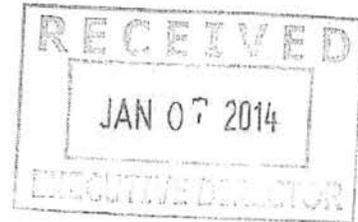




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**SHIP TO:**  
 ATTN: ZAK COVAR  
 TCEQ  
 12100 PARK 35 CIRCLE BLDG F ROOM 4208  
 AUSTIN TX 78753  
 ROUND TRIP. PLS FILE & RETURN 1 FILE STAMPED  
 COPY OF LETTER & PETITION(MARKED IN  
 PACKET). ?S CALL JEFF @512-322-5853



TRACKING NUMBER: 279629



References: 2694-05  
JDG

Signature:

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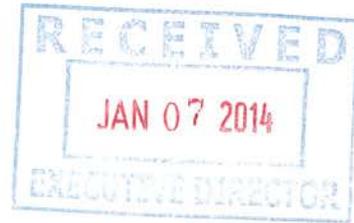
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Mr. Castleberry's Direct Line: (512) 322-5856  
bcastleberry@lglawfirm.com

January 7, 2014

Mr. Zak Covar  
Executive Director  
Texas Commission on Environmental Quality  
12100 Park 35 Circle, Building F, Suite 4208  
Austin, Texas 78753

**VIA HAND-DELIVERY**



Re: Petition for Rulemaking (1280-1)

Dear Mr. Covar:

Enclosed please find one (1) original and seven (7) copies of a Petition for Rulemaking filed on behalf of the Upper Neches River Municipal Water Authority ("UNRMWA") requesting a new subchapter of 30 Tex. Admin. Code Chapter 311 to establish the Lake Palestine Water Quality Area and to impose a specified effluent set for future permits authorizing discharges to the Lake Palestine Water Quality Area and Lake Palestine Watershed. Please date stamp one of the enclosed copies and return it to us via our courier. We respectfully request that this Petition be set for consideration and Commission action as soon as possible and look forward to working with all concerned on this matter.

If you have any questions regarding this petition, please feel free to call me at your convenience.

Sincerely,

Brad B. Castleberry

BBC/jdg  
ENCLOSURE

cc: Ms. Anne Idsal  
Mr. Marshall Coover  
Mr. Tucker Royall  
Mr. David Galindo  
Mr. Monty Shank

**PETITION FOR RULEMAKING**

BY UPPER NECHES RIVER  
MUNICIPAL WATER AUTHORITY  
FOR NEW SUBCHAPTER J  
OF 30 TAC CHAPTER 311

§  
§ BEFORE THE TEXAS COMMISSION  
§ ON ENVIRONMENTAL QUALITY  
§  
§

**ORIGINAL PETITION FOR RULEMAKING**

NOW COMES Upper Neches River Municipal Water Authority (“UNRMWA”) and pursuant to 30 Texas Administrative Code (“TAC”) Chapter 20 hereby presents this Petition for Adoption of a Rule (“Petition”) to the Texas Commission on Environmental Quality (“TCEQ” or “Commission”) seeking a new Subchapter J of 30 TAC Chapter 311, to establish a new subchapter for the Lake Palestine Water Quality Area and to impose a specified effluent set for future permits authorizing discharges to the Lake Palestine Water Quality Area, as identified herein, for the Lake Palestine Watershed, and respectfully requests that the Commission consider this Petition and the proposed rule as set out herein (the “Rule”) and initiate proceedings necessary to adopt the Rule. Pursuant to the provisions of 30 TAC § 20.15, UNRMWA would respectfully show the following:

I. PUBLIC POLICY BENEFITS

This Petition is submitted in the interest of protecting the water quality of Lake Palestine. Lake Palestine is used for contact recreation and as a public water supply. It is in the public interest to protect the water quality, aquatic health and viability of Lake Palestine for existing and future uses. The intent of the Petition is to establish a basic framework to ensure that the addition of pollutants to Lake Palestine, if authorized pursuant to a permit issued under Chapter 26 of the Texas Water Code, will be done in such a manner that protects water quality for the designated uses of Lake Palestine.

## II. PETITIONER'S NAME AND ADDRESS

Petitioner's name is Upper Neches River Municipal Water Authority. Petitioner's address is P.O. Box 1965, Palestine, Texas 75802. For purposes of this Petition, correspondence for the Petition should be directed to Mr. Brad B. Castleberry at 816 Congress, Ste. 1900, Austin, Texas 78701.

## III. BACKGROUND

UNRMWA is a conservation and reclamation district authorized pursuant to the Texas Constitution, Article XVI, Section 59. UNRMWA was created with the power to store, control, conserve, protect, distribute, and utilize storm and floodwaters and unappropriated flow of the Neches River and its tributaries as are located within all of Anderson, Cherokee, Henderson, and Smith Counties. UNRMWA provides surface raw water to municipalities and other users for municipal, domestic, industrial, and irrigation purposes. The service area of UNRMWA includes all or portions of Anderson, Cherokee, Henderson, and Smith Counties. UNRMWA serves Anderson, Cherokee, Henderson, and Smith Counties either directly, or through UNRMWA's primary customers. UNRMWA owns and operates Lake Palestine.

## IV. WATER QUALITY PROTECTION

The Petition is being submitted in the interest of protecting water quality in Lake Palestine. TCEQ's water quality management information indicates that Lake Palestine has existing water quality issues related to nutrient enrichment (as characterized by the nutrient enrichment-related indicators of dissolved oxygen and pH) and excessive algae growth (as characterized by chlorophyll *a* levels). The primary nutrient of concern is phosphorous.

### 2012 Texas Integrated Report

The 2012 Texas Integrated Report indicates water quality problems in Lake Palestine

related to elevated chlorophyll *a* levels, high pH, and depressed dissolved oxygen. Chlorophyll *a* levels are an indicator of algal growth that can lead to periodic taste and odor problems in drinking water supplies. For evaluation purposes, the TCEQ has divided Lake Palestine into six zones: Lower Portion (0605\_01), Lower Portion to SH155 (0605\_02), Upper Mid-Lake (0605\_03), Flat Creek Arm (0605\_09), Upper Lake (0605\_10), and SH155 to Flat Creek Arm (0605\_11). The following table shows the parameters that have problems related to the Level of Support for each zone:<sup>1</sup>

<u>Zone</u>	<u>Level of Support Problems</u>
0605_01	depressed dissolved oxygen (CS), high pH (CN), chlorophyll <i>a</i> (CS)
0605_03	high pH (NS), chlorophyll <i>a</i> (CS)
0605_09	high pH (NS), chlorophyll <i>a</i> (CS)
0605_10	high pH (NS), chlorophyll <i>a</i> (CS)
0605_11	high pH (NS), chlorophyll <i>a</i> (CS)

CS=Screening Level Concern; CN=Use Concern; NS=Nonsupport

Five of the zones are listed as having concerns for chlorophyll *a*. Four of the zones are not supporting the uses (high pH) and have been placed on the 303(d) list for non-attainment.

#### Non-Attainment of Chlorophyll *a* Criterion

On June 30, 2010, the TCEQ approved the Texas Surface Water Quality Standards that included chlorophyll *a* criteria for 75 reservoirs in Texas. Among these was Lake Palestine (Segment 0605) where the chlorophyll *a* criterion was set to 27.34 µg/L at monitoring site 16159 (Lake Palestine near Blackburn Crossing Dam). The standards state that “criteria for chlorophyll *a* are attained when they are not exceeded by the median of monitoring data results.”

The following table summarizes the chlorophyll *a* data taken from the Texas Clean Rivers program database and collected at monitoring site 16159 (Lake Palestine near Blackburn

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<sup>1</sup> A range of water quality conditions and assessment status is expressed by a level of support established for each parameter, and for the use in each assessment unit and in some instances for each station. Support status reflects (1) that data are not sufficient to allow assessment, (2) when only a concern can be established from limited data, and (3) when the assessment can confidently establish the level of support.

Crossing Dam) through July 30, 2013:

<u>Year</u>	<u>No. of Samples</u>	<u>Minimum (µg/L)</u>	<u>Mean (µg/L)</u>	<u>Maximum (µg/L)</u>	<u>Median (µg/L)</u>
1998	1	1.420	1.420	1.420	1.420
1999	4	1.000	4.773	9.970	4.060
2000	4	1.000	8.460	12.800	5.850
2001	4	10.000	14.650	20.400	15.200
2002	5	10.700	15.440	23.100	16.000
2003	4	10.000	68.525	237.000	10.000
2004	4	10.200	21.250	42.200	29.900
2005	5	21.400	29.620	41.100	21.400
2006	2	23.200	26.100	29.000	26.100
2007	2	26.400	34.100	41.800	34.100
2008	4	15.700	23.550	37.400	28.850
2009	4	26.700	31.225	35.500	27.400
2010	3	12.800	19.900	25.400	25.400
2011	4	9.440	18.410	28.200	15.870
2012	5	13.800	25.160	36.400	30.800
2013	2	26.500	27.350	28.200	27.350

Since the chlorophyll *a* criterion of 27.34 µg/L was adopted by the TCEQ in 2010, it can be seen that the criterion was exceeded in 2012 and may be exceeded in 2013 (depending on any sampling results obtained after July 30, 2013).

#### EPA Rejection of TCEQ's Chlorophyll *a* Criterion

Non-attainment of chlorophyll *a* as shown in the preceding section will worsen if the chlorophyll *a* criterion is further lowered. Even though TCEQ adopted a chlorophyll *a* criterion of 27.34 µg/L for Lake Palestine, EPA (in a letter to TCEQ dated July 2, 2013) determined that the criterion adopted by TCEQ is not protective of the reservoir's designated uses and disapproved TCEQ's chlorophyll *a* criterion for Lake Palestine. Based on TCEQ data, EPA indicated that Lake Palestine has shifted from a eutrophic classification in 2000 to a hypereutrophic classification in 2010. Additionally, EPA conducted a trend analysis for chlorophyll *a* indicating a very high rate of chlorophyll *a* accumulation (0.498 µg/L chlorophyll *a*

per year) in combination with TCEQ's identification of 24 nutrient concerns that were repeating. A Technical Support Document that accompanied EPA's letter of July 2, 2013 provides a detailed discussion of EPA's review.

Lake Palestine is experiencing elevated levels of algae (as indicated by elevated chlorophyll *a* concentrations and high pH). Although the phosphorous concentrations in the lake do not yet exceed the screening criterion set by TCEQ, the data indicate that a definitive eutrophication issue exists in Lake Palestine that will only be exacerbated by additional phosphorous loading. There are currently only six wastewater discharges to Lake Palestine (Segment 0605). Of these, three have no constituents of concern because they are water treatment plant discharges. If additional wastewater discharges are allowed into Lake Palestine, phosphorous limits must be imposed to prevent further eutrophication of the lake.

#### V. EXISTING AND FUTURE CUSTOMERS THAT OPERATE PUBLIC WATER SYSTEMS

UNRMWA currently sells raw water to the City of Tyler, who in turn sells treated water to a number of surrounding communities, including but not limited to the City of Whitehouse, Community Water Co., Montgomery Garden and Walnut Grove Water Supply Corporation. UNRMWA also sells raw water released from the dam for downstream diversion by the City of Palestine, who in turn sells treated water to Pleasant Springs Water Supply Corporation, Dogwood Hills North and Dogwood Hills East. UNRMWA also has a number of other small raw water supply customers.

Additionally, UNRMWA has a contract to sell raw water to the City of Dallas. A pipeline to convey this water is currently being designed, with construction estimated to be complete as early as 2016. The City of Dallas currently sells treated water to the following

entities: Cities of Desoto, Duncanville, Hutchins, Lancaster, Seagoville, Carrollton, Cedar Hill, Cockrell Hill, Coppell, Farmer's Branch, Grand Prairie, Irving, Glenn Heights, Lewisville and The Colony; Towns of Flower Mound and Addison; Dallas County WCID 6, Danieldale Community Water Service, and the Dallas Fort Worth Airport.

As evident by this list of entities that either currently receive raw water or will receive raw water, there are a number of indirect potable water customers that will be impacted by any impairments to the water quality in Lake Palestine.

## VI. CURRENT STATE OF TREATMENT TECHNOLOGY

Municipal wastewaters may contain from 5 to 20 mg/L of total phosphorous ("TP"), of which 1 to 5 mg/L is organic and the rest is inorganic. The usual forms of phosphorous found in aqueous solutions include:

- Orthophosphates: available for biological metabolism without further breakdown; and
- Polyphosphates: molecules with 2 or more phosphorous atoms, oxygen and in some cases hydrogen atoms combine in a complex molecule. Usually polyphosphates undergo hydrolysis and revert to the orthophosphate forms. This process is usually quite slow.

Normally secondary treatment can only remove 1 to 2 mg/L, so a large excess of phosphorous is discharged in final effluent, causing eutrophication in surface waters.

Chemical treatment for phosphorous removal involves the addition of metal salts to react with soluble phosphate to form solid precipitates that are removed by the solids separation processes including clarification and filtration. The most common metal salts used are in the form of alum (aluminum sulfate), sodium aluminate, ferric chloride, ferric sulfate,

ferrous sulfate, and ferrous chloride. Chemical treatment is the most common method used for phosphorous removal to meet effluent concentrations below 1.0 mg/L.

Chemical and biological phosphorous removal processes have been used to reliably reduce phosphorous to 1 mg/L and often to 0.5 mg/L. A 0.5 to 1.0 mg/L limit is achievable by many conventional chemical and biological processes, while lower limits are attainable with advanced processes. *See, Nutrient Management Volume II: Removal Technology Performance and Reliability, Water Environment Research Federation (WERF), NUTRIR06k, 2011.*

A research study performed by WERF identified common treatment technologies for treatment facilities across the United States. *Id.* In that report, chemical addition for the removal of TP was considered as standard technology, with advanced technology being enhanced with biological activity. *Id.* Enhanced technology was only necessary to remove TP to limits at or below 0.5 mg/L. *Id.*

## VII. EXISTING PERMITTED FACILITIES

As noted, TP treatment is common technology at this time. UNRMWA understands that it is fairly commonplace to include TP limits in permits issued in the Colorado and Brazos River Basins. Indeed, one permit issued just west of the City of Austin included a TP limit of 0.15mg/L. *See, TPDES Permit No. WQ0014293001.* And, in the adjoining Trinity River Basin, at least one direct discharge to a reservoir includes a TP limit of 0.5 mg/L. The North Texas Municipal Water District, which discharges treated effluent to Lake Lavon, is required to treat to remove TP to a limit of 0.5 mg/L for its Wilson Creek Wastewater Treatment Plant. Likewise, a similar permit was issued for a 0.1 MGD facility into that same reservoir in 2010. *See, TPDES Permit No. WQ0014778001.* Including TP limits in discharges to reservoirs is becoming

common practice, and as such, Lake Palestine should be given similar consideration for future permits.

#### VIII. RECOMMENDATION

UNRMWA recommends that a rule be adopted such that new or amended permits authorizing discharges within the Lake Palestine watershed have proven and established effluent limits that i) are protective of water quality, ii) acknowledge the fact that this reservoir is an existing source of drinking water and will become an increasing source of same, iii) include current acceptable treatment technology to address nutrient concerns in reservoirs, and iv) promote sound decision-making in establishing the best disposal method for treated effluent. In this regard, UNRMWA requests that the following language be adopted for inclusion in 30 TAC Chapter 311.

IX. PROPOSED NEW 30 TAC, CHAPTER 311, SUBCHAPTER J

A. PROPOSED NEW RULE 30 TAC §311.100

**Texas Administrative Code**

**TITLE 30**  
**PART 1**  
**CHAPTER 311**  
**SUBCHAPTER J**  
**RULE §311.100**

**ENVIRONMENTAL QUALITY**  
**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**  
**WATERSHED PROTECTION**  
**LAKE PALESTINE WATERSHED**  
**Definitions**

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

- (1) BOD<sub>5</sub> – Biochemical oxygen demand (five-day).
- (2) DO – Dissolved oxygen.
- (3) Lake Palestine Water Quality Area—Those portions of Lake Palestine from the Dam up to five (5) stream miles upstream of the normal pool level of Lake Palestine Lake Segment 0605 (345.0 feet, mean sea level).
- (4) Lake Palestine Watershed – Lake Palestine and its tributaries located within a 0.5 mile radius of any portion of Lake Palestine and its tributaries.

B. PROPOSED NEW RULE 30 TAC §311.101

**Texas Administrative Code**

<b><u>TITLE 30</u></b>	<b>ENVIRONMENTAL QUALITY</b>
<b><u>PART 1</u></b>	<b>TEXAS COMMISSION ON ENVIRONMENTAL QUALITY</b>
<b><u>CHAPTER 311</u></b>	<b>WATERSHED PROTECTION</b>
<b><u>SUBCHAPTER J</u></b>	<b>LAKE PALESTINE WATERSHED</b>
<b>RULE §311.101</b>	<b>Scope</b>

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These sections apply to discharges into the Lake Palestine Water Quality Area of Lake Palestine Watershed

C. PROPOSED NEW RULE 30 TAC §311.102

**Texas Administrative Code**

<b><u>TITLE 30</u></b>	<b>ENVIRONMENTAL QUALITY</b>
<b><u>PART 1</u></b>	<b>TEXAS COMMISSION ON ENVIRONMENTAL QUALITY</b>
<b><u>CHAPTER 311</u></b>	<b>WATERSHED PROTECTION</b>
<b><u>SUBCHAPTER J</u></b>	<b>LAKE PALESTINE WATERSHED</b>
<b>RULE §311.102</b>	<b>Effluent Requirements For Segment 0605</b>

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(a) All discharges of treated sewage effluent into the Lake Palestine Water Quality Area of Lake Palestine Watershed shall, at a minimum, achieve the following level of effluent treatment:

- (1) 10 milligrams per liter of biochemical oxygen demand, based on a 30-day average;
- (2) 15 milligrams per liter of total suspended solids, based on a 30-day average;
- (3) 3 milligrams per liter of ammonia nitrogen, based on a 30-day average; and
- (4) 1 milligram per liter of total phosphorous, based on a 30-day average.

(b) Subsection (a) of this section does not apply to any existing facilities, or expansions of same, that discharge treated domestic sewage effluent into tributaries of Segment 0605 of the Neches River Basin. This subsection shall not preclude the commission from imposing more stringent treatment levels to such facilities in the future if the results of water quality studies show that such is necessary.

(c) The treatment level in subsection (a) of this section may be modified if the results of water quality studies show that revisions are necessary to ensure protection of the water quality of the Lake Palestine Watershed.

D. PROPOSED NEW SECTION 30 TAC §311.103

**Texas Administrative Code**

**TITLE 30**  
**PART 1**  
**CHAPTER 311**  
**SUBCHAPTER J**  
**RULE §311.103**

**ENVIRONMENTAL QUALITY**  
**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**  
**WATERSHED PROTECTION**  
**LAKE PALESTINE WATERSHED**  
**Existing Facilities In Water Quality Area**

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(a) Any currently permitted treatment facility in the Lake Palestine Water Quality Area may continue operation in accordance with the terms and conditions of the existing permit for the facility and can apply for renewal of the permit unless the facility becomes substantially noncompliant or an expansion of the treatment facility is included in the application for renewal.

(b) Any modification of a facility described in subsection (a) of this section that requires a permit amendment and which results in additional treatment capacity will also require treatment as for the total wastewater flow from the permitted facility.

(c) Any permitted facility not meeting its permit limitations because of overloading of sewage will be subject to amendment as described in §305.62 of this title (relating to Amendment) in order to impose permit limitations consistent with §311.102(a).

E. PROPOSED NEW SECTION 30 TAC §311.104

### **Texas Administrative Code**

<b><u>TITLE 30</u></b>	<b>ENVIRONMENTAL QUALITY</b>
<b><u>PART 1</u></b>	<b>TEXAS COMMISSION ON ENVIRONMENTAL QUALITY</b>
<b><u>CHAPTER 311</u></b>	<b>WATERSHED PROTECTION</b>
<b><u>SUBCHAPTER J</u></b>	<b>LAKE PALESTINE WATERSHED</b>
<b>RULE §311.104</b>	<b>More Stringent Requirements</b>

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The Commission may impose, in permits, more stringent requirements than those specified in this subchapter, on a case-by-case basis, wherever appropriate to maintain desired water quality levels.

F. PROPOSED NEW SECTION 30 TAC §311.105

### **Texas Administrative Code**

<b><u>TITLE 30</u></b>	<b>ENVIRONMENTAL QUALITY</b>
<b><u>PART 1</u></b>	<b>TEXAS COMMISSION ON ENVIRONMENTAL QUALITY</b>
<b><u>CHAPTER 311</u></b>	<b>WATERSHED PROTECTION</b>
<b><u>SUBCHAPTER J</u></b>	<b>LAKE PALESTINE WATERSHED</b>
<b>RULE §311.105</b>	<b>Effluent Quality Monitoring</b>

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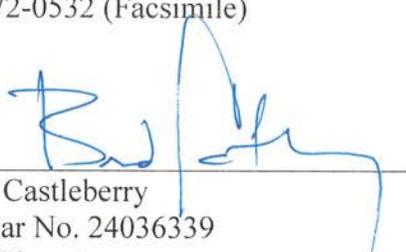
At a minimum, the permittee shall collect 24-hour composite samples of the effluent at least once each month for the permitted parameters. More frequent monitoring requirements may be specified in the permit in accordance with Chapter 319 of this title (relating to General Regulations Incorporated into Permits).

X. PRAYER

WHEREFORE, Petitioner respectfully prays that the Commission adopt the proposed addition of 30 TAC Chapter 311, Subchapter J to impose the effluent limitations as set forth above, or in the alternative, direct the Executive Director to further evaluate the Petition, the positions asserted therein, the public interest, and the potential for water quality impacts, and direct him to establish a stakeholder group to develop an alternative proposal to the Rule for future consideration and adoption within the next twelve (12) calendar months.

Respectfully Submitted,

LLOYD GOSSELINK ROCHELLE & TOWNSEND, P.C.  
816 Congress Avenue, Suite 1900  
Austin, Texas 78701  
(512) 322-5800 (Telephone)  
(512) 472-0532 (Facsimile)

By   
Brad B. Castleberry  
Texas Bar No. 24036339  
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