

TCEQ DOCKET NO. 2014-1662-IWD

**APPLICATION BY NORTH TEXAS § BEFORE THE TEXAS COMMISSION
MUNICIPAL WATER DISTRICT FOR § ON
TPDES PERMIT NO. WQ0004996000 § ENVIRONMENTAL QUALITY**

APPLICANT'S RESPONSE TO REQUESTS FOR CONTESTED CASE HEARING

TO THE HONORABLE COMMISSIONERS:

The North Texas Municipal Water District (the "District" or the "Applicant") files its Response to Requests for Contested Case Hearing and Requests for Reconsideration (the "Response") in the above-referenced matter, and would respectfully show the following:

I. INTRODUCTION

The District requests that the Texas Commission on Environmental Quality (the "Commission" or "TCEQ") deny all hearing requests and requests for reconsideration filed in this matter and approve the District's application for a new Texas Pollutant Discharge Elimination System ("TPDES") (the "Application"). None of the requestors have demonstrated that the activities proposed by the District will adversely affect any of the requestors' respective personal justiciable interests. Consequently, they are not affected persons. The Texas Water Code expressly prohibits the Commission from granting a request for a contested case hearing unless the Commission determines the request was filed by an affected person.¹ Because the hearing requests do not adequately show that the requestors are affected persons, they must be denied. In addition, because the Application meets all statutory and regulatory requirements, the Commission should deny the requests for reconsideration. Accordingly, the Commission should approve the Application and grant TPDES Permit No. WQ0004996000 (the "Permit").

¹ Tex. Water Code §5.556(c) (West 2008).

II. PROCEDURAL HISTORY

On June 11, 2012, the Commission received the District's Application for a new permit, TPDES No. WQ0004996000 to authorize the discharge of desalination concentrate at a daily average flow not to exceed 9,300,000 gallons a day. The Executive Director of TCEQ (the "ED") declared the Application administratively complete on July 18, 2012. The "Notice of Receipt of Application and Intent to Obtain Water Quality Permit," (the "NORI") was mailed by the TCEQ Office of the Chief Clerk (the "Chief Clerk's Office") and published by the District in the *Fannin County Leader* on August 7, 2012. The Application was available for inspection by the public at the Bonham Public Library, 305 East Fifth Street, Bonham, Texas.

After completing his technical review of the Application, the ED prepared a "Statement of Basis/Technical Summary and Executive Director's Preliminary Decision" ("ED Technical Summary") and issued an initial Draft Permit on January 16, 2014. The "Notice of Application and Preliminary Decision for TPDES Permit for Municipal Wastewater" (the "NAPD") was mailed by the Chief Clerk's Office and published by the District in the *Fannin County Leader* on February 11, 2014.

The ED received requests for a public meeting and approved the requests for a public meeting on March 31, 2014. The "Notice of Public Meeting" was mailed by the Chief Clerk's Office and published on June 10, 2014. The public meeting was held on July 17, 2014 in Bonham, Texas.

The ED filed his Response to Public Comments ("RTC") on September 25, 2014 and the Chief Clerk's Office mailed the ED's RTC on September 29, 2014. The opportunity to request a contested case hearing or request reconsideration of the ED's decision on the Application expired on October 29, 2014. Timely hearing requests were filed by the following persons:

Jack D. Bradshaw, Julia Trigg Crawford, Duane Gibbs, Steve Holly, Curtis L. and Brenda Schulz, and Harold Witcher. Timely requests for reconsideration were filed by Mayfield McCraw and Curtis L. and Brenda Schulz. Subsequently, on July 7, 2014, Mr. Steve Holly withdrew his hearing request.

On August 4, 2015, the District received notice that the above-referenced matter would be considered by the Commissioners at the October 7, 2015 agenda.² The District submits this Response to requests made to the TCEQ for a contested case hearing on the Application, pursuant to Title 30, Section 55.254 of the Texas Administrative Code. Specifically, by this Response, the District requests that the Commission deny the hearing requests submitted by Jack D. Bradshaw, Julia Trigg Crawford, Duane Gibbs, Curtis L. and Brenda Schulz, and Harold Witcher. The District also requests that the Commission deny the requests for reconsideration submitted by Mayfield McCraw and Curtis L. and Brenda Schulz. All other comments regarding the Application have been fully responded to in the RTC and no other action should be taken on those filings.

III. DETERMINATION OF AFFECTED PERSONS

Section 5.556 of the Texas Water Code expressly provides that in order to grant a hearing request the Commission must determine that: (1) the request was filed by an affected person; and (2) that the issue: (a) involves a disputed issue of fact; (b) was raised during the public comment period; and (c) is relevant and material to the decision on the Application.³

Under TCEQ rules a contested case hearing can only be requested by (1) the TCEQ Commissioners, (2) the TCEQ Executive Director, (3) the Applicant, and (4) any “affected

² This matter was continued from previously scheduled dates for consideration at the February 4, 2015, April 29, 2015, and August 19, 2015 agendas. The matter was also scheduled to be considered on October 9, 2015, but was rescheduled by the Commission to the current date of October 7, 2015.

³ Tex. Water Code Ann. 5.556(c)-(d) (West 2008).

person[.]”⁴ An affected person is one who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the Application.⁵ An interest common to members of the general public does not qualify as a personal justiciable interest.⁶ Accordingly, a request for a contested case hearing must include a brief, but specific, description of the person’s location and distance relative to the activity that is the subject of the Application.⁷ In addition, the person must do more than just provide a conclusory statement in the request that he or she will be harmed by the proposed activity. The person must describe briefly, but specifically, how and why he or she will be adversely affected by the activity proposed in the Application.⁸

When determining whether an individual or entity is an affected person, all relevant factors are considered by the Commission, including: (1) whether the interest claimed is one protected by the law under which the application will be considered; (2) distance restrictions or other limitations imposed by law on the affected interest; (3) whether a reasonable relationship exists between the interest claimed and the activity regulated; (4) the likely impact of the regulated activity on the health, safety, and use of property of the person; and (5) the likely impact of the regulated activity on use of the impacted natural resource by the person.⁹ Typically, the Commission considers persons living within one mile or adjacent to the activity as affected persons.¹⁰

⁴ 30 Tex. Admin. Code § 55.201(b) (2014).

⁵ *Id.* § 55.203(a).

⁶ *Id.*

⁷ *Id.* § 55.201(d)(2).

⁸ *Id.*

⁹ *Id.* §§ 55.203(c).

¹⁰ *See* 30 Tex. Admin Code § 39.551(c)(2) (2010) (providing that the Chief Clerk shall mail notice to persons listed in section 39.413); 30 Tex. Admin Code § 39.413(1) (notice must be mailed to landowners named on application map); Municipal Wastewater Permit Application, Domestic Administrative Report 1.1(1)(a) (requiring applicants to include in map property boundaries of landowners located on stream for “one full stream mile downstream of the discharge”).

Persons claiming to be affected persons must submit their hearing requests in writing to the Chief Clerk's Office no later than 30 calendar days after the Chief Clerk's Office transmits the ED's decision and response to comments and provides instructions for requesting reconsideration or a contested case hearing.¹¹ For purposes of the Application, the notice directed all potential requestors to submit their requests for a contested case hearing on the matter to the Chief Clerk's Office within 30 calendar days from September 29, 2014, the date of the ED's decision and RTC. Thus, all timely hearing requests must have been received by the Chief Clerk's Office by October 29, 2014. All such requests not filed prior to that date are not timely and thus are not eligible for consideration by the Commissioners.¹²

Under Section 55.209(d), the ED, Office of Public Interest Counsel ("OPIC"), and the Applicant may submit written responses to any hearing requests no later than 23 days prior to the Commission meeting at which the Commission will evaluate any hearing request.¹³ Under Sections 55.209(g), a person who filed a hearing request may submit a reply to the responses no later than nine days before the scheduled TCEQ Commissioners agenda wherein the hearing requests will be considered.¹⁴

The Austin Court of Appeals in *Sierra Club v. TCEQ and Waste Control Specialists* ("*Sierra Club*") established that the Commission may consider "any reports, opinions, and data it has before it" to determine whether a hearing requestor is an affected person.¹⁵ One criterion the Court used to uphold the TCEQ's decision to deny party status to the Sierra Club was the criteria

¹¹ *Id.* §§ 55.201 (a) & (c).

¹² *Id.* §§ 55.201(g)(1).

¹³ *Id.* §§ 55.209(d).

¹⁴ *Id.* § 55.209(g).

¹⁵ *Sierra Club v. Tex. Comm'n on Env'tl. Quality*, 455 S.W.3d 214, 223-24 (Tex. App.—Austin 2014, pet. filed).

of “the likely impact of the regulated activity on the health, safety, and use of property of the person.”¹⁶ The Court stated:

. . . TCEQ enjoys the discretion to weigh and resolve matters that may go to the merits of the underlying application, including the likely impact the regulated activity . . . will have on the health, safety, and use of property by the hearing requestor and on the use of natural resources . . . TCEQ’s inquiry into these and the other factors may include reference to the permit application, attached expert reports, the analysis and opinions of professionals on its staff, and any reports, opinions, and data it has before it.¹⁷

The *Sierra Club* Court also approved the TCEQ’s reliance on modeling to inform the Agency’s decision, in part upholding the decision because “Modeling indicates ‘no detrimental impact to a potential offsite resident at the property boundary.’”¹⁸

The other applicable criteria established by the *Sierra Club* court originated in the case of *TCEQ v. City of Waco*¹⁹ and was quoted approvingly in *Sierra Club*.²⁰ In the *Waco* case, the Texas Supreme Court incorporated an important judicial and constitutional component into the analysis of the concept of “affected person.” The Court stated:

As a matter of statutory interpretation, the court of appeals concluded that section 5.115’s affected-person definition embodies the constitutional principles of standing. *See* 346 S.W.3d at 801 (observing that the “cornerstone” of the definition “denotes the constitutionally minimal requirements for litigants to have standing to challenge governmental actions in court”). The court explained that those principles required the City to establish a concrete and particularized injury in fact, not common to the general public, that is: (1) *actual or imminent*; (2) fairly traceable to the issuance of the permit as proposed; and (3) likely to be redressed by a favorable decision on its complaint.²¹

The District brings these regulations and cases to the Commission’s attention to point out that the Courts have recognized that the Commission has the discretion to deny a hearing

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.* at 225.

¹⁹ *Tex. Comm’n on Env’tl. Quality v. City of Waco*, 413 S.W.3d 409, 417 (Tex. 2013).

²⁰ *Sierra Club*, 455 S.W.3d at 221 n.6.

²¹ *City of Waco*, 413 S.W.3d at 417 (emphasis added).

requestor party status at the hearing request stage of the process based on “the sworn application, attached expert reports, the analysis and opinions of professionals on its staff, and reports, opinions, and data” it has before it.²² The Courts have upheld that discretion when it is based on evidence in the record regarding (1) distance from the proposed activity, or (2) the fact that adverse impacts are demonstrably unlikely and not actual or imminent.²³ As shown below, substantial evidence, similar in nature to the evidence in *Sierra Club* and *Waco*, is contained in this record and can be relied upon by the Commission in reaching its decision.

IV. EVALUATION OF COMMENTS AND HEARING REQUESTS

A. Withdrawn Hearing Requests.

On July 7, 2014, Mr. Steve Holly formally withdrew his comments, request for contested case hearing and protest. Accordingly, the District will not address the substantive contents of this withdrawn request in this Response.

B. Commenters Not Requesting a Hearing.

The following entities and individuals submitted comments but did not request a contested case hearing:

- Clean Water Action
- J. Kenneth Griffin
- David Hargrove
- Elizabeth Harrington
- Lone Star Chapter of the Sierra Club
- Mayfield McCraw
- Oklahoma Department of Environmental Quality

²² *Sierra Club*, 455 S.W.3d at 224 (citing *City of Waco*, 413 S.W.3d at 420-21).

²³ *See id.* at 224-26; *City of Waco*, 413 S.W.3d 409 at 421-25.

- Mr. Charles Michael Yarbrough

Because these commenters did not request a hearing, the District will not address those comments in this Response.

C. Requests for Reconsideration

1. **Mr. Mayfield McCraw**

Mayfield McCraw submitted one request for reconsideration on the Application. It was received by the Chief Clerk's Office on October 27, 2014. The deadline to file hearing requests was October 29, 2014. Therefore, Mr. McCraw's request for reconsideration is timely. However, Mr. McCraw's request is for reconsideration and does not meet the criteria for a request for contested case hearing.

In his request, Mr. McCraw identifies the following issues: (a) the harm to water quality due to increased salinity; (b) economic damage due to increased salinity; (c) daily discharge allowed in low-flow situations; (d) effect on groundwater; and (e) impact to wildlife and recreation. A discussion of each issue raised by Mr. McCraw follows:

(a) **Water Quality:** The Texas Surface Water Quality Standards ("TSWQS") are used in determining the effects the treated effluent may have on the receiving waters. The District used the TSWQS in preparing the Application and providing information to TCEQ for TCEQ's review. TCEQ staff reviewed the information provided and the TSWQS and provided technical memoranda regarding the results of the water quality review. The District has reviewed the TCEQ's water quality technical memoranda and the District agrees with TCEQ's analysis that the segment criteria for TDS, chloride, and sulfate will not be exceeded and the discharge will

not negatively impact water quality standards.²⁴ Moreover, the proposed permit will be protective of all uses consistent with 30 TAC §307.6(b)(4) and 30 TAC §307.1.

The District considered existing data when putting the Application together. As part of TCEQ's evaluation, TCEQ routinely collects conductivity and TDS data, which allows for conversion into salinity values. The District is aware that TCEQ reviewed the data supplied by the District in addition to all available conductivity and TDS data from four sampling points on the Red River:

- (1) Denison Dam on Lake Texoma in Grayson County: data from 1981-89 and 2007;
- (2) US 75 north of Denison in Grayson County: data from 2011-13;
- (3) State Highway 78 in Fannin County: data from 1973-75 and from 1999-2013; and
- (4) US 271 in Lamar County: data from 1972-2013.

Based on data from these sampling points, the District and TCEQ did not observe any increasing trend in salinity values in the Red River and therefore would not expect any increasing trend in salinity in nearby wells. In addition, the District and TCEQ do not expect the range of salinities observed to adversely affect most crops irrigated with water from the Red River (for example, Bermuda grass, corn, hay, and soybeans) and that although the discharge will likely increase salinity levels, it is expected that the predicted salinities will be within the tolerance levels of most crops.²⁵

Moreover, Dr. Peggy Glass, the District's Water Quality Expert, evaluated whether the proposed discharge will cause a violation of the TSWQS for TDS, chlorides, and sulfate.²⁶ Dr.

²⁴ See TCEQ Interoffice Memorandum from Nancy Vignali, Water Quality Assessment Team, to the Industrial Permits Team dated August 3, 2012; TCEQ Interoffice Memorandum from James Michalk, Water Quality Assessment Team, to the Industrial Permits Team dated August 9, 2012; and TCEQ Interoffice Memorandum from Peter Schaefer to Industrial Permits Team dated September 25, 2012.

²⁵ Executive Director's Response to Public Comments at 6.

²⁶ See Dr. Peggy Glass Affidavit at 3-5, attached hereto as **Exhibit A**.

Glass concluded that the concentration of TDS, chloride, and sulfate in the proposed discharge are below their respective standards, and therefore will not cause a violation of the TSWQS.²⁷ Dr. Glass also evaluated whether the proposed discharge (1) will cause non-compliance with either the aquatic life numeric toxics criteria or the human health toxics criteria; (2) will meet antidegradation requirements; and (3) will be suitable for agricultural use.²⁸

With regard to toxicity, Dr. Glass concluded that “the estimated concentrations of potential toxicants in the discharge are well below concentrations that would exceed water quality standards.”²⁹ With regard to antidegradation, Dr. Glass determined that degradation is not expected with respect to dissolved oxygen, pH, temperature, bacteria, total suspended solids, and nutrients.³⁰ Dr. Glass also determined that antidegradation requirements for TDS, chlorides, and sulfate are met by the proposed discharge.³¹ With respect to suitability for agricultural use, Dr. Glass concluded that “the suitability of waters from Segment 202 for use for irrigation would not substantially change as a result of the proposed discharge from the Leonard WTP.”³²

(b) Economic Damage: Mr. McCraw asserts that the Commission’s approval of the Application will cause economic damage to his business. This issue is not within the Commission’s jurisdiction. Accordingly, the Commission should not consider the issue of economic damage.

(c) Discharge in Low-Flow: According to flow data from the United States Geologic Survey (USGS) Gage 07331600, located where US Highway 75 crosses the Red River, flow in the Red River Below Lake Texoma actually tends to be greater in the summer months when

²⁷ *Id.*

²⁸ *Id.* at 5-10.

²⁹ *Id.* at 6.

³⁰ *Id.* at 7.

³¹ *Id.* at 8.

³² *Id.* at 9.

demand for electricity is higher and releases are more frequent at Denison Dam. According to the flow data, the lowest monthly average flows in the Red River occur during October and November. At an effluent discharge of 18.6 MGD, under harmonic mean flow conditions in the Red River, the dilution factor would be 17.8, which is equivalent to 5.6% effluent and 94.4% river water. The largest volume for any discharge in a 24-hour period under the proposed permit is 18.6 MGD. The District could not discharge 18.6 MGD into the Red River every day without violating the daily average flow limit of 9.3 MGD.

(d) Groundwater: Mr. McCraw describes his general concerns about this issue without any explanation regarding why he believes that these interests will be affected by the Application, if granted, in a manner not common to members of the general public.

(e) Harm to Wildlife and Habitats: Mr. McCraw describes his general concerns about this issue without any explanation regarding why he believes that these interests will be affected by the requests made in the Application, if granted, in a manner not common to members of the general public.

Therefore, Mayfield McCraw's request for reconsideration should be denied.

2. Curtis and Brenda Schulz

Mr. and Mrs. Schulz requested a hearing and also submitted a request for reconsideration. For purposes of efficiency and to avoid unnecessary duplicity of issues, the District incorporates its response to the Schulzes' hearing request into this response to the Schulzes' request for reconsideration. For the reasons described in Section D(4) of this Response, the Schulzes' request for reconsideration should be denied.

D. Individual Hearing Requests Perfected But Not Withdrawn.

Attached hereto as **Exhibit A** is the Affidavit of Dr. Peggy Glass, which is hereby incorporated into this Response as support for the District's assertion that the hearing requests and requests for reconsideration should be denied. Attached to the Affidavit is Exhibit 1, which shows the results of TEXTOX modeling conducted by Allan Plummer Associates, Inc.; Exhibit 2, which is the TCEQ's September 25, 2012 Technical Memorandum; and Exhibit 3, which is a map prepared by Dr. Peggy Glass showing the location of the proposed plant and discharge point in relation to the location of the hearing requestors on the stream. The requests are discussed below.

1. Jack D. Bradshaw

Jack D. Bradshaw submitted one request for a contested case hearing on the Application. It was received by the Chief Clerk's Office on March 10, 2014. The deadline to file hearing requests was October 29, 2014. Therefore, Mr. Bradshaw's hearing request is timely.

As a threshold issue, Mr. Bradshaw's request does not include a statement explaining his location and distance relative to either the proposed plant or proposed discharge point. Mr. Bradshaw describes his general concerns about the issue of water quality without any explanation regarding why he believes that his interests will be affected by the requests made in the Application, if granted, in a manner not common to members of the general public. However, if the Commissioners find that Mr. Bradshaw did establish a personal justiciable interest, the District hereby incorporates by reference its discussion of water quality in Section C(1)(a) (response to Mr. McCraw's request) above for the proposition that Mr. Bradshaw is not likely to be affected pursuant to the standards established in *Sierra Club*.

Therefore, the hearing request of Jack D. Bradshaw should be denied.

2. Julia Trigg Crawford

Julia Trigg Crawford submitted one request for a contested case hearing on the Application. It was received by the Chief Clerk's Office on March 26, 2014. The deadline to file hearing requests was October 29, 2014. Therefore, Ms. Crawford's hearing request is timely.

As a threshold issue, Ms. Crawford's hearing request does not include a statement explaining her location and distance relative to either the proposed plant or proposed discharge point. Ms. Crawford does identify that she owns Certificate of Adjudication 02-3924 which she contends will be affected by the added salinity. To the extent Ms. Crawford complains of water quality, the District hereby incorporates by reference its discussion of water quality in Section C(1)(a) (response to Mr. McCraw's request) above.

Therefore, the hearing request of Julia Trigg Crawford should be denied.

3. Duane Gibbs

Duane Gibbs submitted one request for a public hearing/public meeting on the Application. It was received by the Chief Clerk's Office on March 12, 2014. The deadline to file hearing requests was October 29, 2014. Therefore, Mr. Gibbs' request is timely.

As a threshold issue, Mr. Gibbs's request does not include a statement explaining his location and distance relative to either the proposed plant or proposed discharge point. Mr. Gibbs describes his general concerns about the issue of water quality without any explanation regarding why he believes that his interests will be affected by the requests made in the Application, if granted, in a manner not common to members of the general public. However, if the Commissioners find that Mr. Gibbs did show a personal justiciable interest, the District hereby incorporates by reference its discussion of water quality in Section C(1)(a) (response to Mr. McCraw's request) above.

Therefore, the hearing request of Duane Gibbs should be denied.

4. Curtis L. and Brenda Schulz

Curtis L. and Brenda Schulz submitted one request for reconsideration and one contested case hearing. The contested case hearing request was received February 26, 2014. The request for reconsideration was received by the Chief Clerk's Office on October 29, 2014. The deadline to file hearing requests was October 29, 2014. Therefore, the Schulzes' hearing request and request for reconsideration were timely.

In their request, the Schulzes identified that they own and operate the Stoneybroke Ranch located 60 miles downstream from the proposed discharge point on the Oklahoma side of the Red River. TCEQ views anyone living within one mile downstream as an affected person. Therefore, the Schulzes do not qualify as affected persons.

In their request, the Schulzes identify the following issues: (a) the harm to water quality due to increased salinity; (b) economic damage due to increased salinity; (c) daily discharge allowed in low-flow situations; (d) the effect of the salinity on the wells; and (e) impact to wildlife and recreation. A discussion of each issue raised by the Schulz's follows:

(a) Water Quality: The District hereby incorporates by reference its discussion of water quality in Section C(1)(a) (response to Mr. McCraw's request) above.

(b) Economic Damage: The Schulzes assert that the Commission's approval of the Application will cause economic damage to their business. This issue is not within the Commission's jurisdiction. Accordingly, the Commission should not consider the issue of economic damage.

(c) Discharge in Low-Flow: The District hereby incorporates by reference its discussion of water quality in Section C(1)(c) (response to Mr. McCraw's request) above.

(d) Effect of Salinity on Wells: The Schulzes describe their general concerns about this issue without any explanation regarding why they believe that these interests will be affected by the requests made in the Application, if granted, in a manner not common to members of the general public.

(e) Impact to Wildlife and Recreation: The Schulzes describe their general concerns about this issue without any explanation regarding why they believe that these interests will be affected by the requests made in the Application, if granted, in a manner not common to members of the general public.

Therefore, the hearing request of Curtis L. and Brenda Schulz should be denied.

5. Harold Dean Witcher, Jr.

Harold Dean Witcher, Jr. submitted one request for a contested case hearing on the Application. It was received by the Chief Clerk's Office on October 28, 2014. The deadline to file hearing requests was October 29, 2014. Therefore, Mr. Witcher's hearing request is timely.

As a threshold issue, Mr. Witcher's hearing request does not include a statement explaining his location and distance relative to either the proposed plant or proposed discharge point. Mr. Witcher does not have standing to make this hearing request. He identifies that he works for a large retailer of agricultural chemicals, seeds and fertilizer and that his customers may be affected as a result. Mr. Witcher does not therefore identify any personal justiciable interest outside the general public.

Should the TCEQ Commissioners decide that Mr. Witcher does have standing, Mr. Witcher identifies the following issues: (a) the harm to water quality due to increased salinity; (b) economic hardship; and (c) daily discharge allowed in low-flow situations. A discussion of each issue raised by Mr. Witcher follows:

(a) Water Quality: The District hereby incorporates by reference its discussion of water quality in Section C(1)(a) (response to Mr. McCraw's request) above.

(b) Economic Hardship: Mr. Witcher asserts that the Commission's approval of the Application will cause him economic hardship. This issue is not within the Commission's jurisdiction. Accordingly, the Commission should not consider the issue of economic hardship.

(c) Discharge in Low-Flow: The District hereby incorporates by reference its discussion of water quality in Section C(1)(c) (response to Mr. McCraw's request) above.

Therefore, the hearing request of Harold Dean Witcher, Jr. should be denied.

VI. CONCLUSION

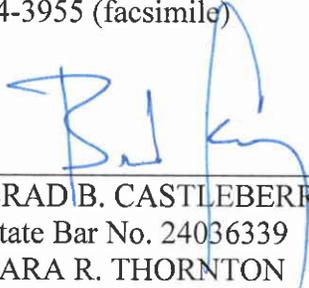
Because the hearing requestors have failed to demonstrate any personal justiciable interest that will be affected by the Commission's approval of the Application, the Commission should find that none of the hearing requestors are affected persons. Under the Texas Water Code, the Commission is precluded from granting any of the five hearing requests in this matter because the requestors are not affected persons. The District respectfully requests that the Commission deny all hearing requests, approve the District's Application, and issue TPDES Permit No. WQ0004996000 as proposed by the Executive Director. The District also respectfully requests that the Commission deny all requests for reconsideration because the District's application meets all statutory and regulatory requirements. The District further requests that the Commission grant the District all other relief to which it is entitled by law.

Respectfully submitted,

**LLOYD GOSSELINK ROCHELLE &
TOWNSEND, P.C.**

816 Congress Avenue, Suite 1900
Austin, Texas 78701
(512) 322-5800 (telephone)
(512) 874-3955 (facsimile)

By: _____

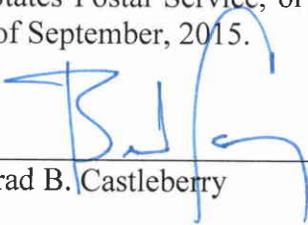


BRAD B. CASTLEBERRY
State Bar No. 24036339
SARA R. THORNTON
State Bar No. 24066192
ASHLEY D. THOMAS
State Bar No. 24090430

**ATTORNEYS FOR APPLICANT
NORTH TEXAS MUNICIPAL WATER
DISTRICT**

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing Response to Requests for Contested Case Hearing was sent by hand deliver, United States Postal Service, or electronic mail to the individuals identified below on this, the 9th day of September, 2015.



Brad B. Castleberry

For the Executive Director
via Electronic Mail:

Michael Parr, Staff Attorney
Texas Commission on Environmental
Quality
Environmental Law Division, MC-173
P.O. Box 13087
Austin, Texas 78711-3087
Tel: (512) 239-0600
Fax: (512) 239-0606

Karen Visnovsky Holligan, Technical Staff
Texas Commission on Environmental
Quality
Water Quality Division, MC-148
P.O. Box 13087
Austin, Texas 78711-3087
Tel: (512) 239-4589
Fax: (512) 239-4430

Brian Christian, Director
Texas Commission on Environmental
Quality
Small Business and Environmental
Assistance Division
Public Education Program, MC-108
P.O. Box 13087
Austin, Texas 78711-3087
Tel: (512) 239-4000
Fax: (512) 239-5678

For the Office of Public Interest Counsel
via Electronic Mail:

Aaron Tucker
Office of Public Interest Counsel, MC-103
Texas Commission on Environmental
Quality
P.O. Box 13087
Austin, Texas 78711-3087

All Hearing Requestors of Record as
Identified by the Chief Clerk on the
Attached Mailing List

REQUESTERS

JACK D BRADSHAW
BRADSHAW LAND & LIVESTOCK LLC
1761 N 4258 RD
GRANT OK 74738-5003

JULIA TRIGG CRAWFORD
RED'ARC FARM
690 CR 37500
SUMNER TX 75486

DUANE GIBBS
6170 FM 2554
IVANHOE TX 75447-3038

MAYFIELD MCCRAW
HOPE PLANTATION TURF
3765 COUNTY ROAD 2135
TELEPHONE TX 75488-3009

BRENDA & CURTIS L SCHULZ
2840 E 2158 RD
GRANT OK 74738-2510

HAROLD DEAN WITCHER, JR
972 COUNTY ROAD 2705
TELEPHONE TX 75488-6066

EXHIBIT A

TCEQ DOCKET NO. 2014-1662-IWD

**APPLICATION BY
NORTH TEXAS MUNICIPAL WATER
DISTRICT
LEONARD WATER TREATMENT
PLANT, PERMIT NO. WQ0004996000
LEONARD, FANNIN COUNTY**

**BEFORE THE
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY**

AFFIDAVIT OF DR. PEGGY W. GLASS, PhD

**STATE OF TEXAS
COUNTY OF TRAVIS**

Before me, the undersigned Notary Public in and for Travis County, Texas, personally appeared PEGGY W. GLASS, Ph.D., the affiant, whose identify is known to me. After I have administered an oath, affiant testified as follows:

1. My name is Peggy Wells Glass. I am over 18 years of age, of sound mind, and capable of making this affidavit. The facts in this affidavit are within my personal knowledge and are true and correct.
2. I have a Bachelor's Degree from Texas State University in San Marcos, Texas, where my major was chemistry, and a Doctorate of Philosophy Degree from the University of Texas at Austin, Texas, where my field of study was Analytical Chemistry.
3. I have over 40 years of continuous experience in projects related to the assessment and management of water quality in surface waters and groundwaters.
4. During 1968 – 1973, I was employed by Forest and Cotton, Inc., an engineering firm. My responsibilities there included serving as the Director of the water quality laboratory, directing field studies to evaluate the quality of surface waters, and managing projects to assess water supply and wastewater treatment facilities.
5. During 1973 – 1979, I was employed by the Texas Department of Water Resources, a predecessor agency to the Texas Commission on Environmental Quality (TCEQ). My final position was Assistant Director, Construction Grants and Water Quality Planning Division. Programs under my direction included water quality management planning for the twenty major river basins in the State and the eight urban areas designated pursuant to Section 208 of the Federal Water Pollution Control Act Amendments of 1972; water quality standards, water quality surveys, and stream quality modeling.
6. During 1979 – 1986, I was the founder and Principal of Glass Environmental Consultants, Inc., in Austin, Texas. During 1986 – 1988, I was Area Manager of the Central Texas area for CH2M Hill,

Inc., a national engineering firm. From 1988 to the present, I have been employed by Alan Plummer Associates, Inc., (APAI), a Texas-based environmental engineering firm, where I currently am a Principal and serve as the Chair of the Board. As a member of these various organizations I have directed numerous studies to assess water quality; identify management programs to maintain or enhance water quality; evaluate the feasibility of reusing treated wastewaters for irrigation, agricultural reuse, and industrial reuse; and develop water resources. I have developed or supported the development of well over 100 Texas Pollutant Discharge Elimination System (TPDES) permits for municipal and industrial wastewater treatment facilities. I have also served as special consultant to the Texas Municipal League, Texas Water Conservation Association (TWCA), and Texas Association of Clean Water Agencies (TACWA) and assisted them in evaluating and providing comments to TCEQ regarding proposed revisions to the Texas Surface Water Quality Standards (TSWQS).

7. I have served on advisory committees to both the U.S. Environmental Protection Agency (EPA), and TCEQ regarding water quality standards, water quality management plans, wastewater permit provisions, water quality analyses and data management, interpretation of water quality data, and the use of constructed wetlands to enhance discharge quality.
8. I am currently an active member of the TWCA, TACWA, National Association of Clean Water Agencies (NACWA), Water Environment Association of Texas (WEAT), and Western Coalition of Arid States (WESTCAS). I am a Past-president and current member of the Board of TWCA. I am also a member of the Board of WESTCAS.
9. In April 2015 I was the invited speaker for the Ernest Gloyna Breakfast at Texas Water, the joint annual conference of WEAT and the Texas Section of the American Water Works Association. I am a frequent speaker at technical conferences.
10. I have prepared this affidavit in support of Applicant North Texas Municipal Water District's (NTMWD's) Response to Hearing Request filed in the above-identified docket. The opinions I give in this affidavit have been formulated based upon my experience, training, and education in the fields of chemistry, water quality assessments, and water quality management and my evaluation of available information regarding the proposed discharge from the Leonard Water Treatment Plant (Leonard WTP).
11. The action being considered by TCEQ is the issuance of a permit that will authorize the construction and operation of the Leonard WTP for the purpose of treating water from Lake Texoma to reduce the salt content. The treated water will be blended with other waters to provide a potable water supply for the area served by NTMWD in the Dallas/Fort Worth Metropolitan Area. The water that will be discharged pursuant to the permit is the reject stream from the reverse osmosis (RO) treatment system. The permit would authorize a daily average discharge volume of 9.3 million gallons per day (MGD) [14.4 cubic feet per second (cfs)].
12. I evaluated whether or not the proposed discharge would have adverse impacts on the quality of the receiving stream, which is the Red River. The evaluation focused on the following:
 - Would the proposed discharge be compliant with existing water quality standards.

- Would the proposed discharge adversely affect the use of the waters in the Red River by the Hearing Requestors.
13. The major tool used by the TCEQ to protect the quality of surface waters in the State of Texas is the TSWQS. The TSWQS are set forth in 30 Texas Administrative Code, Chapter 307 (Chapter 307). The most recent revisions of the TSWQS adopted by TCEQ were effective March 6, 2014.
 14. The TSWQS include designated uses, numeric criteria, general criteria, and an antidegradation requirement. Major water bodies (streams, reservoirs, estuaries, etc.), which are referred to as “classified segments,” are identified by name in Appendix A of the TSWQS and assigned a segment number. The description of each classified segment is provided in Appendix C of the TSWQS. The Leonard WTP discharges to an unnamed tributary of the Red River, which flows to a classified segment: Segment 202, the “Red River Below Lake Texoma.” Segment 202 extends from the Arkansas-Oklahoma State Line in Bowie County upstream to Denison Dam in Grayson County. The discharge to the unnamed tributary is less than 300 feet from the confluence of the tributary and the Red River. Therefore, in accordance with TCEQ procedures, the discharge is assessed as being directly to the Red River.
 15. The TSWQS require that designated uses be maintained. Appendix A of the TSWQS identifies the following as uses to be maintained in Segment 202 of the Red River: primary contact recreation, high aquatic life use, and domestic water supply. Accordingly, numeric standards have been established to protect those uses.
 16. Numerical water quality standards applicable to classified segments are chloride (Cl), sulfate (SO₄), total dissolved solids (TDS), dissolved oxygen (DO), pH, bacteria, and temperature. These standards are set forth in Appendix A of the TSWQS. The discharge from the Leonard WTP is not expected to be significantly different than the quality of the Red River with regard to DO, bacteria, temperature, or pH.
 17. The numerical standards for Cl, SO₄, and TDS applicable to Segment 202 are as follows:

TDS=	1100 milligrams per liter (mg/L)
Cl =	375 mg/L
SO ₄ =	250 mg/L

These standards apply as maximum annual averages at the edge of the human health mixing zone for the discharge. The concentration at the edge of the mixing zone is representative of the instream concentration below the discharge.

18. The general criteria apply to all Waters of the State. The objective of the general criteria is to protect the surface waters of the State with respect to the following:
 - Impacts that are not readily quantifiable, such as aesthetic parameters (taste- and-odor-producing substances, floating debris and solids, general attractiveness, turbidity, color, foaming, and oil sheens);
 - toxic substances that could affect human health, aquatic life, or terrestrial life; and

- nutrients.

It is not anticipated that the proposed discharge will significantly change the characteristics of the Red River with respect to aesthetics or nutrients.

19. The procedures used by TCEQ when preparing TPDES permits to ensure that compliance with the TSWQS is maintained are set forth in Procedures to Implement the Texas Surface Water Quality Standards, RG-194 (IPs). The latest revision of the IPs was adopted January 2012.
20. The information I reviewed when evaluating the potential water quality impacts of a discharge from the Leonard WTP include the following:
 - Quality and quantity of the proposed discharge.
 - Quality and flow characteristics of the Red River above and below the discharge location.
 - Flow characteristics of the Blue River in Oklahoma, which serves as a surrogate for the ungaged Red River watershed between the U.S. Geological Survey (USGS) gage on the Red River at Denison Dam (07331600) and the discharge point.
21. The projected quality of the Leonard WTP discharge was determined by APAI engineers. They have stated that they used the Reverse Osmosis System Analysis (ROSA) model developed by Dow Chemical Company. The predicted quality of the discharge is as follows:

TDS = 4,390 — 5,000 mg/L
 Cl = 1,490 — 1,720 mg/L
 SO₄ = 910 — 1,000 mg/L

I evaluated whether the proposed discharge will cause a violation of TSWQS for TDS, Cl, or SO₄ in Segment 202 of the Red River. The following equation (a “mass balance” equation) is used for determining the concentration of each constituent at the edge of the human health mixing zone.

$$C_c = \frac{Q_S C_A + Q_E C_E}{Q_E + Q_S}$$

where: C_c = Instream concentration after mixing
 Q_S = harmonic mean flow (ft³/s)
 C_A = ambient concentration (mg/L)
 Q_E = effluent flow (ft³/s)
 C_E = effluent concentration (mg/L)

22. USGS Gage 07331600, Red River at Denison Dam, is upstream of the proposed discharge point. The harmonic mean flow (HMF) at this gage is provided in Appendix C of the IPs. For the period 1973 – 1989, 1997 – 2008, the HMF is 479 cfs. There are no flow records for 1990 – 1996.

The discharge point is 19 miles below this USGS gage. It can be expected that the river will receive additional inflow from the watershed that drains to that 19-mile reach. In order to estimate the additional inflow, a comparable watershed that has a USGS gage was identified. The Blue River watershed in Oklahoma, which runs from 15 to 60 miles north of the relevant Red River watershed, was selected. USGS gage 073325001, Blue River at Blue, Oklahoma, records flows for the Blue River. This watershed of the Blue River above the gage is similar to the ungaged watershed on the Red River above the discharge point with respect to size, topography, soils, and rainfall statistics. The flow data for the Blue River were adjusted to account for the relatively small difference in the sizes of the respective watersheds using the method recommended in the IPs. This method produced an estimate that the flows in the ungaged Red River watershed are approximately 88.6% of the flows in the Blue River watershed. Gaged Blue River daily flows for the periods 1973 – 1989 and 1997 – 2008 were multiplied by 0.886 and added to the daily flows in the Red River at the dam, to approximate flows at the discharge point. Then the HMF at the discharge point was calculated. The HMF at the discharge point is estimated to be 787 cfs.

The values for the ambient TDS, Cl, and SO₄ concentrations in Segment 202 are provided in the IPs in Appendix D, Table D-2. These values are as follows:

TDS =	784 mg/L
Cl =	197 mg/L
SO ₄ =	150 mg/L

When the respective flows and concentrations are inserted in the equation identified above, the estimated annual average concentrations at the edge of the human health mixing zone are as follows:

TDS =	860 mg/L
Cl =	224 mg/L
SO ₄ =	165 mg/L

All of these concentrations are less than the respective standards for the Red River at the proposed discharge location.

23. The potential that the discharge may cause non-compliance with either the aquatic life numeric toxics criteria, or the human health toxics criteria was evaluated. These criteria are presented in the TSWQS in Table 1 and Table 2, respectively.

The tool used by TCEQ to assess the potential for non-compliance with these criteria when reviewing a proposed TPDES permit for discharge to a stream is the TEXTOX model. This model, developed by TCEQ, takes into account the following factors:

- Whether the stream is freshwater or saltwater.
 - Whether the stream is intermittent, intermittent with perennial pools, or perennial.
 - The applicable aquatic life category (minimal, limited, intermediate, high, or exceptional).
 - Flow [the statistical 7-day average low-flow that occurs once every two years (7Q2) for aquatic life, and the HMF for human health].
 - Whether the human health objective is to protect for fish consumption only or for both fish consumption and drinking water protection.
 - Quality with respect to hardness, pH, Cl, and total suspended solids (TSS) These values for Segment 202 are provided in Table D-2 of Appendix D of the IPs.
24. The TEXTOX model calculates the concentration that can be discharged without exceeding the respective criteria for each parameter in Table 1 and Table 2. Then, values equal to 70% and 85% of those concentrations are calculated. If the predicted discharge concentration of any parameter exceeds 85% of the allowable discharge concentration, a limit for that parameter is placed in the permit. If the predicted discharge concentration of any parameter exceeds 70% (but not 85%) of the allowable discharge concentration, a monitoring requirement for that parameter is placed in the permit.
25. The most relevant values in the TEXTOX results are the allowable concentrations for the elements that could be present in the Lake Texoma source water in an amount that warrants evaluation. The estimated discharge concentrations of these elements at the edge of the mixing zone at the discharge location are presented below and compared to the concentrations that would result in a monitoring requirement in the permit based on the TEXTOX model. The concentrations are reported as micrograms per liter (ug/L); all values are daily average concentrations. (Exhibit 1)

Constituent	70% Allowable Aquatic Life Concentration (ug/L)	70% Allowable Human Health Concentration (ug/L)	Estimated Discharge Concentration (ug/L)
Aluminum	2,850	N/A	105
Arsenic	2,010	1,100	33.5
Barium	N/A	106,600	67.5
Cadmium	17.6	990	<1.0
Chromium (+3)	7,770	N/A	30
Copper	225	N/A	16.5
Lead	366	373	12.5
Nickel	2,990	48,400	70
Silver	81.8	N/A	<1.0
Zinc	2,190	N/A	80

Therefore, the estimated concentrations of potential toxicants in the discharge are well below concentrations that would exceed water quality standards.

26. The TSWQS, in Section 307.5, restrict the regulatory approval of actions that could cause degradation of the quality of waters that exceed fishable/swimmable quality. The TCEQ can only approve actions that would result in lowering of the quality of these waters by more than a *de minimus* extent (but not to the extent that an existing use is impaired) where it is necessary for important economic or social development. Waters that exceed fishable/swimmable quality are classified as “Tier 2” waters. Segment 202 of the Red River is a Tier 2 water.
27. The TCEQ has determined that the discharge from the Leonard WTP will not result in degradation. (Exhibit 2). I agree with this conclusion on the basis of the following evaluation.
28. The quality of the discharge from the Leonard WTP with respect to DO, pH, temperature, bacteria, TSS, and nutrients is very similar to the existing quality of the Red River. Therefore, degradation is not expected with respect to any of these characteristics.
29. The small increases in concentrations in the river that may be associated with the toxics that have been evaluated are not of sufficient magnitude to constitute degradation. The IPs state that when the increased concentration of a potentially toxic substance as a result of a discharge is below the concentration that would require a permit limit or monitoring requirement, the increase is not considered to constitute degradation except in unusual site-specific cases.
30. Additional evaluation was performed with respect to whether the increases in the TDS, Cl, and SO₄ concentrations that would be a result of the discharge meet the antidegradation requirements. The antidegradation review procedures for new discharges to Tier 2 waters, as set forth in the IPs, require an assessment of whether the new discharge will use 10% or more of the available assimilative capacity in the receiving stream. The following summarizes the existing quality of Segment 202, the estimated quality at the edge of the mixing zone of the proposed Leonard WTP discharge, and the standards for TDS, Cl, and SO₄:

	Existing Quality (mg/L)	Quality After Discharge Mixing (mg/L)	TSWQS For Segment 202 (mg/L)
TDS	784	860	1,100
Cl	197	224	375
SO ₄	150	165	250

In each case, more than 10% of the available assimilative capacity is used by the Leonard WTP discharge.

31. When the discharge does not meet the guidance with respect to using less than 10% of the available assimilative capacity, it is further evaluated to determine “if the instream criteria are attained in the effluent at the edge of the mixing zone at critical conditions.” If this subsequent provision is met, degradation is generally assumed not to occur.

32. "Critical conditions" are not specifically defined in the TSWQS or the IPs. "Critical low-flow" is defined in 307.3(16) as 7Q2. For the purpose of this evaluation, "critical conditions" were assumed to be represented by the 7Q2 flow. The 7Q2 flow at the discharge point was calculated using the same method as that used to calculate the HMF; i.e., calculating the sum of historic flows at Denison Dam and 0.886 times Blue River historic flows (the Blue River flows are a surrogate for flows from the unengaged Red River watershed between Denison Dam and the discharge point), and then calculating the flow statistic--in this case, 7Q2. The 7Q2 flow at the discharge point was thus calculated to be 223 cfs.
33. The concentrations of TDS, Cl, and SO₄ at the edge of the mixing zone for critical conditions were calculated using the same mass balance equation as that used to determine whether the discharge would result in an exceedance of TSWQS. However, in the antidegradation calculation the value used for *Qs* was 223 cfs.

The resultant calculated concentrations at the edge of the mixing zone at critical conditions for TDS, Cl, and SO₄ are 1,040 mg/L, 289 mg/L, and 202 mg/L, respectively. These concentrations are less than the TSWQS for Segment 202, which are 1,100 mg/L, 375 mg/L, and 250 mg/L, respectively. Therefore, the antidegradation requirements for TDS, Cl, and SO₄ are met by the proposed discharge.

34. The Hearing Requestors have expressed concern about the continued suitability of the water in the Red River for agricultural uses (irrigation and livestock) below the discharge. The specific concern identified is the increased salt concentration.
35. A 1998 publication of the Texas Agricultural Extension Service, "Water Quality: Its relationship to livestock," by Floron C. Faries, Jr., John M. Sweeten, and John C. Reagor (oaktrust.library.tamu.edu) includes a summary of the suitability of saline waters for livestock, as determined by the National Academy of Sciences. This summary identifies waters containing less than 1,000 mg/L of TDS as presenting "no serious burden" to livestock. Concentrations between 1,000 mg/L and 2,999 mg/L are considered "satisfactory." The proposed discharge will seldom produce instream concentrations of TDS that exceed 1,000 mg/L; even during critical low-flow conditions the TDS concentration is only estimated to be 1,040 mg/L. Therefore, there should be no significant limitation on the use of the water for livestock as a result of the discharge.

36. In 2003 Texas A&M AgriLife Extension published "Irrigation Water Quality Standards and Salinity Management Strategies," by Guy Fipps (B-1667). This publication categorizes the suitability of water for irrigation based on TDS concentrations as follows:

Class	TDS
-------	-----

	(mg/L)
Class 1, Excellent	175
Class 2, Good	175 — 525
Class 3, Permissible ⁽¹⁾	525 — 1,400
Class 4, Doubtful	1,400 — 2,100
Class 5, Unsuitable	>2,100

⁽¹⁾Leaching needed if used

The average concentration of TDS in Segment 202, as determined by TCEQ², is 784 mg/L. This concentration places the Red River water in the category of a Class 3 irrigation water. Even during critical low-flow conditions, the TDS concentration at the edge of the mixing zone for the Leonard WTP is not projected to exceed 1,040 mg/L, which is still Class 3 irrigation water. Therefore, the suitability of waters from Segment 202 for use for irrigation would not substantially change as a result of the proposed discharge from the Leonard WTP.

37. The Hearing Requestors are Jack D. Bradshaw, Julia Trigg Crawford, Duanne Gibbs, Brenda and Curtis L. Schulz, and Harold Dean Witcher. All have expressed concern that the proposed discharge from the Leonard WTP would make the waters in Segment 202 of the Red River unsuitable for use for livestock and/or irrigation. Exhibit 3 is a map depicting the locations of the properties adjoining the Red River that are owned by three of the requestors. To the best of my knowledge, Mr. Witcher and Mr. Bradshaw do not own property adjoining the Red River.
38. As shown above, the proposed discharge will be suitable for agricultural use at the edge of the mixing zone. The requestors with property adjoining the river are at significant distances downstream; and, therefore, the discharge should be substantially diluted beyond the dilution at the edge of the mixing zone, in most instances, by the time it reaches their properties.
 - Mr. Gibbs' property is approximately 18.5 river miles below the discharge. In addition to inflows due to general watershed contributions, Caney Creek, Sandy Creek, Cottonwood Creek, and Sycamore Creek (all on the Texas side of the river), are located between the proposed discharge and Mr. Gibbs' property. These creeks, which are identified on USGS maps as perennial tributaries to the Red River, are additional sources of inflow.
 - Ms. Crawford's property is approximately 45.5 river miles below the discharge. The Blue River, on the Oklahoma side of the river, enters the Red River upstream of her property. The 25th percentile flow in the Blue River at Blue, Oklahoma, based on 79 years of record, is 26 cfs.
 - The property owned by Mr. and Mrs. Schulz is even further downstream, approximately 78 miles below the proposed discharge point. This property is near USGS gage 07335500, Red River at Arthur City, Texas. The 25th percentile flow at the gage at Denison Dam is 599 cfs. At the Arthur City gage, the 25th percentile flow is 2,050 cfs. This documented increase confirms there are substantial inflows between those two locations on the Red River.

² 2012 IPs, Appendix D, Table D-2.

Therefore, the water quality available to the requestors should be at least as good as, and typically much better than, that at the edge of the mixing zone. The water quality at the edge of the mixing zone is suitable for agricultural purposes.

39. In summary, it is my opinion that the proposed discharge will be compliant with TSWQS with respect to protection of existing uses, numerical criteria, general criteria, and antidegradation requirements. There should not be significant adverse impacts on use of the water in the Red River below the proposed discharge point by the Hearing Requestors.

Furthermore Affiant sayeth not.

Peggy W. Glass
Peggy W. Glass, Ph.D.

Sworn to and subscribed before me by Peggy W. Glass on the 8th day of Sept, 2015.



Rosaline Murphy
Notary Public in and for the State of Texas

My Commission Expires: 5-17-19

EXHIBIT 1

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, 2014 Texas Surface Water Quality Standards for Human Health

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

PERMIT INFORMATION

Permittee Name:	NTMWD
TPDES Permit No.:	
Outfall No.:	001
Prepared by:	Chris Pasch
Date:	8/26/15

DISCHARGE INFORMATION

Receiving Waterbody:	Red River
Segment No.:	202
TSS (mg/L):	19
pH (Standard Units):	7.3
Hardness (mg/L as CaCO ₃):	175
Chloride (mg/L):	197
Effluent Flow for Aquatic Life (MGD):	9.3
Critical Low Flow [7Q2] (cfs):	223
% Effluent for Chronic Aquatic Life (Mixing Zone):	6.06
% Effluent for Acute Aquatic Life (ZID):	20.52
Effluent Flow for Human Health (MGD):	9.3
Harmonic Mean Flow (cfs):	787
% Effluent for Human Health:	1.80
Public Water Supply Use?	yes

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>Water Effect Ratio (WER)</i>		
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	55784.03	0.49		1.00	Assumed
Cadmium	6.60	-1.13	142892.17	0.27		1.00	Assumed
Chromium (Total)	6.52	-0.93	214170.25	0.20		1.00	Assumed
Chromium (+3)	6.52	-0.93	214170.25	0.20		1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	118501.09	0.31		1.00	Assumed
Lead	6.45	-0.80	267298.87	0.16		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	91434.57	0.37		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	115580.29	0.31		1.00	Assumed
Zinc	6.10	-0.70	160277.47	0.25		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>FW Acute Criterion (ug/L)</i>	<i>FW Chronic Criterion (ug/L)</i>	<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Aldrin	3.0	N/A	14.62	N/A	8.38	N/A	12.32	26.06
Aluminum	991	N/A	4830.58	N/A	2767.92	N/A	4068.84	8608.23
Arsenic	340	150	3413.89	5097.56	1956.16	3925.12	2875.55	6083.65
Cadmium	14.78300774	0.36279626	267.70	22.24	153.39	17.12	25.17	53.25
Carbaryl	2.0	N/A	9.75	N/A	5.59	N/A	8.21	17.37
Chlordane	2.4	0.004	11.70	0.07	6.70	0.05	0.07	0.16
Chlorpyrifos	0.083	0.041	0.40	0.68	0.23	0.52	0.34	0.72
Chromium (+3)	901.0372928	117.20644	22264.37	9802.11	12757.48	7547.62	11095.00	23473.10
Chromium (+6)	15.7	10.6	76.53	174.88	43.85	134.65	64.46	136.38
Copper	24.06213276	15.2745435	381.37	819.37	218.52	630.92	321.23	679.61
Cyanide (free)	45.8	10.7	223.25	176.53	127.92	135.93	188.05	397.84
4,4'-DDT	1.1	0.001	5.36	0.02	3.07	0.01	0.02	0.04
Demeton	N/A	0.1	N/A	1.65	N/A	1.27	1.87	3.95
Diazinon	0.17	0.17	0.83	2.80	0.47	2.16	0.70	1.48
Dicofol	59.3	19.8	289.05	326.66	165.63	251.53	243.47	515.10
Dieldrin	0.24	0.002	1.17	0.03	0.67	0.03	0.04	0.08
Diuron	210	70	1023.63	1154.84	586.54	889.23	862.22	1824.15
Endosulfan I (alpha)	0.22	0.056	1.07	0.92	0.61	0.71	0.90	1.91
Endosulfan II (beta)	0.22	0.056	1.07	0.92	0.61	0.71	0.90	1.91
Endosulfan sulfate	0.22	0.056	1.07	0.92	0.61	0.71	0.90	1.91
Endrin	0.086	0.002	0.42	0.03	0.24	0.03	0.04	0.08
Guthion	N/A	0.01	N/A	0.16	N/A	0.13	0.19	0.40
Heptachlor	0.52	0.004	2.53	0.07	1.45	0.05	0.07	0.16
Hexachlorocyclohexane (Lindane)	1.126	0.08	5.49	1.32	3.14	1.02	1.49	3.16
Lead	118.0985635	4.60213147	3499.28	461.52	2005.09	355.37	522.40	1105.21
Malathion	N/A	0.01	N/A	0.16	N/A	0.13	0.19	0.40
Mercury	2.4	1.3	11.70	21.45	6.70	16.51	9.85	20.85
Methoxychlor	N/A	0.03	N/A	0.49	N/A	0.38	0.56	1.19
Mirex	N/A	0.001	N/A	0.02	N/A	0.01	0.02	0.04
Nickel	751.7523375	83.4964758	10030.34	3770.59	5747.38	2903.35	4267.93	9029.43
Nonylphenol	28	6.6	136.48	108.89	78.21	83.84	114.96	243.22
Parathion (ethyl)	0.065	0.013	0.32	0.21	0.18	0.17	0.24	0.51
Pentachlorophenol	11.793	9.048	57.48	149.27	32.94	114.93	48.42	102.44
Phenanthrene	30	30	146.23	494.93	83.79	381.10	123.17	260.59
Polychlorinated Biphenyls (PCBs)	2.0	0.014	9.75	0.23	5.59	0.18	0.26	0.55
Selenium	20	5	97.49	82.49	55.86	63.52	82.12	173.73
Silver	0.8	N/A	138.77	N/A	79.52	N/A	116.89	247.30
Toxaphene	0.78	0.0002	3.80	0.0033	2.18	0.0025	0.0037	0.0079
Tributyltin (TBT)	0.13	0.024	0.63	0.40	0.36	0.30	0.45	0.95
2,4,5 Trichlorophenol	136	64	662.92	1055.86	379.86	813.01	558.39	1181.35
Zinc	188.2700836	189.810125	3712.40	12667.55	2127.20	9754.01	3126.99	6615.60

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	Water and	Fish Only	WLAh	LTAh	Daily Avg.	Daily Max.
	Fish Criterion	Criterion				
	(ug/L)	(ug/L)			(ug/L)	(ug/L)
Acrylonitrile	0.80	3.8	44.56	41.44	60.91	128.87
Aldrin	0.00094	0.0010	0.052	0.049	0.072	0.151
Anthracene	5,569	N/A	310159.67	288448.49	424019.29	897074.81
Antimony	6	1,071	334.16	310.77	456.84	966.50
Arsenic	10	N/A	1147.24	1066.93	1568.39	3318.16
Barium	2,000	N/A	111387.92	103590.77	152278.43	322167.29
Benzene	5	513	278.47	258.98	380.70	805.42
Benzdine	0.00086	0.0020	0.048	0.045	0.065	0.139
Benzo(a)anthracene	0.68	3.28	37.87	35.22	51.77	109.54
Benzo(a)pyrene	0.068	0.33	3.79	3.52	5.18	10.95
Bis(chloromethyl)ether	0.0024	0.44	0.13	0.12	0.18	0.39
Bis(2-chloroethyl)ether	0.57	10.06	31.75	29.52	43.40	91.82
Bis(2-ethylhexyl)phthalate	6	41	334.16	310.77	456.84	966.50
Bromodichloromethane (Dichlorobromomethane)	10.2	322	568.08	528.31	776.62	1643.05
Bromoform	69.1	2,175	3848.45	3579.06	5261.22	11130.88
Cadmium	5	N/A	1034.50	962.09	1414.27	2992.09
Carbon Tetrachloride	4.3	30.5	239.48	222.72	327.40	692.66
Chlordane	0.0080	0.0081	0.45	0.41	0.61	1.29
Chlorobenzene	100	5,201	5569.40	5179.54	7613.92	16108.36
Chlorodibromomethane (Dibromochloromethane)	7.6	239	423.27	393.64	578.66	1224.24
Chloroform	70	7,143	3898.58	3625.68	5329.75	11275.86
Chromium (+6)	62	502	3453.03	3211.31	4720.63	9987.19
Chrysene	68.13	327	3794.43	3528.82	5187.36	10974.63
Cresols (Methylphenols)	1,041	9,301	57977.41	53918.99	79260.92	167688.07
Cyanide (free)	200	N/A	11138.79	10359.08	15227.84	32216.73
4,4'-DDD	0.0059	0.0059	0.329	0.306	0.449	0.950
4,4'-DDE	0.0040	0.0040	0.223	0.207	0.305	0.644
4,4'-DDT	0.0040	0.0040	0.223	0.207	0.305	0.644
2,4'-D	70	N/A	3898.58	3625.68	5329.75	11275.86
Dantol	262	473	14591.82	13570.39	19948.47	42203.91
1,2-Dibromoethane	0.17	4.24	9.47	8.81	12.94	27.38
m-Dichlorobenzene (1,3-Dichlorobenzene)	473	1,445	26343.24	24499.22	36013.85	76192.56
o-Dichlorobenzene (1,2-Dichlorobenzene)	600	4,336	33416.38	31077.23	45683.53	96650.19
p-Dichlorobenzene (1,4-Dichlorobenzene)	75	N/A	4177.05	3884.65	5710.44	12081.27
3,3'-Dichlorobenzidine	0.32	0.44	17.82	16.57	24.36	51.55
1,2-Dichloroethane	5	553	278.47	258.98	380.70	805.42
1,1-Dichloroethylene	7	23,916	389.86	362.57	532.97	1127.59
Dichloromethane (Methylene Chloride)	5	22,222	278.47	258.98	380.70	805.42
1,2-Dichloropropane	5	226	278.47	258.98	380.70	805.42
1,3-Dichloropropene (1,3-Dichloropropylene)	3.4	211	189.36	176.10	258.87	547.68
Dicofof	0.30	0.30	16.71	15.54	22.84	48.33
Dieldrin	0.001	0.001	0.056	0.052	0.076	0.161
2,4-Dimethylphenol	257	571	14313.35	13311.41	19567.78	41398.50
Di-n-Butyl Phthalate	1,318	3,010	73404.64	68266.32	100351.48	212308.24
Dioxins/Furans (TCDD Equivalents)	7.80E-08	7.97E-08	4.34E-06	4.04E-06	5.94E-06	1.26E-05
Endrin	0.20	0.20	11.14	10.36	15.23	32.22
Ethylbenzene	700	7,143	38985.77	36256.77	53297.45	112758.55
Fluoride	4,000	N/A	222775.85	207181.54	304556.86	644334.58
Heptachlor	0.0015	0.0015	0.084	0.078	0.114	0.242
Heptachlor Epoxide	0.00074	0.00075	0.041	0.038	0.056	0.119
Hexachlorobenzene	0.0044	0.0045	0.25	0.23	0.34	0.71
Hexachlorobutadiene	6.5	274	362.01	336.67	494.90	1047.04
Hexachlorocyclohexane (alpha)	0.050	0.093	2.78	2.59	3.81	8.05
Hexachlorocyclohexane (beta)	0.17	0.33	9.47	8.81	12.94	27.38
Hexachlorocyclohexane (gamma) (Lindane)	0.2	6.2	11.14	10.36	15.23	32.22
Hexachlorocyclopentadiene	50	N/A	2784.70	2589.77	3806.96	8054.18
Hexachloroethane	4.97	11.51	276.80	257.42	378.41	800.59

Hexachlorophene	2.05	2.90	114.17	106.18	156.09	330.22
Lead	1.15	3.83	389.33	362.07	532.25	1126.05
Mercury	0.0122	0.0122	0.68	0.63	0.93	1.97
Methoxychlor	1.59	1.61	88.55	82.35	121.06	256.12
Methyl Ethyl Ketone	13,865	992,000	7.72E+05	7.18E+05	1.06E+06	2.23E+06
Nickel	332	1,140	50612.96	47070.05	69192.98	146387.87
Nitrate-Nitrogen (as Total Nitrogen)	10,000	N/A	556939.61	517953.84	761392.14	1610836.44
Nitrobenzene	45	1,853	2506.23	2330.79	3426.26	7248.76
N-Nitrosodiethylamine	0.0037	2.1	0.21	0.19	0.28	0.60
N-Nitroso-di-n-Butylamine	0.119	4.2	6.63	6.16	9.06	19.17
Pentachlorobenzene	1.0	1.0	55.69	51.80	76.14	161.08
Pentachlorophenol	0.80	9.1	44.56	41.44	60.91	128.87
Polychlorinated Biphenyls (PCBs)	6.4E-04	6.4E-04	3.56E-02	3.31E-02	4.87E-02	1.03E-01
Pyridine	23	947	1280.96	1191.29	1751.20	3704.92
Selenium	50	N/A	2784.70	2589.77	3806.96	8054.18
1,2,4,5-Tetrachlorobenzene	0.65	0.71	36.20	33.67	49.49	104.70
1,1,2,2-Tetrachloroethane	1.7	40	94.68	88.05	129.44	273.84
Tetrachloroethylene	5	525	278.47	258.98	380.70	805.42
Thallium	0.12	0.23	6.68	6.22	9.14	19.33
Toluene	1,000	N/A	55693.96	51795.38	76139.21	161083.64
Toxaphene	0.0053	0.0053	0.30	0.27	0.40	0.85
2,4,5-TP (Silvex)	19	21	1058.19	984.11	1446.65	3060.59
1,1,1-Trichloroethane	200	956,663	11138.79	10359.08	15227.84	32216.73
1,1,2-Trichloroethane	5	295	278.47	258.98	380.70	805.42
Trichloroethylene	5	82	278.47	258.98	380.70	805.42
2,4,5-Trichlorophenol	1,194	2,435	66498.59	61843.69	90910.22	192333.87
TTHM (Sum of Total Trihalomethanes)	80	N/A	4455.52	4143.63	6091.14	12886.69
Vinyl Chloride	0.25	24	13.92	12.95	19.03	40.27

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

Aquatic Life		
Parameter	70%	85%
Aldrin	8.622	10.470
Aluminum	2848.189	3458.515
Arsenic	2012.888	2444.221
Cadmium	17.618	21.393
Carbaryl	5.748	6.980
Chlordane	0.052	0.063
Chlorpyrifos	0.239	0.290
Chromium (+3)	7766.503	9430.754
Chromium (+6)	45.123	54.792
Copper	224.862	273.047
Cyanide (free)	131.632	159.839
4,4'-DDT	0.013	0.016
Demeton	1.307	1.587
Diazinon	0.489	0.593
Dicofol	170.432	206.953
Dieldrin	0.026	0.032
Diuron	603.552	732.884
Endosulfan (alpha)	0.632	0.768
Endosulfan (beta)	0.632	0.768
Endosulfan sulfate	0.632	0.768
Endrin	0.026	0.032
Guthion	0.131	0.159
Heptachlor	0.052	0.063
Hexachlorocyclohexane (Lindane)	1.046	1.270
Lead	365.679	444.039
Malathion	0.131	0.159
Mercury	6.898	8.376
Methoxychlor	0.392	0.476
Mirex	0.013	0.016
Nickel	2987.551	3627.741
Nonylphenol	80.474	97.718
Parathion (ethyl)	0.170	0.206
Pentachlorophenol	33.894	41.156
Phenanthrene	86.222	104.698
Polychlorinated Biphenyls (PCBs)	0.183	0.222
Selenium	57.481	69.798
Silver	81.823	99.357
Toxaphene	0.003	0.003
Tributyltin (TBT)	0.314	0.381
2,4,5 Trichlorophenol	390.872	474.630
Zinc	2188.891	2657.940

Human Health

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Acrylonitrile	42.638	51.775
Aldrin	0.050	0.061
Anthracene	296813.500	360416.393
Antimony	319.785	388.310
Arsenic	1097.872	1333.131
Barium	106594.900	129436.665
Benzene	266.487	323.592
Benzidine	0.046	0.056
Benzo(a)anthracene	36.242	44.008
Benzo(a)pyrene	3.624	4.401
Bis(chloromethyl)ether	0.128	0.155
Bis(2-chloroethyl)ether	30.380	36.889
Bis(2-ethylhexyl)phthalate	319.785	388.310
Bromodichloromethane (Dichlorobromomethane)	543.634	660.127
Bromoform	3682.854	4472.037
Cadmium	989.987	1202.127
Carbon Tetrachloride	229.179	278.289
Chlordane	0.426	0.518
Chlorobenzene	5329.745	6471.833
Chlorodibromomethane (Dibromochloromethane)	405.061	491.859
Chloroform	3730.822	4530.283
Chromium (+6)	3304.442	4012.537
Chrysene	3631.155	4409.260
Cresols (Methylphenols)	55482.646	67371.784
Cyanide (free)	10659.490	12943.666
4,4'-DDD	0.314	0.382
4,4'-DDE	0.213	0.259
4,4'-DDT	0.213	0.259
2,4'-D	3730.822	4530.283
Danitrol	13963.932	16956.203
1,2-Dibromoethane	9.061	11.002
m-Dichlorobenzene (1,3-Dichlorobenzene)	25209.694	30611.771
o-Dichlorobenzene (1,2-Dichlorobenzene)	31978.470	38830.999
p-Dichlorobenzene (1,4-Dichlorobenzene)	3997.309	4853.875
3,3'-Dichlorobenzidine	17.055	20.710
1,2-Dichloroethane	266.487	323.592
1,1-Dichloroethylene	373.082	453.028
Dichloromethane (Methylene Chloride)	266.487	323.592
1,2-Dichloropropane	266.487	323.592
1,3-Dichloropropene (1,3-Dichloropropylene)	181.211	220.042
Dicofol	15.989	19.415
Dieldrin	0.053	0.065
2,4-Dimethylphenol	13697.445	16632.611
Di-n-Butyl Phthalate	70246.039	85298.762
Dioxins/Furans (TCDD Equivalents)	4.16E-06	5.05E-06
Endrin	10.659	12.944
Ethylbenzene	37308.215	45302.833
Fluoride	213189.801	258873.329
Heptachlor	0.080	0.097
Heptachlor Epoxide	0.039	0.048
Hexachlorobenzene	0.235	0.285
Hexachlorobutadiene	346.433	420.669
Hexachlorocyclohexane (alpha)	2.665	3.236
Hexachlorocyclohexane (beta)	9.061	11.002
Hexachlorocyclohexane (gamma) (Lindane)	10.659	12.944
Hexachlorocyclopentadiene	2664.873	3235.917
Hexachloroethane	264.888	321.650
Hexachlorophene	109.260	132.673
Lead	372.575	452.412
Mercury	0.650	0.790

Methoxychlor	84.743	102.902
Methyl Ethyl Ketone	738969	897320
Nickel	48435.086	58814.033
Nitrate-Nitrogen (as Total Nitrogen)	532974.50	647183.32
Nitrobenzene	2398.385	2912.325
N-Nitrosodiethylamine	0.197	0.239
N-Nitroso-di-n-Butylamine	6.342	7.701
Pentachlorobenzene	53.297	64.718
Pentachlorophenol	42.638	51.775
Polychlorinated Biphenyls (PCBs)	0.034	0.041
Pyridine	1225.841	1488.522
Selenium	2664.873	3235.917
1,2,4,5-Tetrachlorobenzene	34.643	42.067
1,1,2,2-Tetrachloroethane	90.606	110.021
Tetrachloroethylene	266.487	323.592
Thallium	6.396	7.766
Toluene	53297.450	64718.332
Toxaphene	0.282	0.343
2,4,5-TP (Silvex)	1012.652	1229.648
1,1,1-Trichloroethane	10659	12944
1,1,2-Trichloroethane	266.487	323.592
Trichloroethylene	266.487	323.592
2,4,5-Trichlorophenol	63637.155	77273.689
TTHM (Sum of Total Trihalomethanes)	4263.796	5177.467
Vinyl Chloride	13.324	16.180

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Industrial Permits Team
Wastewater Permitting Section
Water Quality Division

Thru: John Treviño, Standards Implementation Team Peer Review
Water Quality Assessment Section
Water Quality Division
P.S. for J.T.

From: Peter Schaefer, Standards Implementation Team
Water Quality Assessment Section
Water Quality Division
P.S.

Date: ✓ September 25, 2012

Subject: North Texas Municipal Water District; Permit No. 04996-000
New; Application Received: June 11, 2012

This memorandum supersedes the one written September 4, 2012.

The discharge route for the above referenced permit is via pipe to an unnamed tributary; thence to the Red River Below Lake Texoma in Segment 0202 of the Red River Basin. Because 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 and dissolved oxygen criterion as stated in Appendix A of the Texas Surface Water Quality Standards (30 Texas Administrative Code (TAC) §307.10) for Segment 0202 are primary contact recreation, public water supply, high aquatic life use, and 5.0 mg/L dissolved oxygen.

In accordance with §307.5 and the TCEQ implementation procedures (January 2003) for the Texas Surface Water Quality Standards, an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in the Red River Below Lake Texoma, which has been identified as having high aquatic life use. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

The discharge from this permit action 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) biological opinion on the State of Texas authorization of the Texas Pollutant Discharge Elimination System (TPDES; September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and 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 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.



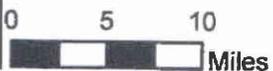
ALAN PLUMMER ASSOCIATES, INC.

ENVIRONMENTAL ENGINEERS AND SCIENTISTS



- ① Duanne Gibbs - 18.5 miles
- ② Julia Trigg Crawford (Red'Arc Farm) - 45.5 miles
- ③ Brenda & Curtis L Schulz - 78 miles

**LEONARD WATER TREATMENT PLANT AND CONCENTRATE DISCHARGE
CONTESTED CASE HEARING REQUESTORS**



8/28/2015

