

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 28, 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: Comments and Contest Case Hearing Request Regarding the Application of
Greenwood Ventures LLC. for TPDES Permit No. WQ0016148001

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

1. **Background.** Greenwood Ventures Group LLC, 101 Parklane Boulevard, Suite
102, Sugar Land, Texas 77478, has applied to the Texas Commission on
Environmental Quality (TCEQ) for new Texas Pollutant Discharge Elimination
System (TPDES) Permit No. WQ0016148001, to authorize the discharge of treated
domestic wastewater at a daily average flow not to exceed 975,000 gallons per day

The facility will be located approximately 1.87 miles southwest of the intersection
of County Road 214 and U.S. Highway 183, in Caldwell County, Texas 78644. The
treated effluent will be discharged to an unnamed tributary, thence to a second
unnamed tributary, thence to West Fork Plum Creek, and thence to Plum Creek in
Segment No. 1810 of the Guadalupe River Basin. The unclassified receiving water
uses are minimal aquatic life use for unnamed tributary and limited aquatic life use
for West Fork Plum Creek (intermittent with pools), and high aquatic life use for
West Fork Plum Creek (perennial). 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 protecting and preserving 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
application of Greenwood Ventures Group LLC.

GEAA's members have serious concerns regarding the permit application and draft
permit, and regarding the degradation of 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 an unnamed tributary, thence to a second unnamed tributary, thence to West Fork Plum Creek, thence 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 draft permit currently depict a phased approach for effluent discharge levels as the construction of the Lockhart Landing Wastewater Treatment Facility (WWTF) occurs, with the applicant being granted effluent 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), and 1 mg/l for total phosphorus (TP).

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.

TSS 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, a receiving waterbody for the Lockhart Landing 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, a 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, and 0.50 mg/l TP maximum effluent discharge limits.**

B. Water Quality and Quantity Impacts: As stated in the application, the discharged effluent from an unnamed tributary, thence to a second unnamed tributary, thence to West Fork Plum Creek, thence to Plum Creek in Segment No. 1810 of the Guadalupe River Basin at a maximum rate of 975,000 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 recreation use.

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

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 Greenwood Ventures LLC. application, GEAA would have serious concerns about the overall environmental integrity and stability of Plum Creek and threatened the success of meeting the implementation goals of the Plum Creek WPP.

C. Disinfectant Method: The application indicates that Greenwood Ventures LLC. will be utilizing chlorine contact chambers as a means of disinfectant to further treat the effluent from the Lockhart Landing Wastewater Treatment Facility. We urge the disinfectant method to be changed to an ultraviolet light disinfectant. Ultraviolet light disinfectant treatment requires less space and is a physical process (rather than a chemical process) that has no residual effect that could harm humans or aquatic life.

All forms of chlorine are highly corrosive and toxic, and chlorine residuals could cause negative impacts on aquatic life. Further, chlorine residuals are unstable in the presence of high concentrations of chlorine-demanding materials (BOD). This would require wastewater with high BOD concentrations to be treated with high chlorine doses for adequate disinfection, increasing the likelihood of hazardous compounds such as trihalomethanes.

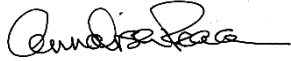
D. Incorporation of Beneficial Reuse: Examining the application paperwork, the Greenwood Ventures LLC. application does not include any capacity to conduct beneficial reuse, which would reduce the risk of promoting environmental harm to Plum Creek and the surrounding watershed areas. Accordingly, GEAA urges Greenwood Ventures LLC. 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 that Greenwood Ventures LLC. is unable to reuse all the wastewater generated, it is GEAA's recommendation that the remaining amounts be land applied, with Greenwood Ventures LLC. purchasing the necessary land for such and obtaining the requisite Texas Land Application Permit (TLAP) from TCEQ.

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 Greenwood Ventures LLC. TPDES application and will adopt standards that are in line with others in Central Texas.

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

Thank you for the opportunity to submit these comments.

Sincerely,



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Greater Edwards Aquifer Alliance



Nathan Glavy
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Greater Edwards Aquifer Alliance



Mike Clifford
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