881	71681
Ethylene Glycol	46744	1.68E+07	1.68E+08	1654975	1539127	2262515	4786683

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Fluoride	4000	N/A	N/A	141620	131707	193609	409608
Heptachlor	8.0E-05	0.0001	0.001	0.00283	0.00263	0.00387	0.00819
Heptachlor Epoxide	0.00029	0.00029	0.0029	0.0103	0.00955	0.0140	0.0296
Hexachlorobenzene	0.00068	0.00068	0.0068	0.0241	0.0224	0.0329	0.0696
Hexachlorobutadiene	0.21	0.22	2.2	7.44	6.91	10.1	21.5
Hexachlorocyclohexane ( <i>alpha</i> )	0.0078	0.0084	0.084	0.276	0.257	0.377	0.798
Hexachlorocyclohexane ( <i>beta</i> )	0.15	0.26	2.6	5.31	4.94	7.26	15.3
Hexachlorocyclohexane ( <i>gamma</i> ) [Lindane]	0.2	0.341	3.41	7.08	6.59	9.68	20.4
Hexachlorocyclopentadiene	10.7	11.6	116	379	352	517	1095
Hexachloroethane	1.84	2.33	23.3	65.1	60.6	89.0	188
Hexachlorophene	2.05	2.90	29	72.6	67.5	99.2	209
4,4'-Isopropylidenediphenol	1092	15982	159820	38662	35956	52855	111823
Lead	1.15	3.83	38.3	247	230	338	715
Mercury	0.0122	0.0122	0.122	0.432	0.402	0.590	1.24
Methoxychlor	2.92	3.0	30	103	96.1	141	299
Methyl Ethyl Ketone	13865	9.92E+05	9.92E+06	490891	456529	671097	1419805
Methyl <i>tert</i> -butyl ether [MTBE]	15	10482	104820	531	494	726	1536
Nickel	332	1140	11400	32175	29923	43986	93059
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	N/A	354051	329267	484022	1024020
Nitrobenzene	45.7	1873	18730	1618	1505	2211	4679
N-Nitrosodiethylamine	0.0037	2.1	21	0.131	0.122	0.179	0.378
N-Nitroso-di- <i>n</i> -Butylamine	0.119	4.2	42	4.21	3.92	5.75	12.1
Pentachlorobenzene	0.348	0.355	3.55	12.3	11.5	16.8	35.6
Pentachlorophenol	0.22	0.29	2.9	7.79	7.24	10.6	22.5
Polychlorinated Biphenyls [PCBs]	6.4E-04	6.4E-04	6.40E-03	0.0227	0.0211	0.0309	0.0655
Pyridine	23	947	9470	814	757	1113	2355
Selenium	50	N/A	N/A	1770	1646	2420	5120
1,2,4,5-Tetrachlorobenzene	0.23	0.24	2.4	8.14	7.57	11.1	23.5
1,1,1,2-Tetrachloroethane	1.64	26.35	263.5	58.1	54.0	79.3	167
Tetrachloroethylene [Tetrachloroethylene]	5	280	2800	177	165	242	512
Thallium	0.12	0.23	2.3	4.25	3.95	5.80	12.2
Toluene	1000	N/A	N/A	35405	32927	48402	102402
Toxaphene	0.011	0.011	0.11	0.389	0.362	0.532	1.12
2,4,5-TP [Silvex]	50	369	3690	1770	1646	2420	5120
1,1,1-Trichloroethane	200	784354	7843540	7081	6585	9680	20480
1,1,2-Trichloroethane	5	166	1660	177	165	242	512
Trichloroethylene [Trichloroethene]	5	71.9	719	177	165	242	512
2,4,5-Trichlorophenol	1039	1867	18670	36786	34211	50289	106395
TTHM [Sum of Total Trihalomethanes]	80	N/A	N/A	2832	2634	3872	8192
Vinyl Chloride	0.23	16.5	165	8.14	7.57	11.1	23.5

**CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:**

<b>Aquatic Life</b>	<b>70% of Daily Avg.</b>	<b>85% of Daily Avg.</b>
<b>Parameter</b>	<b>(µg/L)</b>	<b>(µg/L)</b>
Aldrin	7.13	8.66
Aluminum	2357	2862
Arsenic	1666	2023
Cadmium	14.0	17.0
Carbaryl	4.75	5.77
Chlordane	0.0416	0.0505
Chlorpyrifos	0.197	0.239
Chromium (trivalent)	6184	7510

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Chromium (hexavalent)	37.3	45.3
Copper	186	226
Cyanide (free)	108	132
4,4'-DDT	0.0104	0.0126
Demeton	1.04	1.26
Diazinon	0.404	0.491
Dicofol [Kelthane]	141	171
Dieldrin	0.0208	0.0252
Diuron	499	606
Endosulfan I ( <i>alpha</i> )	0.523	0.635
Endosulfan II ( <i>beta</i> )	0.523	0.635
Endosulfan sulfate	0.523	0.635
Endrin	0.0208	0.0252
Guthion [Azinphos Methyl]	0.104	0.126
Heptachlor	0.0416	0.0505
Hexachlorocyclohexane ( <i>gamma</i> ) [Lindane]	0.832	1.01
Lead	291	353
Malathion	0.104	0.126
Mercury	5.70	6.93
Methoxychlor	0.312	0.379
Mirex	0.0104	0.0126
Nickel	2379	2889
Nonylphenol	66.6	80.8
Parathion (ethyl)	0.135	0.164
Pentachlorophenol	28.0	34.0
Phenanthrene	71.3	86.6
Polychlorinated Biphenyls [PCBs]	0.145	0.176
Selenium	47.5	57.7
Silver	67.7	82.2
Toxaphene	0.00208	0.00252
Tributyltin [TBT]	0.249	0.303
2,4,5 Trichlorophenol	323	392
Zinc	1811	2199

<b>Human Health</b>	<b>70% of Daily Avg.</b>	<b>85% of Daily Avg.</b>
<b>Parameter</b>	<b>(µg/L)</b>	<b>(µg/L)</b>
Acrylonitrile	33.8	41.1
Aldrin	0.000388	0.000471
Anthracene	37574	45626
Antimony	203	246
Arsenic	697	847
Barium	67763	82283
Benzene	169	205
Benzidine	0.0508	0.0617
Benzo(a)anthracene	0.813	0.987
Benzo(a)pyrene	0.0847	0.102
Bis(chloromethyl)ether	0.0813	0.0987
Bis(2-chloroethyl)ether	20.3	24.6
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	203	246
Bromodichloromethane [Dichlorobromomethane]	345	419
Bromoform [Tribromomethane]	2266	2752
Cadmium	629	764
Carbon Tetrachloride	152	185

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Chlordane	0.0847	0.102
Chlorobenzene	3388	4114
Chlorodibromomethane [Dibromochloromethane]	254	308
Chloroform [Trichloromethane]	2371	2879
Chromium (hexavalent)	2100	2550
Chrysene	83.0	100
Cresols [Methylphenols]	35270	42828
Cyanide (free)	6776	8228
4,4'-DDD	0.0677	0.0822
4,4'-DDE	0.00440	0.00534
4,4'-DDT	0.0135	0.0164
2,4'-D	2371	2879
Danitol [Fenpropathrin]	8876	10779
1,2-Dibromoethane [Ethylene Dibromide]	5.75	6.99
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	10909	13247
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	20328	24685
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	2541	3085
3,3'-Dichlorobenzidine	26.7	32.5
1,2-Dichloroethane	169	205
1,1-Dichloroethylene [1,1-Dichloroethene]	237	287
Dichloromethane [Methylene Chloride]	169	205
1,2-Dichloropropane	169	205
1,3-Dichloropropene [1,3-Dichloropropylene]	94.8	115
Dicofol [Kelthane]	10.1	12.3
Dieldrin	0.000677	0.000822
2,4-Dimethylphenol	15043	18267
Di- <i>n</i> -Butyl Phthalate	3012	3657
Dioxins/Furans [TCDD Equivalents]	0.0000026	0.0000032
Endrin	0.677	0.822
Epichlorohydrin	1812	2201
Ethylbenzene	23717	28799
Ethylene Glycol	1583761	1923138
Fluoride	135526	164567
Heptachlor	0.00271	0.00329
Heptachlor Epoxide	0.00982	0.0119
Hexachlorobenzene	0.0230	0.0279
Hexachlorobutadiene	7.11	8.63
Hexachlorocyclohexane ( <i>alpha</i> )	0.264	0.320
Hexachlorocyclohexane ( <i>beta</i> )	5.08	6.17
Hexachlorocyclohexane ( <i>gamma</i> ) [Lindane]	6.77	8.22
Hexachlorocyclopentadiene	362	440
Hexachloroethane	62.3	75.7
Hexachlorophene	69.4	84.3
4,4'-Isopropylidenediphenol	36998	44926
Lead	236	287
Mercury	0.413	0.501
Methoxychlor	98.9	120
Methyl Ethyl Ketone	469768	570432
Methyl <i>tert</i> -butyl ether [MTBE]	508	617
Nickel	30790	37388
Nitrate-Nitrogen (as Total Nitrogen)	338815	411419
Nitrobenzene	1548	1880
N-Nitrosodiethylamine	0.125	0.152
N-Nitroso-di- <i>n</i> -Butylamine	4.03	4.89

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Pentachlorobenzene	11.7	14.3
Pentachlorophenol	7.45	9.05
Polychlorinated Biphenyls [PCBs]	0.0216	0.0263
Pyridine	779	946
Selenium	1694	2057
1,2,4,5-Tetrachlorobenzene	7.79	9.46
1,1,2,2-Tetrachloroethane	55.5	67.4
Tetrachloroethylene [Tetrachloroethylene]	169	205
Thallium	4.06	4.93
Toluene	33881	41141
Toxaphene	0.372	0.452
2,4,5-TP [Silvex]	1694	2057
1,1,1-Trichloroethane	6776	8228
1,1,2-Trichloroethane	169	205
Trichloroethylene [Trichloroethene]	169	205
2,4,5-Trichlorophenol	35202	42746
TTHM [Sum of Total Trihalomethanes]	2710	3291
Vinyl Chloride	7.79	9.46

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**Appendix B**  
**pH Screening**

Calculation of pH of a mixture of two flows. Based on the procedure in EPA's DESCOR program (EPA, 1988, Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling, USEPA Office of Water, Washington D.C.)

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pH Screening

INPUT		
1. DILUTION FACTOR AT MIXING ZONE BOUNDARY	10.00	10.00
RECEIVING WATER CHARACTERISTICS		
2. Temperature (deg C):	25.00	25.00
3. pH:	7.30	7.30
4. Alkalinity (mg CaCO <sub>3</sub> /L):	175.00	175.00
EFFLUENT CHARACTERISTICS		
5. Temperature (deg C):	5.00	35.00
6. pH:	6.50	9.00
7. Alkalinity (mg CaCO <sub>3</sub> /L):	0.40	350.00
OUTPUT		
1. IONIZATION CONSTANTS		
Upstream/Background pKa:	6.35	6.35
Effluent pKa:	6.51	6.30
2. IONIZATION FRACTIONS		
Upstream/Background Ionization Fraction:	0.90	0.90
Effluent Ionization Fraction:	0.49	1.00
3. TOTAL INORGANIC CARBON		
Upstream/Background Total Inorganic Carbon (mg CaCO <sub>3</sub> /L):	194.64	194.64
Effluent Total Inorganic Carbon (mg CaCO <sub>3</sub> /L):	0.81	350.70
4. CONDITIONS AT MIXING ZONE BOUNDARY		
Temperature (deg C):	23.00	26.00
Alkalinity (mg CaCO <sub>3</sub> /L):	157.54	192.50
Total Inorganic Carbon (mg CaCO <sub>3</sub> /L):	175.25	210.24
pKa:	6.36	6.34
<b>pH at Mixing Zone Boundary:</b>	<b>7.31</b>	<b>7.38</b>

**Source Data:**

effluent % at edge of chronic mixing zone: **10.00**  
MGD in cfs: **17.26**      7Q2 flow: **145.68**

Range of temperatures tested (5 to 35 degrees C)  
Seg 0202 pH (IPs): **7.3**  
Hardness from lps=175

Range of temperatures tested (5 to 35 degrees C)  
Proposed permit limit: Sequentially modified until predicted pH met segment criteria (6.5 to 9.0).  
For high pH scenario, calculated and tested a range of values up to twice ambient

Segment 0202 pH criteria: **6.5 to 9.0**

\* Assume minimal total alkalinity at low effluent pH based on carbonate equilibrium chemistry of natural and treated waters