



Member Organizations

- Alamo, Austin, and Lone Star chapters of the Sierra Club
- Bexar Audubon Society
- Austin, Bexar and Travis Green Parties
- Bexar Grotto
- Boerne Together
- Bulverde Neighborhood Alliance
- Bulverde Neighbors for Clean Water
- Cibolo Center for Conservation
- Citizens for the Protection of Cibolo Creek
- Comal County Conservation Alliance
- Environment Texas
- First Universalist Unitarian Church of SA
- Friends of Canyon Lake
- Friends of Dry Comal Creek
- Friends of Government Canyon
- Fuerza Unida
- Green Society of UTSA
- Guadalupe River Road Alliance
- Guardians of Lick Creek
- Headwaters at Incarnate Word
- Helotes Heritage Association
- Hill Country Alliance
- Kendall County Well Owners Association
- Kinney County Ground Zero
- Leon Springs Business Association
- Native Plant Society of Texas – SA
- Northwest Interstate Coalition of Neighborhoods
- Pedernales River Alliance – Gillespie Co.
- Preserve Castroville
- Preserve Lake Dunlop Association
- Preserve Our Hill Country Environment
- RiverAid San Antonio
- San Antonio Audubon Society
- San Antonio Conservation Society
- San Geronimo Valley Alliance
- San Marcos Greenbelt Alliance
- San Marcos River Foundation
- Save Barton Creek Association
- Save Our Springs Alliance
- Scenic Loop/Boerne Stage Alliance
- Securing a Future Environment
- SEED Coalition
- Signal Hill Area Alliance
- Sisters of the Divine Providence
- Solar San Antonio
- Texas Cave Management Association
- Trinity Edwards Spring Protection Assoc.
- Water Aid – Texas State University
- Wildlife Rescue & Rehabilitation
- Wimberley Valley Watershed Association

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March 3, 2023

Laurie Gharis, Chief Clerk
 Office of the Chief Clerk, MC 105
 Texas Commission on Environmental Quality
 PO Box 13087
 Austin, TX 78711-3087

Submitted electronically at <https://www14.tceq.texas.gov/epic/eComment/>

Re: Updated Comments and Hearing Request Regarding the Major Amendment Application of the City of Kyle for TPDES Permit No. WQ0011041002

Please accept the attached comments on behalf of the fifty-four member groups of the Greater Edwards Aquifer Alliance.

1. **Background.** City of Kyle, 100 West Center Street, Kyle, Texas 78640, has applied to the Texas Commission on Environmental Quality (TCEQ) for a major amendment to Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0011041002 to authorize an increase in the discharge of treated domestic wastewater from an annual average flow limit not to exceed 4,500,000 gallons per day to an annual average flow limit not to exceed 12,000,000 gallons per day and the addition of an Interim II phase at an annual average flow not to exceed 9,000,000 gallons per day.

The facility is located at 941 New Bridge Drive, in Hays County, Texas 78640. The treated effluent is discharged directly to Plum Creek in Segment No. 1810 of the Guadalupe River Basin. The designated uses for Segment No. 1810 are primary contact recreation, aquifer protection, and high aquatic life use.

2. **Greater Edwards Aquifer Alliance (GEAA).** GEAA submits the following comments on behalf of our fifty-four member organizations and requests a contested case hearing regarding this permit application. GEAA also requests that our organization is recognized as an affected party with standing to represent our members who are adjacent landowners. GEAA is a 501(c)(3) nonprofit organization that promotes effective broad-based advocacy for the protection and preservation of the Edwards Aquifer, its springs, watersheds, and the Texas Hill Country that sustains it. GEAA has multiple members who would be adversely affected by the proposed amendment of the City of Kyle.

GEAA’s members have serious concerns regarding the permit application and draft permit, and regarding the degradation to Plum Creek that will likely occur with the increased discharge of treated sewage into these waterways. GEAA and its members’ specific areas of concern are summarized in the following section of this letter.

3. **Comments on the application.** As noted in the Notice of Application and Preliminary Decision for TPDES Permit for Municipal Wastewater, the discharge route is from the City of Kyle Wastewater Treatment Facility directly to Plum Creek in Segment No. 1810 of the Guadalupe River Basin. There are several areas of concern with the current application:

A. Effluent Discharge Levels: The effluent discharge levels in the application currently depict a phased approach for effluent discharge levels as the expansion of the City of Kyle Wastewater Treatment Facility (WWTF) occurs, with the applicant requesting discharge level limits of 10 mg/l carbonaceous biochemical oxygen demand (CBOD₅), 15 mg/l total suspended solids (TSS), 2 mg/l ammonia-nitrogen (NH₃-N), 5 mg/l dissolved oxygen (DO), and no set total phosphorus (TP) level limit.

CBOD₅ is the amount of dissolved oxygen consumed in five days by biological processes breaking down organic matter, but in which the contribution from nitrogenous bacteria has been suppressed. Essentially, CBOD₅ is a marker of how much waste has been left untreated during the wastewater treatment process. This results in the untreated waste being treated in the stream itself, which is a process that consumes oxygen, including the dissolved oxygen in the water that's used by fish and other aquatic life. A high level of CBOD₅ threatens the health of the aquatic life of the receiving waterbody and raises the chance of fish kills.

Total suspended solids are waterborne particles that are larger than 2 microns that float or “suspend” in water. A variety of particles can be considered suspended solids, including plankton, sand, and sediment. In some instances, algae and bacteria may also be considered total suspended solids. The impact total suspended solids have on water quality is associated with a waterbody's clarity. The higher the amount of total suspended solids present in a waterbody, the increased chance of lowering the waterbody's natural dissolved oxygen level and increasing its water temperature. These implications would threaten the survival of the high aquatic life that is present in Plum Creek, the receiving waterbody for the City of Kyle's WWTF's discharged effluent. Further, the increased levels of total suspended solids could block the needed sunlight that Plum Creek utilizes for photosynthesis; decreasing the survival of plants and further decreasing the waterbody's oxygen levels.

Lastly, phosphorus is a “limiting nutrient” in ecosystems, meaning the quantity of this nutrient controls the pace of algal and aquatic plant production. However, excess quantities of phosphorus, even in small amounts, can lead to eutrophication and harmful algal growth in a waterbody.

GEAA strongly encourages the adoption of a CBOD₅ limit of 5 mg/l, Total Suspended Solids limit of 5 mg/l, and a Total Phosphorus limit of 0.5 mg/l; **bringing the effluent discharge level to a 5mg/l CBOD₅, 5mg/l TSS, 2 mg/l NH₃-N, 0.50 mg/l TP, and a 5 mg/l DO maximum effluent discharge limit.**

B. Water Quality and Quantity Impacts: As stated in the amendment application, the discharged effluent will flow directly into Plum Creek, Segment No. 1810 of the Guadalupe River Basin at a maximum rate of 12,000,000 gallons per day. Since 2008, Plum Creek has been actively following strategies found in a United States Environmental Protection Agency (USEPA) sponsored watershed protection plan (WPP) to restore and protect the water quality of Plum Creek. According to the Plum Creek WPP¹, water quality data dating back to 1998 indicated *E. coli* levels were not meeting Texas water quality standards for

¹Berg, Matt, et al. Plum Creek Watershed Partnership, College Station, TX, 2008, pp. 1–170, Plum Creek Watershed Protection Plan.

recreation use. Further, a 2022 Plum Creek WPP update² revealed that the upper, middle, and lower reaches of Plum Creek are still not meeting water quality standards for *E. coli*, and are listed in the Texas Commission on Environmental Quality's (TCEQ) Integrated Report; a biannual report indicating the water quality status of Texas' natural waters.

The 2022 Plum Creek WPP update also showed that Plum Creek is currently receiving treated wastewater discharge from 23 outfalls that are associated with 18 different TPDES permits across the watershed area (with three permits still pending). From these outfalls, prior to the potential approval of this major amendment, Plum Creek has the potential to receive an approximate range of 9.8 – 19.8 million gallons of treated effluent. With the potential increase of treated effluent entering Plum Creek resulting from the City of Kyle WWTF's major amendment application, GEAA would have serious concerns about the overall environmental integrity of stability of Plum Creek and threatened the success of meeting the implementation goals of the Plum Creek WPP.

C. City of Kyle WWTF Violations: A 2020 report developed by the Save Barton Creek Association (SBCA)³, a GEAA member organization, examined 48 wastewater treatment plants that had TPDES permits across 17 counties that made up the Texas Hill Country. Examining the pollutant monitoring data, a requirement for all TPDES permit holders to keep and submit data records to TCEQ, from January 2017 – June 2020, SBCA examined two key statistics:

1. The number of effluent exceedances that a WWTF reported during this study period, and
2. The number of days with exceedances a WWTF experienced.

When examining the City of Kyle's WWTF pollutant monitoring data, it was reported this WWTF experienced 65 instances of discharged effluent exceedances totaling a number of 833 days. SBCA ultimately gave the City of Kyle's WWTF a letter grade of "F" based on the number of days with effluent exceedances during the study period; A = 0 days, B = 1-50 days, C = 51-500 days; F = more than 500 days. With this report's findings, GEAA has serious concerns regarding the WWTF's capability of ensuring compliance and protecting the water quality and quantity of Plum Creek.

D. Incorporation of Beneficial Reuse: Examining the application paperwork, the City of Kyle WWTF application does not include any capacity to conduct beneficial reuse, which would reduce the risk of promoting environmental harm to Plum Creek and the surrounding watershed areas. Accordingly, GEAA urges the City of Kyle Company to utilize a "One Water" approach for their wastewater treatment system, incorporating beneficial reuse of effluent (to the extent possible), thereby eliminating the need to discharge effluent into Plum Creek. In the event the City of Kyle is unable to reuse all the wastewater generated, it is GEAA's recommendation that the remaining amounts be land applied, with the City of Kyle purchasing the necessary land for such and obtaining the requisite Texas Land Application Permit (TLAP) from TCEQ.

GEAA understands the need to support the local Kyle, TX community as this area continues to grow and becomes more urbanized. Further, we understand the costs associated with these environmentally-

²Plum Creek Watershed Partnership. Plum Creek Watershed Partnership, College Station, TX, 2022, pp. 1–83, *2022 Update to The Plum Creek Watershed Protection Plan*.

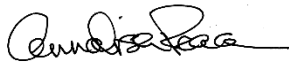
³Zabcik, Brian. Save Barton Creek Association, Austin, TX, 2022, pp. 1–41, *Pristine to Polluted: Sewage Problems & Solutions in the Texas Hill Country*.

friendly solutions to wastewater discharge. We would encourage the City of Kyle to examine external funding opportunities to fund such solutions. Some funding opportunities that could assist in implementing these strategies include funding programs offered by the Texas Water Development Board (TWDB), and the new infrastructure funding from the Federal Government.

The TCEQ has previously stated that in evaluating wastewater permits, they consider baseline conditions in the receiving stream, the physical and hydrological characteristics of the stream, waterbody uses, and the associated water quality standards that protect those uses. We trust that the TCEQ will consider the stated factors when implementing the City of Kyle's major amendment TPDES application and will adopt standards that are in line with others in Central Texas.

Thank you for the opportunity to submit these comments.

Sincerely,



Annalisa Peace
Executive Director
Greater Edwards Aquifer Alliance



Nathan Glavy
Technical Director
Greater Edwards Aquifer Alliance