



Securing Safe Drinking Water for Texans

First Edition, Fall 2018



The University of Texas at Austin
Environmental Clinic
School of Law

TEXAS | **ACCESS to JUSTICE**
FOUNDATION

Acknowledgments

Thank you to the many people and organizations that provided information and assistance in developing this guide, including: staff at the Texas Commission on Environmental Quality, the Texas Water Development Board, and the Texas Public Utility Commission; Amy Dinn and the interns at Lone Star Legal Aid; Amy Johnson and Texas Rio Grande Legal Aid; Mark Oualline and the Legal Aid of NorthWest Texas; Adam Pirtle and Texas Housers; Mark Pearson and Communities Unlimited; and Kathryn Kalinowski and Sarah Beach at University of Texas School of Law.

To learn more about the Environmental Clinic, please visit our website at <https://law.utexas.edu/clinics/environmental/> or call (512) 232-2574.

This Guide is by no means a comprehensive description of drinking water laws in Texas. As a result, while every effort has been made to make these materials as accurate as possible, these materials are not to be used as a substitute for the advice of an attorney. Persons reviewing this Guide should not act upon the information without seeking the advice of an attorney.

This Guide does not represent the official position of The University of Texas School of Law or The University of Texas. The information provided reflects only the opinions of the individual author and the Environmental Clinic.

THE UNIVERSITY OF TEXAS SCHOOL OF LAW

Kelly Haragan, Clinical Professor
Lauren Loney, Legal Fellow

Environmental Clinic
727 East Dean Keeton Street
Austin, Texas 78705
(512) 232-2574

Table of Contents

SECURING SAFE DRINKING WATER IN TEXAS

The Safe Drinking Water Act	2
Maximum Contaminant Level Goals.....	2
Primary Drinking Water Standards.....	2
Secondary Drinking Water Standards.....	3
Unregulated Contaminants	3
Drinking Water Regulation in Texas	4
Texas Commission on Environmental Quality (TCEQ)	4
Texas Public Utility Commission (PUC)	4
Texas Water Development Board (TBWD)	4
Drinking Water Quality in Texas.....	4
Arsenic.....	6
Nitrate.....	6
Fluoride	6
Radionuclides.....	6
Disinfection Byproducts.....	7
Lead and Copper.....	7
Compliance Challenges for Small Drinking Water Systems	8
Securing Safe Drinking Water	8
Determine Whether the Water System is Violating the SDWA	8
Connect the Public Water System To State and Federal Resources.....	11
Request Regulatory Agency Enforcement Action	14
File a Safe Drinking Water Act Citizen Suit Enforcement Action	16
Design a Remedy for Resolving Drinking Water Violations	17
Case Study: Drinking Water Cleanup at Lubbock Area Mobile Home Parks.....	21
Conclusion	22
Appendix 1. Secondary Drinking Water Standards and Secondary Constituent Levels.....	24
Appendix 2. Unregulated Contaminant List (2016).....	25
Appendix 3. Unregulated Contaminants of Concern	26
Appendix 4. Online Safe Drinking Water Databases.....	28
Appendix 5. Community Water Quality Sampling.....	33
Appendix 6. Sample Water Quality Data Log	35
Appendix 7. Sample Community Water Quality Survey.....	36
Appendix 8. Funding Sources for Public Water Systems	39
Appendix 9. Safe Drinking Water Act Citizen Suit Sample Documents.....	43
Appendix 10. Public Water System Classification, Jurisdiction, and Funding.....	99
List of Tables	
Table 1. Disinfection Byproduct Maximum Contaminant Levels.....	7
Table 2. Texas Commission on Environmental Quality Public Notices Rules.....	9
Table 3. Resources to Improve Public Water System Technical and Managerial Capacity	12
Table 4. Drinking Water Treatment Technology Resources	19

Securing Safe Drinking Water In Texas

The majority of public water systems in Texas are in compliance with contaminant standards and reporting requirements. However, hundreds of public water systems are supplying their customers with water containing unsafe levels of contaminants and have been for years. These systems are frequently, though not always, small systems in rural areas of the state.¹

This guide is intended to provide information about what constitutes safe drinking water, how to determine if a public water system is in compliance with health-based standards, and what actions communities and advocates can take to make their water safe to drink.

THE SAFE DRINKING WATER ACT

The federal Safe Drinking Water Act (SDWA) requires the U.S. Environmental Protection Agency (EPA) to establish national standards to prevent the public from drinking water that presents a risk to human health.² Public water systems must comply with the national standards and may also be required to comply with more stringent state standards.

What is a Public Water System?

A public water system (PWS) is “a system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or serves at least 25 people for at least 60 days each year.”³ There are three types of public water systems in Texas: (1) community, (2) non-transient non-community (schools or factories), and (3) transient non-community (parks, rest stops, or restaurants). Approximately 67% of public water systems are classified as community.⁴

Maximum Contaminant Level Goals:

In setting drinking water standards, EPA first determines the Maximum Contaminant Level Goal (MCLG). This is the maximum level of a contaminant in drinking water at which no known or anticipated adverse effects on health would occur, allowing an adequate margin of safety.⁵ MCLGs are goals and are not federally enforceable.

Primary Drinking Water Standards:

Using the MCLG as a baseline, EPA next establishes Primary Drinking Water Standards, which are mandatory limits that set the maximum amount of a contaminant that is allowed in drinking water.⁶ The Primary Drinking Water Standards take the form of either Maximum Contaminant Levels (MCLs) or treatment techniques. A Maximum Contaminant Level sets a numeric limit on the permissible amount of a contaminant in water delivered to users by a PWS.⁷ The MCLs are set as close to the MCLGs as EPA determines is feasible, taking costs into consideration.⁸

The EPA has established MCLs for over 90 contaminants.⁹ The SDWA requires EPA to review its MCLs at least every six years and to revise them “as appropriate.”¹⁰ Revised MCLs must maintain or provide greater protection of public health than the existing MCLs.¹¹

EPA sets a treatment technique rather than an MCL in situations where the agency determines it is not economically or technically feasible to set an MCL or to monitor for the contaminant at sufficiently low levels to protect health.

A treatment technique is an enforceable procedure or level of technological performance that public water systems must follow to ensure control of a contaminant. Examples include the Lead and Copper Rule, which focuses on controlling corrosion in pipes rather than establishing an MCL for lead, and the Surface Water Treatment Rule, which requires certain types of disinfection and filtration to remove bacterial contaminants rather than setting MCLs for specific types of bacteria.¹³

Secondary Drinking Water Standards:

EPA has also set Secondary Maximum Contaminant Levels for 15 contaminants.¹⁴ These are standards for contaminants that are not thought to present a risk to human health. They are guidelines to assist systems in addressing taste, color, odor, and other aesthetic and cosmetic issues and are generally not mandatory under federal law.¹⁵

States can, however, choose to create enforceable secondary standards, and Texas has made its Secondary Constituent Levels enforceable.¹⁶ If a Texas PWS cannot comply with the Secondary Constituent Levels, the water cannot be used for public drinking water without written approval of the Texas Commission on Environmental Quality's Executive Director.¹⁷

See Appendix 1 for a list of Secondary MCLs and Texas' Secondary Constituent Levels.

Unregulated Contaminants:

Every 5 years the SDWA requires EPA to publish a list of contaminants that are known or anticipated to occur in public water systems and that may require future regulation. EPA can require public water systems to monitor for up to 30 of these contaminants.¹⁸ On December 20, 2016, EPA issued the Unregulated Contaminant Monitoring Rule 4 (UCMR 4), which lists 30 contaminants that certain public water systems must monitor between 2018 and 2020.¹⁹ EPA is required to make a determination whether or not to regulate at least five of the contaminants on its list every five years. It is notable that EPA has not issued regulations for a new contaminant under the SDWA in over 20 years. A description of some of the unregulated contaminants that present health concerns is included in Appendix 3.

Setting Maximum Contaminant Levels

EPA must conduct an economic analysis when determining MCLs. The Administrator must find that the MCL "is economically and technologically feasible to ascertain."¹² The economic analysis is a cost-benefit analysis that considers factors such as:

- Costs of installing and operating the removal technologies
- Costs of monitoring and testing water
- Expected increase of water bills for customers
- Benefit of the avoided infrastructure damages
- Economic value of health and welfare improvements
- Improved taste or odor of the water
- Reduced number of boil water events

DRINKING WATER REGULATION IN TEXAS

There are two state agencies that share primary responsibility for regulating drinking water in Texas. The Texas Commission on Environmental Quality has received authority from EPA to implement the SDWA drinking water quality program in Texas.²⁰ The Texas Public Utility Commission is responsible for regulating public water utilities and ensuring they have the capacity to provide the necessary level of service to consumers.²¹ A third agency, the Texas Water Development Board, monitors the quality of Texas' source waters and provides drinking water funding.

Texas Commission On Environmental Quality (TCEQ)

Before anyone can begin construction of a PWS, TCEQ must determine that the system is financially stable and technically sound and can supply adequate quantities of safe drinking water.²² The agency is responsible for ensuring that systems operate in compliance with TCEQ rules, including MCLs, conduct required monitoring, and provide required public notifications. TCEQ is required to conduct its own Comprehensive Compliance Investigation (CCI) of each community public water system every three years.²³

The agency also maintains the Texas Drinking Water Watch (TDWW) website, which publishes PWS sampling results and compliance status,²⁴ as well as annual compliance reports that provide an overview of each public water system's characteristics and compliance status.²⁵

Texas Public Utility Commission (PUC)

The PUC also plays a role in providing consistent and safe drinking water to consumers by requiring most public water systems to apply for and receive a Certificate of Convenience and Necessity (CCN) prior to beginning service.²⁶ Any entity that is required to possess a CCN must provide "continuous and adequate service to every customer," and the PUC has authority to require CCN holders to take actions to ensure adequate service.²⁷

Texas Water Development Board (TWDB)

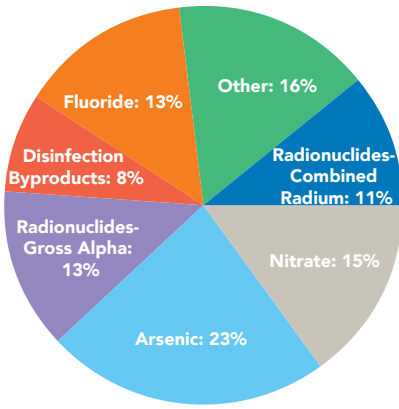
The TWDB is responsible for water planning, monitoring the quality of ground and surface waters, creating reports on water quality and availability, and administering major water infrastructure funding programs.²⁸

DRINKING WATER QUALITY IN TEXAS

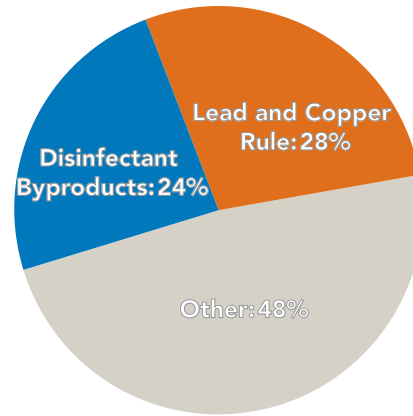
While most Texas public water systems are in compliance with the MCLs, there are certain health-based standards that are more commonly violated throughout the state. In 2017, there were a total of 1,078 MCL violations not returned to compliance, 83% of which were for the following contaminants: arsenic (23%), nitrate (15%), fluoride (13%), radionuclides (Gross alpha (13%) and Combined Radium (11%)), and the disinfection byproduct TTHM (8%).²⁹ For some public water systems, levels of pollutants exceeding the MCLs have persisted for years.

Additionally, while 83% of public water systems in Texas complied with the major monitoring and reporting requirements in 2017, the most frequent reporting and monitoring violations were for the Lead and Copper Rule (28%) and disinfection byproducts (24%).³⁰

Some of the more common MCL violations are due to contaminants that exist naturally in a public water system's source water, such as arsenic and radionuclides. Other common contaminants, such as nitrate, are naturally occurring but can also be introduced to source water as a result of industrial or agricultural activities. Finally, some contaminants, like disinfection byproducts, are not present in source water but are instead introduced through drinking water treatment or management.



Most Common Maximum Contaminant Level Violations by Contaminant



Most Frequent Reporting and Monitoring Violations

Programs for Protecting Source Water

- Sole Source Aquifer Protection Program:** The Sole Source Aquifer Protection Program allows EPA to designate certain aquifers as the “sole or primary” drinking water source for an area. A sole source aquifer is one which supplies at least 50% of the drinking water to a service area and for which there is no alternative if the aquifer becomes contaminated.³¹ If EPA designates an aquifer as a sole source aquifer, federal funding cannot be used for any project that might contaminate the aquifer. In Texas, the only sole source aquifer is the Edwards Aquifer, which supplies the city of San Antonio.
- Source Water Assessment and Protection Program:** The TCEQ is required by the SDWA to assess every public drinking water source for susceptibility to certain chemical contaminants. PWS can participate in a voluntary program to use the source water susceptibility assessment reports to implement local source water protection projects.³² TCEQ maintains a mapping tool that includes PWS wells and intakes, potential sources of contamination, and contributing zones.³³
- Drinking Water State Revolving Fund:** The SDWA authorizes states to use their Drinking Water State Revolving Fund to provide loans to a public water system to purchase land or a conservation easement for the purpose of protecting a source water from contamination, or to implement any local, voluntary source water protection measures.³⁴

Additional information is included below about the contaminants that most frequently exceed the MCLs in Texas’ public water systems, the common sources of these contaminants, and their potential health impacts.

Arsenic

Naturally-occurring arsenic can leach into water from rocks and soil. Arsenic can also enter source waters through discharges from copper smelting, mining, coal burning, or pesticide use in agriculture.³⁵ Although most groundwater sources have less than 0.001 mg/L of arsenic, it is not uncommon for groundwater sources in Texas to have natural levels of arsenic that are higher than the current MCL, which is 10 mg/L.³⁶ Arsenic levels exceeding 10 mg/L have been found in the Ogallala Aquifer in the Southern High Plains, various aquifers in West Texas, and in the Gulf Coast aquifers.³⁷

Shorter term exposure to acute levels of arsenic (over 60 mg/L) can be deadly and high dose oral exposure to arsenic may cause nausea, vomiting, diarrhea, cardiovascular effects and encephalopathy. Chronic, long-term exposure to arsenic has been linked to skin and other cancers; can lead to diabetes, anemia, and liver disease; and can cause adverse cardiovascular, pulmonary, and neurological effects. Additionally, arsenic exposure can cause skin lesions and hyperkeratosis of the hands and feet.³⁸

Nitrate

Nitrate is another contaminant commonly found in groundwater sources in Texas. Nitrogen is deposited in soils through decomposing plant and other organic matter (e.g., animal waste) or inorganic nitrogen fertilizers. Any nitrate not taken up from the soil by plants readily leaches into aquifers.³⁹ The MCL for nitrate is 10 mg/L. Nitrate levels exceeding the MCL have been found in 24 of Texas' 31 major and minor aquifers, including the Ogallala, Edwards-Trinity, and High Plains Aquifers.⁴⁰

The adverse health effects of excess nitrate exposure are seen primarily in infants less than 1 year of age in whom nitrate is quickly converted into nitrites, resulting in methemoglobinemia, a condition that limits the transport of blood oxygen.⁴¹ This process can cause potentially fatal "blue baby syndrome."⁴² Older children and adults are much less susceptible to methemoglobinemia unless the nitrate levels are very high, between 100 and 200 mg/L.⁴³

Fluoride

Fluoride is naturally occurring in soils, rocks, and groundwater.⁴⁴ Groundwater in West Texas and in North Central Texas has high levels of fluoride, and concentrations have been increasing since the 1960s.⁴⁵ Fluoride is also commonly added to drinking water to promote dental health.

While low levels of fluoride may be beneficial for dental health, exposure to slightly higher levels can have harmful health impacts.⁴⁶ The Primary MCL for fluoride is 4 mg/L, while the Secondary MCL is 2 mg/L. Fluoride is the only contaminant for which the SDWA requires notice to consumers if the Secondary MCL is exceeded. The World Health Organization recommends an even lower limit of 1.5 mg/L to avoid health impacts. Once ingested, fluoride is retained in calcium-rich parts of the body, including teeth and bones. Elevated levels of fluoride can cause dental fluorosis, resulting in the staining and pitting of teeth and crippling skeletal fluorosis.⁴⁷ Recent studies have also suggested possible impacts on neurodevelopment.⁴⁸

Radionuclides

Naturally occurring radionuclides in rocks and clays can transmit radioactive isotopes to groundwater.⁴⁹ For radium, the MCL has been set at 5 pCi/L (picocuries per liter, a unit of measurement for levels of radiation). The MCL for gross alpha radiation is 15 pCi/L. Levels of gross alpha radioactivity over the MCL have been found in 22 of the 31 major and minor aquifers in Texas.⁵⁰ The Hickory Aquifer in Central Texas, Ogallala Aquifer in North Texas, and the northern portion of the Gulf Coast Aquifer are the source waters for most of the public water systems with elevated radionuclide levels.⁵¹

Exposure to relatively high levels of radionuclides in drinking water over long periods of time may cause serious health problems, such as cancer, anemia, osteoporosis, cataracts, bone growths, kidney disease, liver disease, and impaired immune systems.⁵²

Disinfection Byproducts

Disinfection byproducts are formed when disinfectants, such as chlorine, are added to the drinking water supply and subsequently react with the organic matter found in untreated drinking water. While disinfection has drastically reduced incidences of waterborne illnesses due to the presence of pathogens (such as *E. coli*), long term exposure to the byproducts of the disinfection process may cause their own adverse health effects, such as an increased risk of certain cancers and harm to the liver, kidneys, and central nervous system.⁵³ Therefore, while surface water in particular must be disinfected, public water systems are shifting to disinfectant treatments that reduce disinfection byproducts.

The SDWA sets Maximum Residual Disinfectant Levels for chlorine (4 mg/L), chloramines (4 mg/L), and chlorine dioxide (0.8 mg/L) and set MCLs for four disinfection byproducts: (1) total trihalomethanes ("TTHMs"), (2) total haloacetic acids ("HAA5s"), (3) bromate, and (4) chlorite.⁵⁴

Disinfection Byproduct	MCL (mg/L)
Total Trihalomethanes ("TTHMs")	0.08
Total Haloacetic ("HAA5s")	0.06
Bromate	0.01
Chlorite	1.0

Lead And Copper

There is no safe level of lead exposure in children. Exposure to even low levels of lead can cause learning disabilities, lower IQ, shorter stature, impaired hearing, and behavioral problems in children.⁵⁵ Lead can also harm developing fetuses and cause increased blood pressure and hypertension, decreased kidney function, and reproductive problems in adults.⁵⁶ Lead typically enters drinking water when lead and copper plumbing materials, commonly used prior to 1986, begin to corrode. Although exposure to lead through drinking water has been dramatically reduced, EPA estimates that there are still 6.5-10 million homes served by lead drinking water lines across the nation.⁵⁷

As noted above, lead is subject to a treatment technology standard, rather than an MCL. EPA's rules require sources to monitor for lead and set an action level that is triggered if more than 10% of tap water samples collected during the monitoring period exceed 0.015 mg/L.⁵⁸ If the lead action level is triggered, a PWS must take additional steps to reduce lead exposure. Those steps include additional treatment techniques to minimize pipe corrosion, educating consumers about the impacts of consuming lead, and/or replacing of service lines owned by the PWS.⁵⁹

Monitoring must be conducted according to a monitoring plan that prioritizes sampling from at-risk single family homes, which are defined as those that (1) are served by a lead service line, (2) contain copper pipes with lead solder installed between 1983 and 1988, or (3) contain lead pipes.⁶⁰ Every six months, TCEQ releases a list of systems required to conduct lead and copper monitoring.⁶¹

Public water systems must initially monitor for lead and copper in customers' tap water every six months. The monitoring schedule can be reduced for systems that meet certain lead levels below the lead action level for multiple, consecutive monitoring periods. Systems may be eligible to reduce the monitoring schedule to testing annually, every three years, or every nine years.⁶²

COMPLIANCE CHALLENGES FOR SMALL DRINKING WATER SYSTEMS

Most Texans are served by water systems with over 10,000 customers. However, Texas has a substantial number of people served by small and very small public water systems, which are those serving fewer than 3,300 people.⁶³ In 2017, 12% of Texas' public water systems were classified as small or very small, collectively serving approximately 3.24 million residents.⁶⁴ While SDWA violations occur at all sizes of public water systems, a majority of violations in Texas occur at small water systems, which face unique challenges in ensuring continuous SDWA compliance.⁶⁵

The primary challenge is cost. These systems' small customer base can make it difficult to earn sufficient revenue to fund the technical, managerial, and financial duties necessary to maintain compliance with drinking water rules.⁶⁶ These economy of scale issues negatively impact the customers as well. A small PWS may have to charge substantially higher water rates per capita in order to generate the revenue necessary for SDWA compliance, making it challenging for low-income residents to afford drinking water.

Feasibility studies conducted on 91 small public water systems in Texas indicate that the studied systems would have to incur significant costs to become compliant with the SDWA.⁶⁷ These feasibility studies, a joint effort between TCEQ and the University of Texas Bureau of Economic Geology, suggest that compliance would require capital costs between \$40,000 and \$4 million, depending on the PWS.

As explained below, however, there are financial and technical resources specifically targeted to help small systems, including principal-forgiveness loans and grants. Additionally, resources are available to help systems that would like to consolidate and share source water, distribution and treatment systems, and/or management and billing systems.

SECURING SAFE DRINKING WATER

Communities lack access to safe drinking water for a wide variety of reasons. Likewise, there are various actions a community can take to help bring its PWS into compliance. While legal action may force a PWS to address noncompliance, in the case of small systems in low-income communities, legal action may not be the best first option. Protracted litigation can draw down PWS funds that might otherwise be used to upgrade the system.

If a public water system's noncompliance is due primarily to a lack of expertise or the lack of adequate control technologies and the PWS operator is willing, community members could try to connect the PWS with the resources discussed below. If a PWS operator is recalcitrant, legal action by the community or an agency may be necessary to force a remedy.

Determine Whether The Drinking Water System Is Violating The SDWA

The first step in assisting any community with drinking water concerns is to determine whether the PWS is in compliance. Many of the contaminants that will negatively affect human health and welfare cannot be seen, tasted, or smelled, and those contaminants that do cause the water to smell bad or change color may not present health risks. Community members may not know if they are consuming unsafe water, and should consult resources described below to determine their public water systems' compliance status.

The safety of drinking water depends both on the level of the contaminant and the length of exposure to elevated levels of the contaminant. Some contaminants, even at low levels, may present an acute risk because short term exposure creates a threat to public health. Other contaminants may present a threat only if there is long term exposure. It is important to determine whether levels of contaminants in the water create risks from short-term exposure or whether the health threats are present only if there is long-term exposure.

Review Notices And Reports Provided By The Public Water System

Information about PWS compliance and the health risks associated with any contaminants present in drinking water should be included in notices provided to consumers. Public water systems must notify consumers of SDWA violations and of other drinking water-related health risks. Notices must be sent to customers within 24 hours, 30 days, or 1 year, depending on the type of violation and level of threat to public health.⁶⁸

The notices must use clean, non-technical language to explain the violations or reasons for the notice and must be multilingual “where appropriate.”⁶⁹ The notice must include: contact information for the PWS, dates of violations, a description of any potential adverse health effects, any actions taken by the PWS to return to compliance, and whether consumers should use alternative drinking water sources or take other actions to protect their health.⁷⁰

Table 2: Texas Commission on Environmental Quality Public Notice Rules⁷¹

Type of Violation	Description	Notice	Examples
Tier 1: Health-Based Acute	Health-based violations that have the potential to cause immediate illness	As soon as possible, within 24 hours; notice by radio, TV, newspaper, direct delivery, posting, or alert system; may include a boil water notice	Violations of <i>E. coli</i> , nitrate or nitrite MCL; violation of acute MRDL for chlorine dioxide; or waterborne disease outbreak
Tier 2: Health-Based Non Acute, including lead action level violations	Health-based violations of MCLs or treatment techniques	Within 30 days; mail or direct delivery; other “as necessary” to reach all consumers; may include a boil water notice	Violations of MCL, MRDL, or treatment technique not considered acute; lead exceeding the action level; failure to implement optimal corrosion control or necessary surface-water treatment
Tier 3: Monitoring, Public Notice, Other	Failure to conduct required sampling or to report results to TCEQ; failure to notify its customers as required; violations related to variances and exemptions	Within 1 year after PWS learns of the violation; mail, direct delivery, publish in local newspaper, electronic delivery, alert system	Exceedance of secondary constituent level for fluoride; failure to maintain proper records of repeat samples; failure to provide notice of availability of unregulated contaminant monitoring; failure to conduct lead monitoring

In addition, all community public water systems (those that serve the same population year-round) must supply their customers with an annual Consumer Confidence Report (“CCR”), which includes information about: the source(s) of the system’s water, any chemical or bacteriological contaminants detected, compliance status, any possible health impacts, any variances claimed, the public water system’s contact information, and details regarding public participation opportunities (e.g., board meeting scheduling).⁷² The CCR must be mailed or directly delivered to each bill paying customer by July 1 of each year and, for systems serving 100,000 or more people, the report must be posted online.⁷³

Access Compliance Information From Online Databases

Additional information about public water system violations, source water, and compliance status is available online through TCEQ, EPA, and the PUC. To access relevant drinking water information a community will need to know the name of its public water system. They can find the name by looking at individual water bills, by using the PUC’s utilities mapping tool, or by searching the PUC’s Find A Water Utility website.⁷⁴

The databases described below can then be used to obtain information useful for evaluating the extent of any PWS noncompliance and whether or not actions (such as agency enforcement) have been taken that may bring the PWS back into compliance.⁷⁵

- **TCEQ’s Texas Drinking Water Watch (TDWW):**

TDWW is a searchable database of all public water systems in Texas. It includes: the population served, treatment processes, sample results, violations, compliance schedules, assistance actions, and enforcement actions. TDWW provides the most current information about PWS compliance status and monitoring.

- **EPA’s Safe Drinking Water Information System (SDWIS)**

SDWIS is an easily searchable resource that has violation and enforcement data for all public water systems in the United States for the last 10 years.⁷⁶ EPA obtains the information presented on SDWIS from each state. TCEQ sends updates to the SDWIS quarterly, so some information on SDWIS may be slightly outdated. Information available on SDWIS includes: the PWS owner, source water, number of connections served, and the system’s compliance history.

- **EPA’s Enforcement and Compliance History Online (ECHO) Database**

ECHO is not limited to SDWA information. It includes permit data; inspection dates and findings; violations; enforcement actions; and penalties assessed for air, water, and hazardous waste permit holders.⁷⁷

Detailed instructions for searching the databases listed above are included in Appendix 4.

Citizen-Collected Drinking Water Quality Information

Water sampling may be needed if there are no reported PWS violations but a community believes its water is unsafe, or if the PWS has failed to conduct required monitoring. Communities can conduct their own water sampling and take the samples to a lab for analysis.

TCEQ maintains two lists of water quality testing laboratories: one for approved labs and one for accredited labs. Approved laboratories are those which use methods approved by TCEQ for analyzing water for certain analytes.⁷⁸ Accredited laboratories are those that use analysis methods that meet the national standards established by the National Environmental Laboratories Accreditation Program (NELAP).⁷⁹ In order for TCEQ to use a client’s water sampling results as part of a TCEQ enforcement action, the sampling must be conducted at a NELAP-accredited laboratory.

In addition, the sampling must be conducted according to TCEQ protocols, and the person doing the sampling must submit a notarized affidavit and may be asked to testify about the sampling in any enforcement action.⁸⁰ Although sampling done at approved (but not NELAP-accredited) laboratories cannot be used in a TCEQ enforcement action, it can still provide useful information for community education and, perhaps, for persuading TCEQ to do its own testing. See Appendix 5 for more information on how to conduct drinking water quality testing.

In addition to water testing, community members can create data logs that document problems with or changes in odor, color, taste, and clarity of their water. Communities can also document issues such as leaky pipes, poor water pressure, unkempt areas near the water treatment facility or wellhead, and/or the PWS owner or operator's failure to communicate with customers. See Appendix 6 for a sample data log. Finally, a community group may want to circulate a survey to see how many people in the area are experiencing problems with their water and whether the problems are similar. See Appendix 7 for a sample community survey.

Connect The Public Water System To State And Federal Resources

In some cases, particularly with small public water systems, owners may lack the technical, financial, or managerial capacity to remain in compliance with the SDWA. Where such an owner wants to remedy the public water system's noncompliance, community members can work with the owner to connect the PWS to state and federal resources that are available to assist in compliance efforts.

There are many free resources available, including training programs and on-site technical and managerial assistance as well as grants and loans for infrastructure improvements. Example programs are included in Table 3.

In addition to the programs listed in Table 3, there are funding programs to assist public water systems, each with different eligibility requirements for both applicants and project types. Below is a summary of the most common funding opportunities for public water systems. Additional funding resources are listed in Appendix 8.

Table 3: Resources to Improve Public Water System Technical and Managerial Capacity

Program	Resources
TCEQ’s EnviroMentor Program ⁸¹	Connects private-practice professionals with public water systems that need technical or legal expertise on environmental issues. This service is free as long as the PWS: (1) has 100 or fewer employees, is a local government, or is a small school; (2) cannot afford to hire a consultant; and (3) is committed to complying with state rules by correcting violations as soon as possible.
TCEQ’s Financial, Managerial, and Technical Assistance (FMTA) Program ⁸²	Provides free assistance to public water systems in five areas: (1) onsite assistance for addressing operational difficulties, (2) capacity assessment, (3) consolidation assessment, (4) technical training, and (5) funding assistance.
Public Utility Commission’s Assistance Program ⁸³	Provides free financial, managerial, and technical assistance to public water systems that are struggling to stay compliant with the SDWA and other regulations.
Communities Unlimited ⁸⁴	One of six partner organizations that works under the umbrella of the national Rural Community Assistance Program to provide on-site technical assistance, training, and loans for small, rural public water systems that are struggling to meet regulatory health standards.
Texas Rural Water Association ⁸⁵	An educational and trade association representing rural water utilities across the state that provides technical assistance for small systems on issues including: consolidation, rate changes, funding sources, TCEQ reporting requirements, and development of monitoring plans. TRWA also provides legal assistance to its members and maintains an extensive library of sample legal documents, including sample contracts and service policies, although some require a small fee for access.
EPA’s Water Infrastructure and Resiliency Finance Center ⁸⁶	Portal to numerous resources for drinking water and wastewater infrastructure, including on-site training and technical assistance, financial planning, and capacity development planning, including consolidation feasibility and rate setting.

Texas Water Development Board (TWDB) Funding:

The TWDB is the primary drinking water funding agency in Texas and it administers several funds, each with its own applicability criteria and funding priorities. Public water systems organized as Investor Owned Utilities (IOUs) are only eligible for a maximum principal-forgiveness loan of up to \$300,000 from the Drinking Water State Revolving Fund and are ineligible for other sources of funding. See Appendix 10 for a description of different types of public water system entities.

- Drinking Water State Revolving Fund (DWSRF):** The DWSRF is authorized by the SDWA and provides low-cost loans for “planning, acquisition, design, and construction of water infrastructure.”⁸⁷ DWSRF grant money is available for publicly-owned and nonprofit water supply corporations (WSCs). For IOUs, DWSRF provides loan principal forgiveness

for very small public water systems, public water systems serving disadvantaged communities, green projects, and urgent projects.

- **Clean Water State Revolving Fund (CWSRF):** The CWSRF is authorized by the Clean Water Act and provides funding to cities, water districts, river authorities, designated management agencies, federally-recognized Indian tribes, and nonprofit WSCs. Although eligible CWSRF projects vary widely, those applicable to SDWA compliance are projects that focus on nonpoint source pollution abatement.⁸⁸
- **Texas Water Development Fund (“DFund”):** The DFund provides loans for water supply projects to eligible entities. Eligible entities include all political subdivisions of Texas and nonprofit WSCs.⁸⁹ Projects eligible for funding through the DFund include water quality enhancement; however, all projects must be consistent with the current state water plan.
- **Rural Water Assistance Fund (RWAF):** The RWAF provides funding for small rural utilities for water and wastewater projects. The funding is in the form of tax-exempt equivalent interest rate loans, which have interest rates lower than market rate.⁹⁰ Eligible entities are nonprofit WSCs, water districts, and municipalities either serving a population of less than 10,000 or sitting in a county in which no urban area has more than 50,000 residents. The RWAF Program will provide funding for a variety of water supply projects, including water treatment plants, well construction, and nonpoint source pollution abatement.⁹¹
- **State Water Implementation Fund for Texas (SWIFT):** The SWIFT program provides low-interest loans, extended repayment plans, and loan repayment deferral to fund projects by political subdivisions or nonprofit WSCs that are included in the most recently adopted state water plan.⁹² Applications are prioritized based on applicant characteristics, such as population size and demographic make-up of the community being served, local contributions, regionalization efforts, and the ability of the applicant to repay the loan. The SWIFT program provides funding for water management strategies, including conservation and reuse, developing new well fields, and building new pipelines, among others.

United States Department of Agriculture (USDA), Water and Waste Disposal Loan and Grant Program:

This program provides financial assistance to rural public water systems. Eligible applicants include state and local governmental entities, private nonprofits, and federally-recognized tribes.⁹³ IOUs are not eligible for USDA funding. USDA’s program provides low-interest loans and grants. The funds can be used for a variety of drinking water projects, including sourcing, treatment, storage, and distribution activities.⁹⁴

Environmental Protection Agency (EPA):

In addition to funding the CWSRF and DWSRF programs that are managed by the TWDB, EPA manages funds of its own.

- **US-Mexico Border Water Infrastructure Grant Program Project Development and Assistance Program:** This program funds and provides technical and staff assistance to underserved communities near the US-Mexico border who are attempting to implement drinking water projects.⁹⁵
- **Water Infrastructure Finance and Innovation Act of 2014 (WIFIA).⁹⁶** WIFIA has the same eligibility requirements as the DWSRF but a broader range of eligible projects, which can include energy efficiency, desalination, and drought prevention or mitigation projects. A PWS can obtain funding for up to 49% of the cost of a project. Borrowers are eligible to use state DWSRF grants or loans to cover up to the remaining 51%.⁹⁷

Texas Department of Agriculture, Small Towns Environmental Program (STEP) Fund:

The STEP Fund provides grant money for self-help water infrastructure improvements.⁹⁸ The purpose of the STEP grant is to encourage community involvement in infrastructure improvements. Applicants must provide local volunteer labor and materials and other resources, such as equipment, to ensure that the project cost would be at least 40% less than the retail price of the project. Grants for up to \$350,000 may be awarded. Eligible applicants are local government entities that are not participating or designated as eligible to receive an entitlement from federal Community Development Block Grant (CDBG) funding. Eligible activities include land acquisition for installing infrastructure, repairs or improvements to a system, water metering, or service connections and lines for low- and moderate-income persons.

These funding opportunities, while numerous, may require substantial advanced planning, including involving engineers and grant-writing professionals to help public water systems develop eligible plans. Communities should know that considerable time and energy is required to obtain funding, particularly grant money.

Request Regulatory Agency Enforcement Action

Despite the many resources available to assist a noncompliant PWS that wants to return to compliance, there are some systems that have remained in noncompliance for many years and may not be willing to take corrective actions unless forced to by agency or community enforcement.

Texas Commission on Environmental Quality or U.S. EPA:

The TCEQ and EPA have enforcement authority over Texas public water systems and can bring enforcement actions and assess penalties for violations of the MCLs or other SDWA requirements. Communities can contact the TCEQ's Enforcement Division of the Office of Compliance and Enforcement or EPA's Compliance Assurance and Enforcement Division to raise concerns. They can also file complaints about the quality of the water provided by their PWS through TCEQ's online complaint system.⁹⁹ The more people consistently file complaints or contact the agencies, the more likely it is that the agencies will take action.

Community members can also request that TCEQ test their water. While TCEQ is not required to test an individual's drinking water, the agency can sample drinking water from points within the distribution system of the PWS or outside of a residence. However, TCEQ will not enter a person's home to conduct water quality sampling.

Communities can also provide TCEQ and EPA with information documenting water quality problems, such as independent sampling or community surveys. For community-gathered evidence to be used in a TCEQ enforcement action, it must meet the requirements in TCEQ's rules, including analysis from a NELAP-certified laboratory.¹⁰⁰ If TCEQ pursues an enforcement action based on community gathered evidence, the community member who gathered the evidence may be asked to testify at any enforcement hearing.

TCEQ or EPA enforcement action has many benefits, including reduced enforcement costs to the community and the availability of agency expertise. Community members, however, will have limited opportunities to participate in the enforcement process and few formal opportunities to influence the outcome of that enforcement process, such as the penalties assessed or deadlines for any required corrective action.

Public Utility Commission:

Community members can also ask the PUC to take action against a PWS that is not meeting SDWA requirements. Retail public utilities that possess a CCN are required to "plan, furnish, operate, and maintain production, treatment, storage, transmission, and distribution facilities of sufficient size

and capacity to provide a continuous and adequate supply of water for all reasonable consumer uses.”¹⁰¹ The PUC rules state that, at a minimum, meeting this standard requires compliance with the TCEQ’s drinking water quality and quantity requirements.¹⁰²

If a CCN holder does not meet its mandate to provide “continuous and adequate service,” the PUC may order the PWS to:

- provide specific improvements in its service;
- “develop, implement, and follow financial, managerial, and technical practices” that will ensure proper service;
- consolidate with another PWS (with TCEQ approval); or
- obtain services for consumers from another PWS that is able to properly provide water.¹⁰³

In addition, if a CCN holder has provided financial assurance, the PUC can order specific improvements or repairs to be paid for from those funds.¹⁰⁴ Furthermore, community members, individually, or as a group, may file an informal complaint against their PWS on PUC’s website.¹⁰⁵ If community members are unsatisfied with PUC’s response to the informal complaint, they may file a formal complaint, which may result in a trial-like hearing.¹⁰⁶

Community members may also be able to create pressure for remedial action at a noncompliant PWS by challenging the rates charged by the system. Public water systems need to collect sufficient revenues from rates to operate and maintain a compliant system, but, if a PWS consistently violates SDWA standards, a challenge to any rate change could create leverage to force the PWS to take action to eliminate future violations. There are different mechanisms for challenging water rates, depending on the type and location of the PWS.

- **Municipally Owned Utility:** If water is supplied by a municipally owned utility and the user lives within the corporate limits of the municipality, rates are set by the City Council and any appeal process is determined by city ordinance.
- **Water Supply Corporations, water districts or river authorities, IOUs operating inside a city, city-owned utilities operating outside a city’s corporate limits, or county-owned utilities located within 50 miles of the U.S.-Mexico border:** Rates for these public water systems are set by a governing body (e.g., a Board of Directors) and a ratepayer may appeal the rate decision to the PUC.¹⁰⁷ A ratepayer petition must be filed with the PUC within 90 days after the effective date of the rate change and must be signed by either 10% of affected ratepayers or 10,000 ratepayers, whichever is less.¹⁰⁸
- **Other Public Water Systems:** Public water systems that are not included above, including rural IOUs that are not under the control of a municipality and municipalities that have elected to give PUC original jurisdiction over their rate-making, must file an Application to Change Rates with the PUC before they can implement a new rate.¹⁰⁹ The utility must send a Notice of Intent to change the water rate to all customers and affected municipalities.¹¹⁰ The specific process a utility must use to change a water rate depends on the size of the utility.¹¹¹ The PUC must generally set a hearing if it receives a complaint about the rate change from an affected municipality or from the lesser of 1,000 or 10% of ratepayers within 90 days after the effective date of the rate change.¹¹² At this hearing, ratepayers may intervene and contest the request to change the water rate as unreasonable or in violation of the law. If the PUC finds that the proposed rate is not reasonable, it will fix the rate for the utility.¹¹³

Water rates are based on the utility's cost of rendering services, including both allowable expenses and return on invested capital. Determination of whether a utility's rate of return is reasonable must include consideration of "efforts and achievements of the utility in the conservation of resources, the quality of the utility's services...and the quality of the utility's management, along with other relevant conditions and practices."¹¹⁴ If a PWS that is consistently providing unsafe water seeks to raise its rates, ratepayers may want to challenge the rate increase unless the increase is associated with concrete steps and deadlines for bringing the PWS into compliance.

Finally, communities can intervene in any PUC actions to change the ownership of their PWS. Before an owner can sell, consolidate, or transfer ownership, the PUC must determine that the transaction "will serve the public interest."¹¹⁵ Public water systems must give consumers 120 days notice prior to the effective date of any transaction and consumers have a minimum of 30 days to intervene in the transaction.¹¹⁶ The PUC must determine whether the new owner has "adequate financial, managerial, and technical capacity for providing continuous and adequate service" and may require a public hearing if it will best serve the public interest.¹¹⁷ A public hearing may be necessary to protect the public when the new owner has a history of noncompliance with the TCEQ, PUC, or Texas Department of State Health Services or exhibits a history of misuse of revenues.¹¹⁸ If ownership of a community's PWS is changing, the community may want to investigate the new owner's compliance history and intervene to stop the action if the new owner appears to be a bad actor.

File A Safe Drinking Water Act Citizen Suit Enforcement Action

Finally, if a PWS consistently violates drinking water standards, a community might want to pursue its own enforcement action through the SDWA's citizen suit provision. The SDWA authorizes citizen suits against any person who is in violation of any requirement in the SDWA or against the EPA Administrator if the Administrator fails to perform non-discretionary duties under the SDWA.¹¹⁹ The SDWA requires any person who wishes to bring a citizen suit to send the violator a letter identifying the SDWA violations at least 60-days prior to commencing the lawsuit.¹²⁰

A person cannot proceed with a citizen suit if the EPA Administrator, U.S. Attorney General, or a state "has commenced and is diligently prosecuting a civil action in a court of the United States to require compliance" with the SDWA.¹²¹ If the agency enforcement action addresses different violations or does not bring the PWS into compliance, however, a citizen suit may still be viable.

Remedies in a citizen suit include injunctive relief and awards of attorney's fees and litigation costs to the prevailing party. Unlike other citizen suit provisions, the SDWA does not authorize a court to award monetary penalties against a PWS for its noncompliance. The requested injunctive relief in such a suit could include requirements that:

- the PWS conduct a third party audit to determine the most cost-effective method for bringing it into compliance,
- the PWS develop a compliance plan to assure compliance by a certain date or implement an already agreed upon compliance plan, or
- the PWS apply for certain grants or loans by a certain date.

See Appendix 9 for sample citizen suit pleadings and settlement documents. While SDWA citizen suits can be costly, they allow plaintiffs to attempt to craft a remedy most beneficial for the community. The remedy discussion below includes information that might help a community develop a requested remedy or proposed settlement in a SDWA citizen suit.

Using Other Environmental Statutes to Address Contaminated Source Water

If contamination is entering the source water from a “point source” – defined by the Clean Water Act (CWA) as a “discernible, confined and discrete conveyance, such as a pipe, ditch, channel, tunnel, conduit, discrete fissure, or container” – the discharge is likely prohibited unless it is authorized by a Texas Pollution Discharge Elimination System (TPDES) permit.¹²² If source water contamination is caused by a point source that is violating its permit or illegally discharging pollution without a permit, a Clean Water Act citizen suit enforcement action may be appropriate.¹²³ Similarly, if the source water contamination is resulting from improperly disposed of waste, a Resource Conservation and Recovery Act (RCRA) imminent and substantial endangerment suit might be appropriate.¹²⁴ Like SDWA citizen suits, suits under the CWA and RCRA are barred if TCEQ or EPA have taken certain enforcement actions.

Design A Remedy For Resolving Drinking Water Violations

Filing complaints, intervening in PWS actions, and citizen suits can create leverage for change. To make the most of that leverage, it is helpful to identify possible remedies that will solve the drinking water violations in the most cost-effective manner for the community. Included below are some resources to assist communities in evaluating options for bringing a PWS back into compliance with the MCLs and other SDWA requirements.

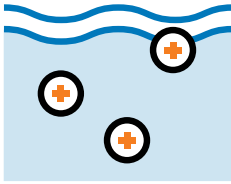
Find a new source of drinking water or consolidate with other sources

If it is not possible to eliminate contamination of a public water system’s source water, finding a new source of water may be the most cost-effective solution. This can include: drilling a new well into a different, less polluted portion of an aquifer; purchasing water from a nearby PWS with higher quality water; connecting to a different source waterbody; or consolidating with an existing, established PWS that uses a different source water.¹²⁵ Depending on the extent of contamination in its source water, a PWS might consider switching sources entirely or blending its existing source water with higher quality water.

Consolidation of the physical systems, capital, operations and management, support services, or the ownership of two or more existing or proposed public water systems is known as regionalization. Regionalization is a way to use economies of scale to maximize financial, technical, and managerial resources.¹²⁶ Regionalization can result in an expanded service area comprised of a larger geographic area and/or multiple systems that share resources. Regionalization may be particularly useful in rural areas where, for example, it would allow small public water systems to purchase treatment chemicals in bulk, share a single manager or operator, share administrative responsibilities, or even coordinate when engineers come out to do repairs on the systems.

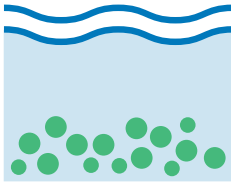
Install additional water treatment technology

Another option for bringing drinking water into compliance with SDWA standards is to install an effective water treatment system. Water treatment techniques vary depending on the contaminant, but PWS treatment systems commonly include the following process:



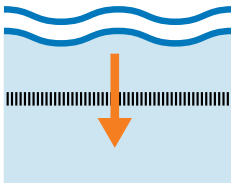
Coagulation and Flocculation:

Chemicals with a positive charge are added to the water. The positive charge neutralizes the negative charge of dissolved particles, which causes them to bind with the chemicals and form larger particles, called floc.



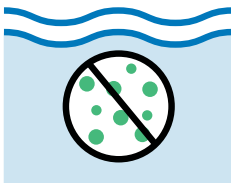
Sedimentation:

The floc is heavy, which causes it to settle to the bottom of the water supply.



Filtration:

The water on top of the floc is then passed through filters to remove remaining dissolved particles.



Disinfection:

A disinfectant may then be added to kill any remaining parasites, bacteria, and viruses, and to protect the water from germs when it is piped to homes and businesses.¹²⁷

When evaluating treatment technologies, a community should consider the effectiveness for the contaminant of concern, difficulty of operation, costs, maintenance requirements, possible reactions with or effects on other contaminants, and waste disposal requirements. An expensive technology that is simple to operate may, over time, be less expensive than a lower-cost system with high maintenance and operation costs.

Information about treatment technologies for specific pollutants can be found from various sources, including the following:

Table 4. Drinking Water Treatment Technology Resources

Source	Website	Information
U.S. EPA	https://www.epa.gov/water-research/drinking-water-treatability-database-tdb	Search removal technologies by contaminant
	https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations	Contaminant-specific fact sheets include answers to how contaminants can be removed from water
	https://www.epa.gov/water-research/small-drinking-water-systems-research	Specific technologies for small public water systems
	https://www.epa.gov/dwregdev/drinking-water-treatment-technology-unit-cost-models-and-overview-technologies	Cost models for certain drinking water treatment technologies
Univ. Texas Bureau of Economic Geology	http://www.beg.utexas.edu/research/areas/groundwater-studies/tceq-feasibility-for-small-public-water-systems	Reports analyzing feasibility of treatment options for small, individual, noncompliant Texas public water systems
National Environmental Services Center	http://www.nesc.wvu.edu/techbrief.cfm	Technical briefs on issues including treatment technologies

In addition to treatment technologies at the PWS, there are “point-of-use” treatment systems that can be installed where water enters a house or faucet. These systems are best when used only for short-term treatment. Such systems require the PWS to enter individual homes for installation and maintenance and require extensive monitoring and management. In addition, because such systems are generally not installed on all taps (e.g., showerheads), they are not appropriate for pollutants that present health risks from inhalation or contact exposure. Finally, the public water systems can provide bottled water as an alternative drinking water source. However, the SDWA only allows this method of water delivery as a temporary solution to avoid unreasonable risks to health.¹²⁸

Common Water Treatment Technologies

- **Reverse osmosis (RO)**

RO is a membrane filtration system that allows water molecules to pass through a filter, but not dissolved or suspended solids.¹²⁹ RO removes many common contaminants, including arsenic, lead, copper, nitrate, selenium, TTHMs, bacteria, and some pesticides. However, RO systems should be used in conjunction with activated carbon filters, which remove larger solids from the water column. It should also be noted that RO systems require a substantial amount of water to operate.¹³⁰

- **Ion exchange**

Ion exchange systems remove charged, inorganic contaminants. This type of system can effectively remove arsenic, nitrate, uranium, and fluoride.¹³¹

- **Adsorption**

Adsorption occurs when a substance, such as activated carbon or alumina, is added to water, which causes contaminants to adsorb, or stick, to the substance, which is later disposed of. Activated alumina is commonly used to remove arsenic and fluoride. Activated carbon filters are effective at removing contaminants such as chlorine, benzene, TTHMs, pesticides, and herbicides.¹³²

Consider changes to the ownership structure of the public water system:

Changing the ownership structure of a PWS can allow access to more funding and make the system more accountable to the community. If an IOU converts to a nonprofit WSC, it becomes eligible for a greater share of the state and federal funding discussed above. Nonprofit WSCs are member-owned and controlled with a Board of Directors to act as the decision-making body for the entity.¹³³

There are also many water utility cooperatives in Texas, particularly in rural areas. While cooperatives' access to funding is more limited than a nonprofit WSC's, cooperatives are generally user-owned, meaning that each person who uses the water from the PWS is a member-owner of the cooperative.¹³⁴

In addition, there are a number of small systems in Texas that have been abandoned and placed into receivership by the TCEQ. If a community is willing, has the capacity, and possesses sufficient resources, it may want to consider negotiating to take over a failing PWS and operate it as a nonprofit WSC or as a cooperative.

Appendix 10 outlines different public water system ownership types and the funding available to each type.

Case Study:

DRINKING WATER CLEANUP AT LUBBOCK AREA MOBILE HOME PARKS

Six Lubbock area small public water systems had been in violation of the SDWA for years. The systems serve individual mobile home parks with populations ranging from 55 to 335 individuals. All of the systems are classified as very small IOUs and get their drinking water from shallow wells in the Ogallala Aquifer, which contains a number of contaminants, both naturally-occurring and anthropogenic. These systems are now on their way to compliance and provide a model for how ownership or management changes, metering, TWDB grant funding, community education, and installation of treatment technologies can result in compliance, even at small water systems.

For years, the water systems had unresolved violations of a number of MCLs, including fluoride, arsenic, combined uranium, nitrate, selenium, and coliform bacteria. Three of the systems had TCEQ Enforcement Orders issued to them, and all 6 systems had multiple Notices of Violations (NOVs) for various MCL, monitoring, and reporting violations.

At a community meeting sponsored by UT Law Environmental Clinic, Legal Aid of Northwest Texas, and Texas Low Income Housing Information Services the PWS operator explained the process he

had begun to improve the systems' water. The systems' operator was fairly new and had obtained his operator certification in order to help the systems come into compliance. Because the public water systems are IOUs, they were ineligible for most state and federal grant funding. The operator was able, however, to obtain \$300,000 in SDWRF principal-forgiveness loans from TWDB because the systems serve rural, low-income communities. The operator obtained an additional \$250,000 low-interest rate loan from Communities Unlimited, a nonprofit, certified Community Development Financial Institution (CDFI), which does extensive work providing drinking and waste water services to underserved communities in Texas. This money is being used to install activated alumina water treatment systems at each of the four systems the operator manages.

Additionally, the operator of these systems invested approximately \$50,000 in metering infrastructure at three of the four systems, which had previously been charging a flat rate of \$15 per month. Many small IOUs lack meters, which is problematic because metered water is required for TWDB funding. As a result of metering, residents' water bills increased, due to a surcharge for the cost of installing the meters and from the rise in cost for those who used more water. Many residents were concerned about the increase in the water bills, but some of the frustrations with the billing change were alleviated after the operator explained why the changes were made.

At the time of the community education meeting, the operator had begun installing water treatment systems in one of the four communities and had plans and funding sufficient to implement changes at all four systems. All of the systems are expected to return to compliance with the SDWA once the treatment systems are functioning.

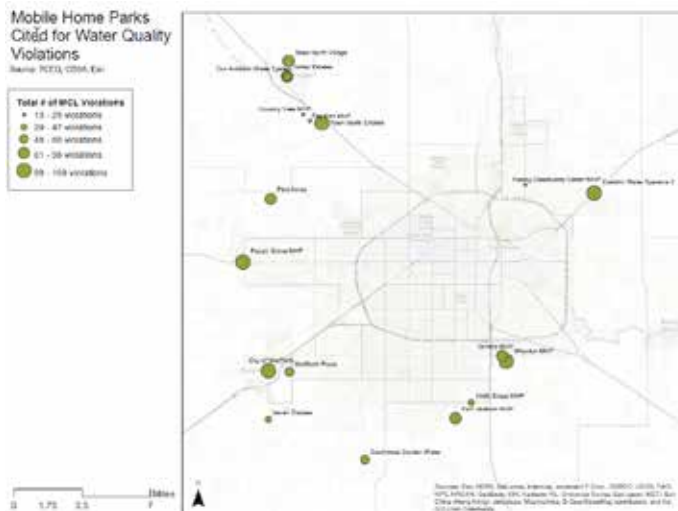


Figure 1. Map of Community PWS in Lubbock County with large numbers of SDWA MCL violations. Map created by Adam Pirtle, Texas Low Income Housing Information Services.

Conclusion

In many parts of Texas, people are consuming high quality water that is compliant with all SDWA requirements and state laws. However, there are communities in Texas where, for many years, residents have been forced to choose between consuming water that is polluted with unsafe levels of contaminants and purchasing bottled water.

While reaching compliance at these systems may be challenging, there are numerous technical resources available to help. Communities can educate themselves about the quality of their drinking water through online drinking water databases. Residents can document problems through surveys, logs, or sampling and use that information to spur TCEQ, EPA, or PUC enforcement. Alternatively, they can bring their own citizen enforcement suits. In situations where PWS owners simply lack resources, communities can play an important role in connecting the owner with the many financial, managerial, and technical assistance resources available at the state or federal level.

All Texas communities, regardless of size, location, or population served, should have access to safe drinking water. This guide serves as a starting point to help communities evaluate the quality of their water and identify actions they can take to ensure that it is safe to drink.

A dynamic splash of water in shades of blue, with numerous droplets and bubbles captured in motion against a solid blue background.

APPENDICES

APPENDIX 1. Secondary Drinking Water Standards and Secondary Constituent Levels

Contaminant	Secondary MCL (unenforceable)	TCEQ Secondary Constituent Level (enforceable)	Noticeable Effects above the Secondary MCL
Aluminum	0.05 to 0.2 mg/L	0.05 to 0.2 mg/L	colored water
Chloride	250 mg/L	300 mg/L	salty taste
Color	15 color units	15 color units	visible tint
Copper	1.0 mg/L	1.0 mg/L	metallic taste; blue-green staining
Corrosivity	Non-corrosive	Non-corrosive	metallic taste; corroded pipes/ fixtures staining
Fluoride	2.0 mg/L	2.0 mg/L	tooth discoloration
Foaming agents	0.5 mg/L	0.5 mg/L	frothy, cloudy; bitter taste; odor
Hydrogen sulfide	N/A	0.05 mg/L	"rotten egg" odor; makes water highly corrosive
Iron	0.3 mg/L	0.3 mg/L	rusty color; sediment; metallic taste; reddish or orange staining
Manganese	0.05 mg/L	0.05 mg/L	black to brown color; black staining; bitter metallic taste
Odor	3 TON (Threshold Odor Number)	3 TON	"rotten-egg", musty or chemical smell
pH	6.5 - 8.5	>7	low pH: bitter metallic taste; corrosion high pH: slippery feel; soda taste; deposits
Silver	0.1 mg/L	0.1 mg/L	skin discoloration; graying of the white part of the eye
Sulfate	250 mg/L	300 mg/L	salty taste
Total Dissolved Solids (TDS)	500 mg/L	1,000 mg/L	hardness; deposits; colored water; staining; salty taste
Zinc	5 mg/L	5.0 mg/L	metallic taste

APPENDIX 2. Unregulated Contaminant List (2016)

Contaminant	Minimum Reporting Level	Contaminant	Minimum Reporting Level
total microcystin	0.3 µg/L	germanium	0.3 µg/L
microcystin-LA	0.008 µg/L	manganese	0.4 µg/L
microcystin-LF	0.006 µg/L	alpha-hexachlorocyclohexane	0.01 µg/L
microcystin-LR	0.02 µg/L	chlorpyrifos	0.03 µg/L
microcystin-LY	0.009 µg/L	dimethipin	0.2 µg/L
microcystin-RR	0.006 µg/L	ethoprop	0.03 µg/L
microcystin-YR	0.02 µg/L	oxyfluorfen	0.05 µg/L
nodularin	0.005 µg/L	profenofos	0.3 µg/L
anatoxin-a	0.03 µg/L	tebuconazole	0.2 µg/L
cylindrospermopsin	0.09 µg/L	total permethrin (cis- & trans-)	0.04 µg/L
o-toluidine	0.007 µg/L	tribufos	0.07 µg/L
HAA5	N/A	1-butanol	2.0 µg/L
HAA6Br	N/A	2-methoxyethanol	0.4 µg/L
HAA9	N/A	2-propen-1-ol	0.5 µg/L
butylated hydroxyanisole	0.03 µg/L	quinoline	0.02 µg/L

APPENDIX 3. Unregulated Contaminants of Concern

There are currently more than 80,000 chemicals that are registered for use in the United States and approximately 2,000 chemicals are introduced each year.¹³⁵ Despite the vast number of understudied chemicals and the SDWA's requirement that EPA must regularly review unregulated contaminants, it has been over two decades since EPA has added a new contaminant to the list of those currently regulated under the SDWA. There are several currently unregulated drinking water contaminants that are particularly concerning for public health.

► *Perchlorate*

Perchlorate is found in both naturally occurring and manufactured forms. It is commonly used as an oxidizer in rocket propellants, fireworks, matches, and munitions and is also found in some types of fertilizers.¹³⁶ Perchlorate disrupts thyroid gland functioning in children and adults, which may cause hypothyroidism, a condition where the thyroid produces abnormal amounts of important hormones that regulate bodily functions, such as heart rate, blood pressure, body temperature, and metabolism. In children, perchlorate consumption can impact growth and central nervous system development.¹³⁷ EPA has found perchlorate in 45 states and in every single person who has been tested for it.¹³⁸

EPA monitored perchlorate from 2001-2005 under UCMR 1. In 2011, EPA made the decision to regulate perchlorate. For the last seven years EPA has been reviewing the available science regarding perchlorate's health effects, the frequency and concentration at which perchlorate is found in public water systems, and the costs and benefits of potential regulatory standards. However, EPA has yet to issue a drinking water standard for this contaminant.¹³⁹ In response to EPA's lack of regulatory action, California and Massachusetts have implemented state-level perchlorate drinking water standards of 0.006 mg/L and 0.002 mg/L, respectively.

Texas has not established an MCL for perchlorate. However, in 2001, TCEQ did establish an Interim Action Level (IAL) of 0.004 mg/L for perchlorate, and in its 2006 guidance for assessing the health of surface waters for the purposes of drinking water quality, TCEQ required monitoring and reporting of perchlorate levels that exceed 0.022 mg/L.¹⁴⁰ Additionally, the Texas Department of State Health Services recommends that pregnant women and children less than 3 years of age drink and cook with bottled water if their PWS is distributing water exceeding the IAL.¹⁴¹

► *PFOA and PFOS*

Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS) are organic chemicals that were used extensively in the manufacturing process of carpets, clothing, fabric for furniture, and certain cookware (e.g., Teflon). PFOS has been phased out of U.S. production and PFOA use has been drastically reduced. However, PFOAs are still used in several industrial processes as well as in Class B firefighting foams, which are used to suppress fires caused by flammable liquids and are still commonly used during fire suppression efforts at air fields in the U.S.¹⁴² If a pregnant or breastfeeding woman is exposed to PFOA or PFOS it can cause low birth weight, accelerated puberty, and skeletal variations in fetuses and children. In adults, exposure can cause cancer, liver damage, and can negatively impact immune and thyroid functioning.¹⁴³

Because of these well-documented health effects, in 2016 EPA issued a non-enforceable and non-regulatory health advisory that drinking water should not exceed combined PFOA and PFOS

concentrations of greater than 70 parts per trillion. PFOS and PFOA were included in UCMR 4, but EPA has not issued a Primary Drinking Water Standard for these contaminants.¹⁴⁴

In 2016, the U.S. Air Force selected for water quality testing over 600 sites where firefighting foam containing PFOA and PFOS had been used. Texas had 57 sites on the list, including Reese Air Force Base outside of Lubbock.¹⁴⁵ This testing unearthed PFOA and PFOS contamination in over 40 wells in Lubbock County near Reese Air Force Base, including in one PWS. The Air Force has been providing bottled water to affected homeowners since November 2017 and will continue to do so until the area is successfully remediated.¹⁴⁶

► *1,4-Dioxane*

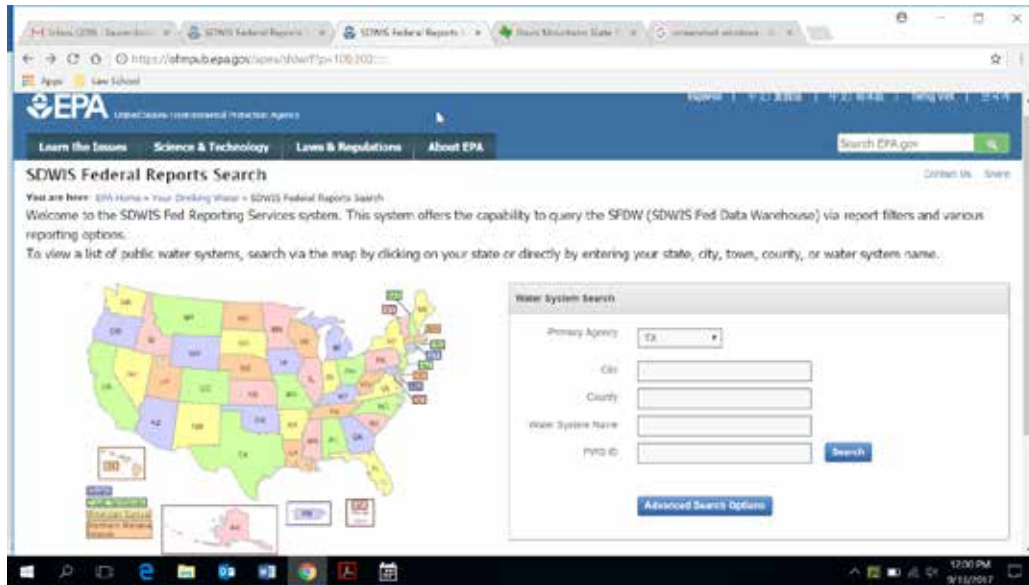
1,4-Dioxane (“dioxane”) is a byproduct present in many consumer goods such as paint strippers, dyes, greases, antifreeze, deodorants, shampoos, and cosmetics. It is used during pharmaceuticals manufacturing and is a byproduct of certain plastics production.¹⁴⁷ Dioxane is found in groundwater sources throughout the United States. Short-term exposure to low levels of dioxane can cause eye, nose, and throat irritation and at high doses, may cause liver and kidney damage.¹⁴⁸ Several work-place deaths have been attributed to worker exposure to large amounts of dioxane, which appeared to have severe negative effects on the workers’ nervous systems. Additionally, EPA considers dioxane to be a likely human carcinogen and occupational exposure to the chemical has been linked to increased instances of spontaneous abortions and stillbirths in pregnant women.¹⁴⁹ Dioxane is a particularly concerning contaminant because it is highly mobile in groundwater and degrades very slowly in the environment.

In 2012, EPA issued a lifetime health advisory of 0.2 mg/L of dioxane in drinking water as well as a 1-day health advisory of 4.0 mg/L of dioxane.¹⁵⁰ Dioxane was included in the Third UCMR in 2016 but EPA has not established a Primary Drinking Water Standard for this contaminant.

APPENDIX 4. Online Safe Drinking Water Databases

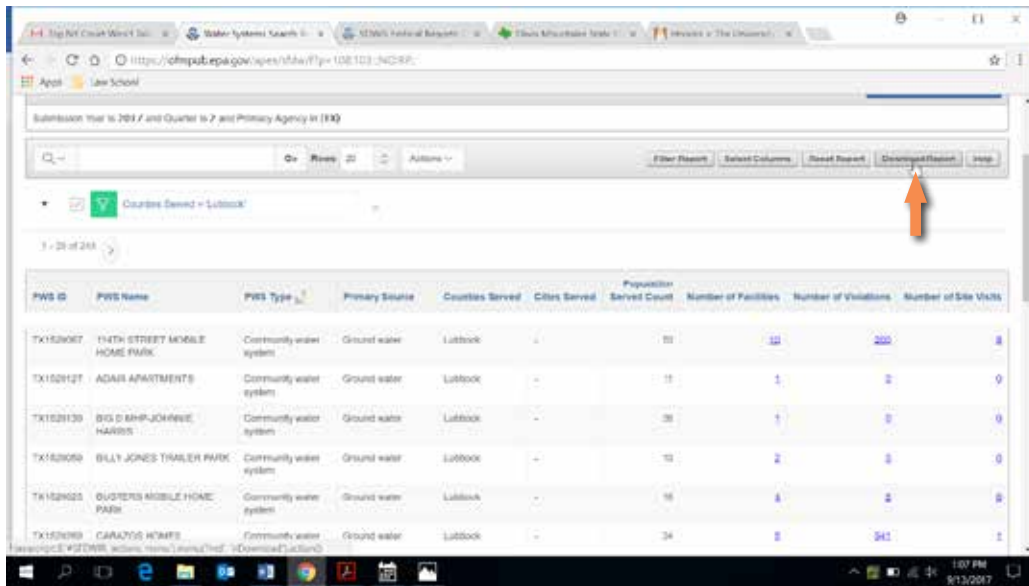
Safe Drinking Water Information System (SDWIS): for additional user guidance, see <https://www.epa.gov/enviro/sdwis-search-user-guide><https://www.epa.gov/enviro/sdwis-search-user-guide>.

1. Google: "SDWIS Federal Reports Search"



2. Click on the image of Texas to the left or fill in City/County in the Water System Search on the right → *this will pull up all of the Public Water Systems (PWS) in that particular county/city.*
3. Click on Texas; this will populate a huge list of PWS (>15,000).
4. Narrow the selection by clicking on the column titles at the top of the list. Various characteristics can be selected for including counties, number of violations, PWS type, etc.

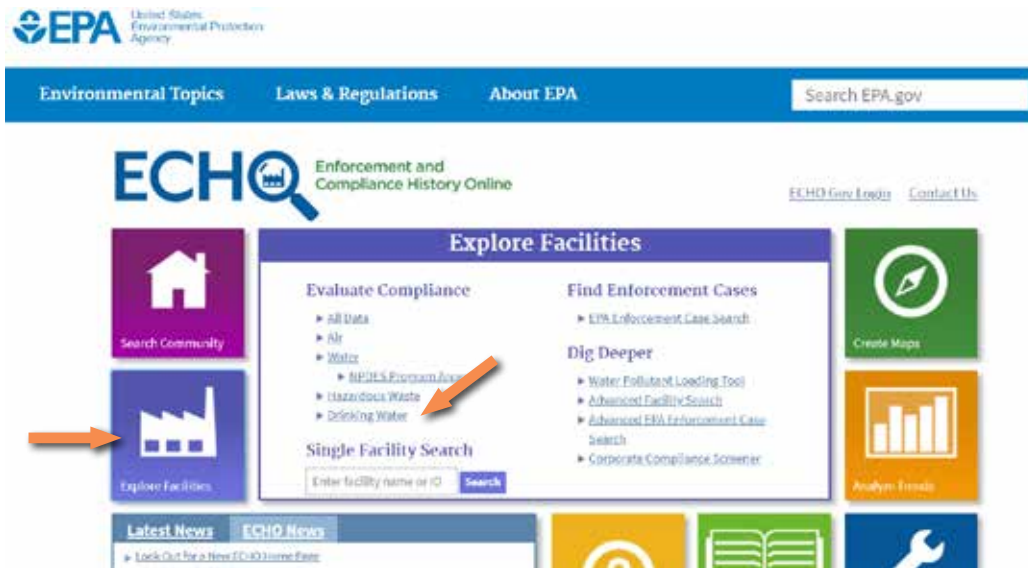
5. After the selection is filtered, a report of the data can be downloaded as a CSV (for Excel) or as a PDF.



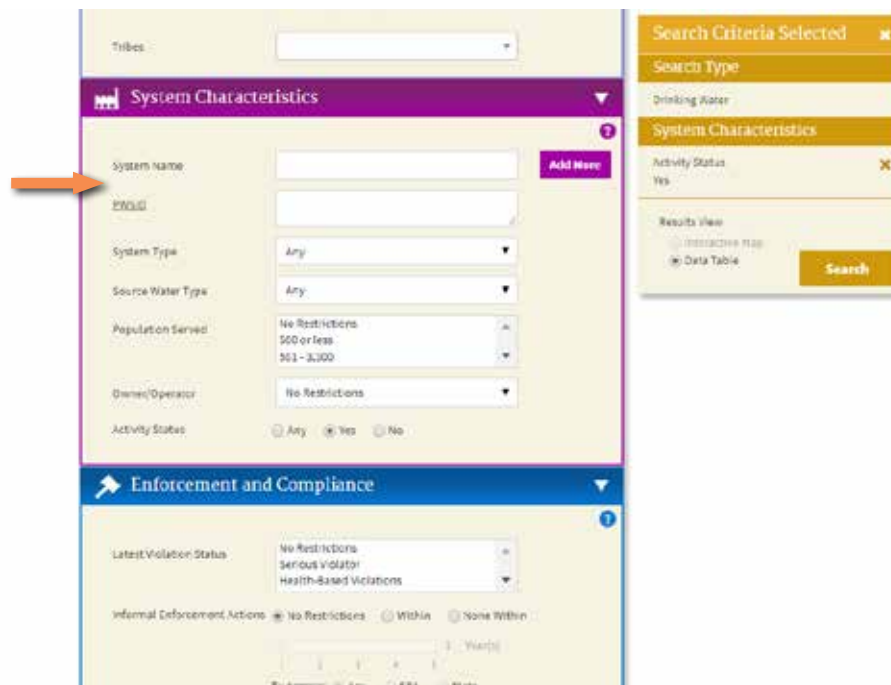
6. To determine what types of violations these facilities have committed, click on the hyperlinks in the "Number of Violations" column for each of the facilities of interest.
7. Again, sort this dataset by the clicking on the columns across the top of the table. For this research, only MCL violations were considered so the data was sorted by "Violation Category Code" and selected "MCL."
8. Once the data is filtered, a report for each relevant PWS can be downloaded in a CSV (Excel) or PDF format.
9. Each PWS will have a PWS ID and PWS name. To get more information about the PWS, the violations that have occurred, and what, if any, state action has resulted, use the information from the EPA SDWIS website to search the TCEQ database.

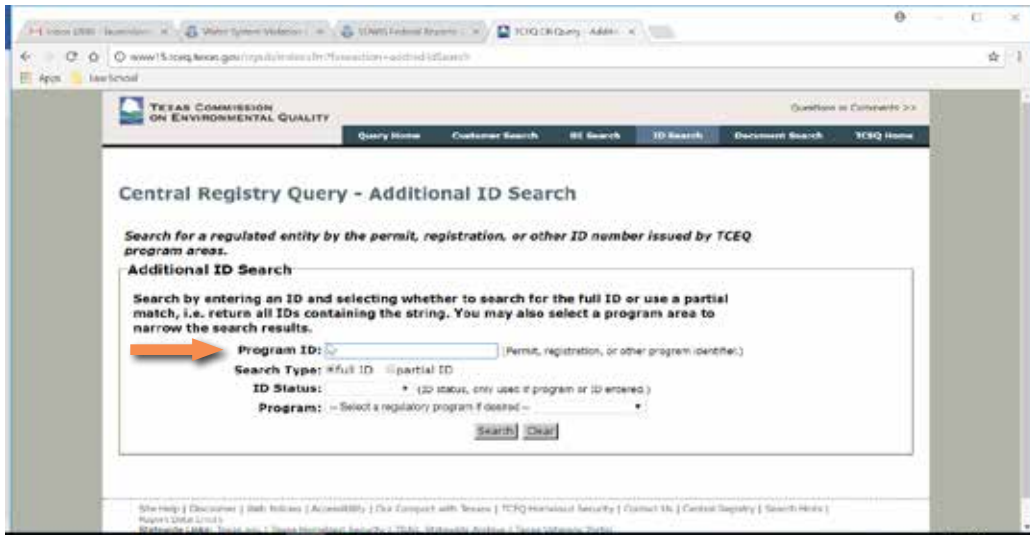
Enforcement and Compliance History Online (ECHO): for additional guidance on using ECHO, see <https://echo.epa.gov/resources/general-info/tool-guide>.

1. Go <https://echo.epa.gov> to get to the ECHO homepage. Select “Explore Facilities” and then “drinking water.”

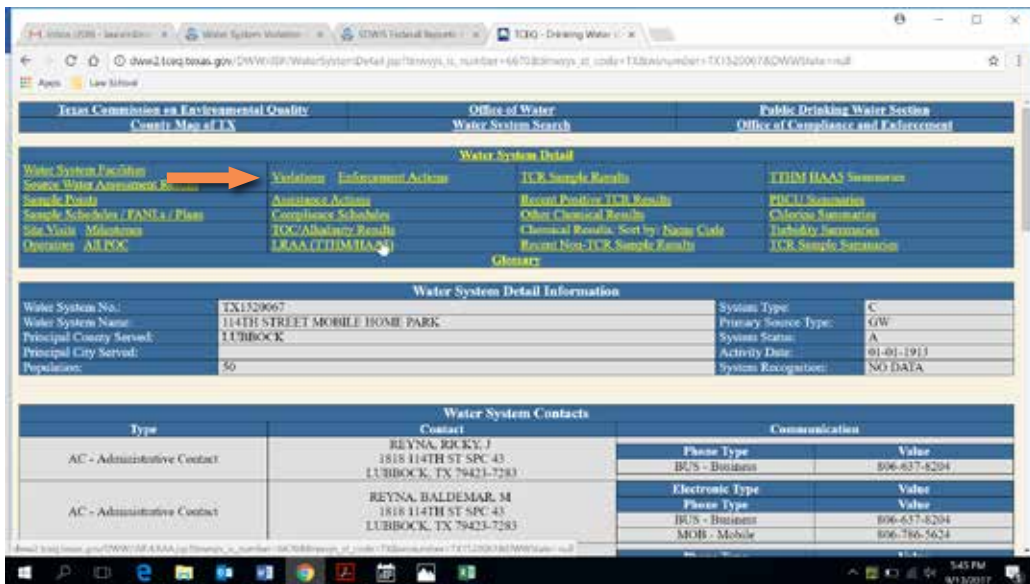


2. From this page many kinds of searches are available; users can conduct a state-wide search for instances of violations for certain MCLs, all the violations in one city or county, or search the compliance history for a specific PWS. In this example, the goal was to assess a particular PWS so scroll down to the section labeled “System Characteristics” where there is a place to enter a public water System’s name or ID Number.





3. This will pull up the Central Registry page for the specific facility of interest. Here, note for future reference, the RN number for that facility, the address of the facility, and a list of the permits associated with the facility.
4. Under "Permits, Registrations, or Other Authorizations," click on the ID Number hyperlink for the Public Water System/Supply.
5. Scroll down the page to the "Related Information" section where there are lists of Notices of Violations, Complaints, etc. This section also contains a link for, "Drinking Water Watch Information."
6. Click on "Violations" and/or "Enforcement Actions" towards the top of the page. "Violations" includes all violations and whether or not the PWS has been returned to compliance. "Enforcement Actions" will show the specific actions the state has taken against the PWS.



All of this data can easily be downloaded or copy/pasted in an Excel spreadsheet for analysis of patterns of violations in an area.

APPENDIX 5. Community Water Quality Sampling

What entities will conduct water quality sampling?

Texas Commission on Environmental Quality (TCEQ)

TCEQ may conduct water quality testing at the request of a PWS customer outside of the customer's home. However, TCEQ will not enter the home. Investigators will conduct testing at outdoor faucets or at points along the public water system's distribution lines. Contact the regional TCEQ office to find an investigator in the area: <https://www.tceq.texas.gov/agency/directory/region>.

Private Laboratories in Texas

TCEQ maintains lists of approved and accredited laboratories that private parties can pay to collect and analyze water samples from homes or apartments for contaminants of concern. **TCEQ will only accept data relating to SDWA compliance from a laboratory that is nationally accredited to conduct analyses related to SDWA compliance.**

- **Approved laboratories:** Laboratories that whose methods are approved by TCEQ, but do not meet the requirements to be accredited by National Environmental Laboratory Program (NELAP). TCEQ will not rely on sample results from these labs in an enforcement action.
- **Accredited laboratories:** Laboratories that meet federal NELAP standards.¹⁵¹ NELAP relies on consensus standards representing the best professional practices in the industry to establish the requirements for this program, which is then implemented by state agencies. Note that NELAP accreditation is contaminant specific. TCEQ can rely on sample results from these labs in an enforcement action.

For a list of accredited laboratories visit (please note that this list may change): https://www.tceq.texas.gov/assets/public/compliance/compliance_support/qa/txnelap_lab_list.pdf

For a list of laboratories accredited for lead/copper sampling: https://www.tceq.texas.gov/assets/public/permitting/watersupply/pdw/chemicals/lead_copper/LeadCopperLabs.pdf

Community Sampling

Community members can also collect samples themselves and take them to an accredited lab for testing. There are, however, very detailed protocols that can followed based on the type of contaminant being sampled for. These protocols will be provided by the accredited laboratory that will be analyzing the water samples.

How do I know what contaminants to test for?

The following list contains examples of health conditions, nearby activities, or water characteristics that may indicate a need to test for certain contaminants in a community's drinking water. This is not at comprehensive list and advocates should consult with TCEQ, EPA, Texas Department of Health and Human Services, city or county health departments, or the water quality-testing laboratory to get a better understanding of what contaminants it may be most useful to test for.¹⁵²

Condition or Activity	Possible contaminant(s)
Recurrent gastrointestinal illness	Total coliform bacteria
Home built before mid-1980s or home has lead plumbing	pH, lead, copper
Air testing as revealed high levels of indoor Radon	Radon
Scaly residues, soaps don't lather	Hardness
If a water softener is needed to treat the water for hardness	Manganese, Iron
Faucets, bathtubs, sinks, or laundry is stained brown, red, yellow, or black	Iron, copper, manganese
Water smells like "rotten eggs"	Hydrogen sulfide
Water has other negative tastes or smells	Corrosion, metals
Water is discolored, frothy, or cloudy	Color, Detergents, Turbidity, Total Dissolved Solids (TDS)
Corrosion of plumbing fixtures or pipes	Corrosion, pH, lead
Nearby areas of intensive agricultural activities	Nitrate, pesticides, total coliform bacteria
Nearby coal or other mining operations	Metals, pH, corrosion
Nearby oil and gas activities	Chloride, sodium, barium, strontium
Nearby gas station coupled with gasoline odors	Volatile Organic Compounds (VOCs)
Nearby landfill, junkyard, dry-cleaning operation	VOCs, TDS, pH, sulfate, chloride, metals

See, also, Appendix 1 for a list of Secondary Constituent Levels and associated water quality characteristics if those contaminants are present in a community's water supply.

APPENDIX 6. Sample Water Quality Data Log

Date	Time	Location of Observation	Odor	Color	Taste	Length of Observation	Other
7-28-2018	8:05 am	Kitchen sink	"fishy odor"	Slightly yellow	No abnormal taste	Ran water for 3 minutes before the smell and color went away	Rust on kitchen faucet around sink drain.
8-1-2018	3:00 pm	Bathroom sink	<u>N/A</u>	Brown and "dirty"	Metallic	Water cleared after approximately 1 minute, but the taste did not go away.	Took a picture of the water.

Community members should try to do as many observations as possible and at consistent times of day in order to assess any patterns that may exist in changes in water quality parameters. For example, a homeowner could do an observation in several faucets first thing in the morning, after they return home from work, and just before bed each day. This would allow the homeowner to assess any time-of-day, daily, or weekly patterns, which may be helpful in identifying the cause of the drinking water problems.

APPENDIX 7. Sample Community Water Survey

1. Do you drink or cook with your tap water? (please circle one)

Yes

No

If no, why?

2. Do you buy bottled water to drink? (please circle one)

Yes

No

4. Do you use bottled water for cooking in your home? (please circle one)

Yes

No

5. If you do not drink or cook with the tap water, approximately when did you stop drinking or cooking with the tap water? (an estimate of months is sufficient)

6. Please rate the quality of your drinking water. (please circle one)

Poor

Fair

Good

Excellent

Comments:

7. Generally, how does your water taste? (please circle one)

Good taste

No taste

Bad taste

Please describe the taste:

8. Generally, how does your water smell?

Good smell

No smell

Foul smell

Please describe any smell:

9. Generally, what does your water look like? (eg. clear, cloudy, dirty, yellow, etc.)

10. Do any of the following describe your tap water? (please check all that apply)

Dirty

Soft

Hard

Sulfur (rotten eggs) odor

11. Is any negative appearance of your water correlated with hot or cold temperatures? (please check)

Hot

Cold

Both

12. If you notice changes in the way your water tastes, smells, or looks, is there a pattern to the problems? For example, do you only notice 1 or 2 days a week? Or only certain times of day?

13. If you notice changes in the way your water tastes, smells, or looks, are there certain faucets in your home that seem to be more affected than others? If yes, which faucets are affected?

14. Overall, are you satisfied with your drinking water service? (please circle one)

Yes

No

15. Do you have equipment in your home to make the water quality better (i.e. water softener, water purification/filter)? (please circle one)

No

Yes

If yes, please describe:

16. Have you ever filed a complaint related to your drinking water in the past? (please circle one)

No

Yes

If yes, to whom did you complain (eg. public water supply, TCEQ, city, or county)?

17. Do you remember receiving a Consumer Confidence Report with your water bill detailing the status of your water system's compliance with federal drinking water standards? (please circle one)

Yes

No

I don't know

18. Do you live in a single family home or apartment complex?

19. If you live in an apartment complex, is it publicly or privately owned?

20. What year was your home or apartment complex built?

21. Are you aware of any upgrades to plumbing in your home or apartment complex?

APPENDIX 8. Funding Sources for Public Water Systems

Texas Water Development Board			
<i>Drinking Water State Revolving Fund (DWSRF)¹⁵³</i>			
Funding Type	Funding Availability	Eligible Entities	Other Notes
Grants, loans, principal forgiveness loans.	Accepts applications year-round.	<ul style="list-style-type: none"> Grants: Political subdivisions¹⁵⁴ and nonprofit WSCs. Loans: IOUs (up to \$300,000), political subdivisions, and nonprofit WSCs. Principal forgiveness loans: IOUs serving disadvantaged or very small systems, or who are seeking funding for an Urgent Need project.¹⁵⁵ 	
<i>Texas Water Development Fund (DFund)¹⁵⁶</i>			
Funding Type	Funding Availability	Eligible Entities	Other Notes
Loans with below-market interest rates.	Loans are available intermittently. TWDB will sell bonds as needed to obtain funding for selected projects.	All political subdivisions and nonprofit WSCs.	
<i>Rural Water Assistance Fund Program (RWAF)¹⁵⁷</i>			
Funding Type	Funding Availability	Eligible Entities	Other Notes
Loans with tax-exempt equivalent interest rates.	Limited funding available year-round and TWDB may sell bonds intermittently to obtain funding for selected projects.	Eligible entities: Political subdivisions and nonprofit WSCs serving a population of 10,000 or less, or a counties in which no urban area in the county has a population exceeding 50,000.	This fund is specifically marked for projects implementing regionalization or consolidation of rural neighboring utilities.

Economically Distressed Areas Program (EDAP):¹⁵⁸

Funding Type	Funding Availability	Eligible Entities	Other Notes
Grants and long-term, low interest loans.	Funding available year-round. However, current EDAP funding expires in 2019 and will require legislative appropriations to refund the program.	Political subdivisions and nonprofit WSCs	<ul style="list-style-type: none"> • Area served by project must have a median household income less than 75% of statewide median household income. • Subdivision must have been established prior to June 1, 2005. • Must have adopted Model Subdivision Rules

State Water Implementation Fund for Texas (SWIFT) Program

Funding Type	Funding Availability	Eligible Entities	Other Notes
long term, low-interest, deferrable loans	Funding is only available during the application process once every 5 years upon the issuance of a new state water plan. Due dates for applications vary by year, but the next opportunity for funding will be in 2022.	Political subdivisions and nonprofit WSCs	The project must be included in the state water plan. Advocates must start planning well in advance of the due date so that the project may be added to the relevant regional water plan.

United States Department of Agriculture (USDA)

Water & Waste Disposal Loan & Grant Program.¹⁵⁹

Funding Type	Funding Availability	Eligible Entities	Other Notes
Loans with low interest rates and intermittent grants	Loans are available year-round. Grant availability is inconsistent and project-specific.	Colonias, federally-recognized tribes with land in a rural area, and State and local governments or nonprofit WSCs that serve rural areas (defined as serving a population of 10,000 or less).	

Emergency Community Water Assistance Grants.¹⁶⁰

Funding Type	Funding Availability	Eligible Entities	Other Notes
Grants	Year-round	Colonias, federally-recognized tribes with land in a rural area, and State and local governments or nonprofit WSCs that serve rural areas (defined as serving a population of 10,000 or less). The area must also have a median household income that is less than the state's median household income for non-metropolitan areas.	This program helps eligible communities prepare, or recover from, an emergency that threatens the availability of safe, reliable drinking water. Emergencies include drought, floods, earthquakes, hurricanes, and chemical spills.

Environmental Protection Agency (EPA)¹⁶¹

Water Infrastructure Finance and Innovation Act (WIFIA) Program.¹⁶²

Funding Type	Funding Availability	Eligible Entities	Other Notes
Loans at U.S. Treasury rates	Funding is announced each spring in a Notice of Funding issued by EPA. Applications are due in the summer. Advocates who are subscribed to EPA's Environmental Justice Listserv ¹⁶³ will get notifications when the funding is announced each year.	<ul style="list-style-type: none"> Local, state, or federal governmental entities Partnerships, joint ventures, corporations, and trusts State CWSRF or DWSRF programs 	<ul style="list-style-type: none"> \$5 million minimum project size for small communities (25,000 people or less). WIFIA will fund up to 49% of eligible project costs Total federal funding may not exceed 80% of eligible project costs Projects can get WIFIA and TWDB funding to cover total costs of project

Environmental Justice Small Grants and Collaborative Problem-Solving Cooperative Agreement Programs.¹⁶⁴

Funding Type	Funding Availability	Eligible Entities
Grants	These programs are not funded annually, but when there is funding, it will be available on EPA's website and notice of requests for applications will be posted on the EJ Listserv.	Incorporated, nonprofit, community-based organizations; tribal organizations or government entities.
Other Notes		
<ul style="list-style-type: none"> • The Small Grants Program was not funded for FY 2018, but will likely be funded in FY 2019 and every 2 subsequent years. It provides \$30,000 grants over the period of one year for community-based projects improving environmental and public health. • The Collaborative Problem-Solving Cooperative Agreement Grant Program requires successful applicants to use EPA's Environmental Justice Collaborative Problem-Solving Model ("CPS Model") as part of each project. Primarily, this means that applicants must collaborate with various stakeholders throughout the project, including community groups, government entities, industries, or academic institutions. 		

U.S.-Mexico Border Water Infrastructure Grant Program.¹⁶⁵

Funding Type	Funding Availability	Eligible Entities	Other Notes
Grants	Periodically; EPA will issue solicitations for applications when funding becomes available. The program was funding from 2011 to 2014 and again in 2017.	Public water systems located within 100 kilometers (62 miles) of the U.S.-Mexico border and do not have to be municipally-owned or nonprofit.	This program works in conjunction with the Border Environment Cooperation Commission. ¹⁶⁶

Appendix 9.

SDWA Citizen Suit Sample Pleadings and Settlement Documents

Safe Drinking Water Act Citizen Suit Sample Notice Letter

**LAW OFFICE OF
TEXAS RIOGRANDE LEGAL AID, INC.**

LAREDO
1702 CONVENT AVE.
LAREDO, TX 78040
TELEPHONE (956) 718-4600 TOLL FREE (800) 369-2741
FAX (956) 727-8371

COPY

February 6, 2014

**BY HAND DELIVERY
AND BY CERTIFIED MAIL, RRR # 7012 2210 0000 7353 6409**

The Hon. Danny Valdez, Webb County Judge
The Hon. Mike Montemayor, Webb County Commissioner
The Hon. Rosaura Tijerina, Webb County Commissioner
The Hon. John Galo, Webb County Commissioner
The Hon. Jaime Canales, Webb County Commissioner
1000 Houston St., 3rd Floor
Laredo, TX 78040

Re: Second 60-Day Notice of Intent to Sue under Safe Drinking Water Act
El Cenizo/Rio Bravo Public Drinking Water System

Dear Webb County Judge and Commissioners:

Our office represents Comité de Ciudadanos Unidos de El Cenizo, Alianza de Rio Bravo Por Agua Pura and five individuals Bertha Torres, Ramiro Torres, Maria G. Gonzalez, Manuel Arnero and Manuela Menchaca (collectively Consumers).

Consumers hereby notify Webb County that in 60 days we intend to sue Webb County for violations of the federal Safe Drinking Water Act (SDWA), 42 U.S.C. 300g, et seq., as well as state regulations implementing the act and protecting Texas public drinking water systems. This notice supplements a notice sent to the County on August 26, 2013.

Comité de Ciudadanos Unidos de El Cenizo (Comité) and Alianza de Rio Bravo por Agua Pura (Alianza) are organizations of residents of El Cenizo and Rio Bravo, Texas, respectively. One of the missions of the Comité and Alianza is to protect the basic quality of life in their communities. The organizations were formed to address community concerns in and around El Cenizo and Rio Bravo, Texas. The Comité and Alianza were formed to address, among other things, problems with both the drinking water and wastewater systems in El Cenizo and Rio Bravo. Members of the organizations live and own homes in El Cenizo and Rio Bravo, pay water and sewage bills, and get their water from the system currently mismanaged by Webb County. One of the current missions of the Comité and Alianza is to ensure that their families have safe drinking water and are not exposed to other environmental insults (such as leaking sewage) in their communities.

Comité de Ciudadanos Unidos de El Cenizo's primary address is c/o Karla Tamez, 605 Morales Street, El Cenizo, Texas 78046, phone number 956-251-7279. Alianza de Rio Bravo por Agua Pura's primary address is c/o Maria G. Gonzalez, 1702 Gladiola Lane, Rio Bravo, Texas 78046,

mailing address is c/o Maria G. Gonzalez, P.O. Box 3615, Laredo, Texas 78044, phone number 956-727-0402.

Bertha Torres resides at 605 Morales Street, El Cenizo, Texas 78046; her phone number is 956-251-7279. Ramiro Torres resides at 539 Cadena, El Cenizo, Texas 78046; his phone number is 956-307-0333. Maria G. Gonzalez resides at 1702 Gladiola Lane, Rio Bravo, Texas 78046; her mailing address is P.O. Box 3615, Laredo, Texas 78044, and her phone number is 956-727-0402. Manuel Arnero resides at 1737 Centeno Lane, Rio Bravo, Texas 78046; his phone number is 956-725-7237. Manuela Menchaca resides at 1736 Centeno Lane, Rio Bravo, Texas 78046; her phone number is 956-728-8468. The above individuals pay water and sewage bills and get their water from the system currently mismanaged by Webb County.

Members of the Comite and Alianza have previously complained to Webb County about serious problems with the sewage system, whereby it leaks into their yards or streets and ultimately drains contaminated water into ditches and the Rio Grande River. Consumers have also complained to the County regarding problems with the drinking water system. Consumers notified Webb County of their intent to sue after boil water notices were required in August 2013.

Consumers prefer that Webb County take seriously the management of its drinking water and wastewater systems and ensure that both systems comply with federal and state law. Until that time, the Consumers will prepare to require Webb County to answer in federal court regarding its illegally operating drinking water system. Additionally we will ask that the County be required to pay penalties, and we will ask for our attorneys' fees and costs required for this litigation as allowed by the Safe Drinking Water Act, 42 U.S.C. 300j-8.

Consumers prefer to settle these claims with the County and are happy to negotiate with Webb County and the Texas Commission on Environmental Quality (TCEQ), regarding proper solutions to these serious violations. The financial liability of the County for these violations is tremendous, potentially in the tens of millions of dollars. Consumers prefer that the County properly operate the drinking water system and will work diligently to arrive at permanent, verifiable solutions to the problems.

Responding to complaints from Consumers, the Texas Commission on Environmental Quality (TCEQ) investigated the public water supply system run by Webb County and found serious violations of the Safe Drinking Water Act at the Rio Bravo Surface Water Treatment Plant. (A copy of TCEQ's investigation is attached as Exhibit A.) That investigation verified the complaints of Consumers and exposed a drinking water system in which the County does not properly maintain equipment, does not treat water as required by law, and does not monitor water quality correctly – and most significantly, does not ensure that drinking water meets federal standards. For each day of a violation, the County can be fined up to \$37,500.

The violations listed below cite Texas regulations implementing the federal Safe Drinking Water Act. The purpose of this notice is to alert Webb County that Consumers intend to bring litigation regarding the following violations of the law.

I. Equipment Violations of the Law

A. Laboratory testing equipment not properly calibrated. The meters used to measure

turbidity (cloudiness of the water) and pH had not been properly tested. Many of the instruments at the plant have had failures and expired standards, in violation of 30 TAC 290.46(s)(2).

B. Equipment not working. The following equipment was not working in the summer of 2013, in violation of 30 TAC 290.46(m):

1. automated monitoring and recording system (SCADA) – not operational since 2010; (for 2-1/2 years of violations, that is 912 violations)
2. online monitors and recorders for pH;
3. online monitors and recorders for residual;
4. online monitors and recorders for turbidity – not operational since 2009; (for 3-1/2 years of violations, that is 1,277 violations)
5. online monitors and recorders for air scour backwash;
6. missing gauges on filters;
7. chemical feed pumps for alum and polymer not operational.

C. Flow meters not working. The meters that measure raw water and recycled water coming into the plant were not working, in violation of 30 TAC 290.42(d)(5).

D. Monitors measuring turbidity not working since 2009. The monitors that measure the turbidity, or cloudiness, of the water have not been properly functioning since 2009 in violation of 30 TAC 290.111(e)(5)(c)(iii). The law requires monitors that measure turbidity to be continuously functioning. *Id.* (For 3-1/2 years of violations that is 1,277 violations.)

E. Storage tanks for polymers and alum do not meet legal requirements. Tanks for liquid storage must meet specific requirements. Also incompatible chemicals cannot be stored in the same structure. The County did not have a container for its polymer tank, and one of the walls for the alum containment structure was missing, in violation of 30 TAC 290.42(f)(1)(E)(ii).

II. Operation of Plant Violates Law

F. Disinfectants were not injected into the water at the proper place. When the County got its permit to operate the plant, engineers produced a study that described where chlorine and ammonia would be injected so as to properly disinfect the water. The disinfectants were not being injected as required by the study and the permit, in violation of 30 TAC 290.111(d)(2)(B).

G. The high-rate gravity filters were not operated properly. Water is supposed to flow through the gravity filters at 5.0 gallons per minute. On three times during the investigation the flow rate of the water was insufficient, in violation of 30 TAC 290.42(d)(11)(B)(ii).

Date	Legal Flow Rate Required 5.0 gallons/sq.'/minute (gpm)
8. Aug. 6, 2013	1.201
9. Aug. 8, 2013	1.242
10. Aug. 8, 2013	1.244

H. Failure to determine why water in filters was exceeding the turbidity levels. The law requires the County to determine why the turbidity is too high or produce a profile of the filter every time there are two consecutive violations, in violation of 30 TAC 290.111(e)(4)(A)(i).

The County violated this requirement on the following occasions:

Date	Filter	Required Level 1.0 NTU or below
11. July 11, 2013	4	3.33 and 6.39
12. July 12, 2013	4	1.73 and 2.14
13. July 15, 2013	3	1.37 and 2.36
14. July 15, 2013	4	2.56 and 4.13
15. August 1, 2013	4	1.04 and 1.14
16. August 2, 2013	4	1.41 and 1.32
17. August 3, 2013	4	1.96 and 1.46
18. August 4, 2013	4	1.38 and 1.57
19. August 5, 2013	4	1.61 and 1.50
20. August 5, 2013	4	1.92 and 1.11
21. August 5, 2013	4	1.74 and 2.04
22. August 8, 2013	4	1.01 and 1.32
23. August 9, 2013	4	1.13 and 1.36
24. August 9, 2013	3	1.32 and 2.41
25. August 10, 2013	3	1.44 and 1.36
26. August 12, 2013	4	1.43 and 1.05
27. August 13, 2013	4	1.30 and 1.01
28. August 14, 2013	4	1.48 and 1.64
29. August 14, 2013	4	1.48 and 1.31
30. August 14, 2013	4	1.31 and 1.12
31. August 15, 2013	4	1.35 and 2.70
32. August 16, 2013	3	1.16 and 1.22

I. Failure to assess filters when water had turbidity problem. During any three months, when the water filter exceeds the turbidity levels two times in a row on three separate occasions, the County must assess the filter. On the following dates, the County should have assessed the water filters, but instead the County violated 30 TAC 290.111(e)(4)(A)(ii).

33. On July 11, 12 and 15, 2013, there were 2 consecutive readings of exceedances. Within 14 days of July 15, Webb County should have conducted a filter assessment.
34. On August 1, 2 and 3, 2013, there were 2 consecutive readings of exceedances. Within 14 days of August 3, Webb County should have conducted a filter assessment.
35. On August 4, 5, and 8, 2013, there were 2 consecutive readings of exceedances. Within 14 days of August 8, Webb County should have conducted a filter assessment.
36. On August 9, 10, and 12, 2013, there were 2 consecutive readings of exceedances. Within 14 days of August 12, Webb County should have conducted a filter assessment.
37. On August 13, 14, and 16, 2013, there were 2 consecutive readings of exceedances. Within 14 days of August 16, Webb County should have conducted a filter assessment.

J. Failure to maintain appropriate water pressure. The water pressure in the system is supposed to be at least 35 psi. Water at lower pressures leads to low pressure in homes and can present problems for firefighters. The dates when low water pressure was measured in violation of 30 TAC 290.46(r) are listed below.

Date	Water Pressure Required 35 psi
38. August 6, 2013	27.7-34.2
39. August 7, 2013	23.9-32.8 & 22.9-33.6
40. August 8, 2013	26.1 - 34.0
41. August 9, 2013	26.8, 34.7
42. August 13, 2013	30.8, 25.4-32.8

K. Illegal disposal of sludge from the treatment plant. Sludge from a water treatment plant must be disposed of at a permitted site. The contractor for the County has illegally dumped 170,000-200,000 pounds of sludge from the treatment plant on an unpermitted site north of the county's wastewater treatment plant, in violation of 30 TAC 312.122(b).

L. Failure to use correct procedures when measuring chloramine in the water. There is a manual that describes how to measure chlorine residuals in the water system. The operators at the plant used the wrong procedures and therefore got the wrong levels as results, in violation of 30 TAC 290.110(d)(2).

M. Failure to have properly licensed operator at the plant at all times or in the alternative to have continuous monitors that automatically shut down. There must be a Class C operator at the plant at all times. If a person with that license is not at the plant, then the plant can have monitors that continuously monitor for turbidity and disinfectant residual. Such a continuous monitoring system must have automatic shutdown and alarms. Webb County had neither a Class C operator system nor the legally required monitoring system, in violation of 30 TAC 290.46(e)(6)(C).

N. Insufficient chlorine levels in the water tanks and distribution system. The chlorine residual is required to be 0.5 mg/L in each water tank and throughout the distribution system, but TCEQ detected the following levels, in violation of 30 TAC 290.46(d)(2)(B):

Date	Location	Required Chlorine Level 0.5 mg/L
43. Aug. 6, 2013	Morales & Silva intersection	0.4
44. Aug. 7, 2013	1539 Centeno	0.07
45. Aug. 7, 2013	1707 Centeno	0.09
46. Aug. 7, 2013	1521 Centeno	0.00
47. Aug. 7, 2013	1504 Margarita	0.22
48. Aug 6, 2013	Clearwell lab tap, total chlorine	0.24
49. Aug. 6, 2013	total chlorine in system	0.39
50. Aug. 7, 2013	total chlorine in system	0.34

III. County does not Monitor Water as Required by Law

O. Improper sampling and monitoring of chlorine, pH, temperature and flow rate of water.

The law requires that monitoring and samples comply with certain scientific requirements and that the sampling be done during peak hourly raw water flow rates. Webb County has submitted a monitoring plan to TCEQ, but that plan was not being followed, in violation of 30 TAC 290.111(d)(2)(A). Operators were collecting the sample immediately after the chlorine was injected instead of at the end of the zone, as required. (This monitoring method likely skewed results.) Also, the raw water meter at the transfer station was not working, so the workers were estimating a gallon per minute value instead of actually measuring a value.

P. Failure to measure and record the turbidity of water. Every four hours, the County must measure and record the turbidity levels of the water serving the public. This is a measure of the combined filter effluent. The County had not been regularly taking these measurements, in violation of 30 TAC 290.111(e)(3)(B).

Q. Failure to measure and record disinfectant level in the water. The law requires the County to either use a continuous monitor or to grab three samples each day to measure disinfectants in the water. The County does not have a continuous monitor system and was not taking three grab samples each day, in violation of 30 TAC 290.111(c)(1)(A).

R. Failure to comply with chemical and microbiological monitoring plan. The County's permit includes a monitoring plan for chemicals and microbiological entities. The County has not complied with the plan in the following ways, in violation of 30 TAC 290.121.

- 51. Coliform monitoring sites were not consistent with the plan filed with TCEQ.
- 52. Organic sampling locations in Table 2 of the plan were not included in the monitoring plan filed with TCEQ.
- 53. The County's disinfection zone monitoring did not comply with the plan or the TCEQ-approved CT study.

S. Failure to monitor turbidity levels every 15 minutes at the individual filters. The law requires the County to monitor and record the turbidity levels at each filter every 15 minutes. Since 2009, the automated monitoring and recording system (SCADA) and the online turbidimeters were not in operation. Turbidity readings were not recorded every 15 minutes as required for many years, in violation of 30 TAC 290.111(e)(3)(C). (This violation occurred for 3-1/2 years.)

IV. Water Quality Violates Legal Standards

T. Water turbidity measured in the combined filter effluent too high. The turbidity level of the combined effluent is required to be 1.0 NTU or less, but the following exceedances were detected and were not reported in the Monthly Operating Reports (MORs), in violation of 30 TAC 290.111(e)(1)(A):

	Date	Required Level 1.0 NTU or Below
54.	June 5, 2013	3.17

Safe Drinking Water Act Citizen Suit Sample Complaint

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
LAREDO DIVISION

COMITÉ DE CIUDADANOS UNIDOS	§	
DE EL CENIZO,	§	
ALIANZA DE RIO BRAVO POR AGUA	§	
PURA,	§	
BERTHA TORRES,	§	
MARIA G. GONZALEZ,	§	
MANUEL ARNERO, AND	§	
MANUELA MENCHACA,	§	
	§	
PLAINTIFFS,	§	CIVIL ACTION NO.
	§	
V.	§	JURY DEMANDED
	§	FOR VIOLATION PHASE
WEBB COUNTY, TEXAS,	§	
DEFENDANT.	§	

**PLAINTIFFS' COMPLAINT FOR DECLARATORY AND INJUNCTIVE
RELIEF**

I. INTRODUCTION

1. Defendant Webb County owns and operates the Rio Bravo Water Treatment Plant (the Plant), a public water system, with a history of continuously failing to provide safe drinking water to the public including 8,270 residents of Rio Bravo and El Cenizo, Texas.
2. Plaintiffs Comité de Ciudadanos Unidos de El Cenizo, Alianza de Rio Bravo por Agua Pura , Bertha Torres, Maria G. Gonzalez, Manuel Arnero and Manuela Menchaca bring this action under the citizen suit provisions of the Safe Drinking Water Act, 42 U.S.C. Sec. 300j-8, to ensure that Webb County will

comply now, and in the future, with the Safe Drinking Water Act (SDWA). 42 U.S.C. 300g, et seq.

3. Over the past five years, the Rio Bravo Water Treatment Plant (the Plant) has violated the SDWA regulations hundreds of times. Among those violations are selling public water with sediment levels so high that in August 2013 the County had to warn residents to boil their water before it was safe to drink.
4. Remarkably, County operators of the Plant have admitted to an incorrect, inaccurate and illegal method of reporting sediment levels, called turbidity. Instead of recording turbidity results as they were measured, Plant operators “made adjustments” to the water in the treatment plant and continued sampling the water being treated until the operators got a reading that complied with the drinking water standards and then entered that reading into the monthly report. Plaintiffs do not know for how many years turbidity levels in their drinking water exceeded the national standards for safe drinking water, or whether this method of sampling continues at the Plant.
5. In addition to using an incorrect and illegal method to record data, since as early as 2010, Plant operators have falsified Monthly Operating Reports (MORs) filed with the state’s regulatory agency, the Texas Commission on Environmental Quality (TCEQ). A comparison of MORs with daily operating reports for just two months in 2013 reveals more than sixty false statements. It appears that operators who falsified records continue to work for the Plant.

6. As early as 2010, Webb County officials were informed that their employees were falsely reporting data to the state. There is no indication that any steps have been taken to correct this false reporting.
7. Additionally, Defendant has violated the SDWA hundreds of times, including for reporting violations at the Plant, years of equipment failure, and years of improper operation and maintenance at the Plant. In order to stop the consistent pattern of violation the SDWA, the County must be required to take immediate steps to evaluate the operational and maintenance problems, replace and repair nonfunctional equipment, and begin testing and reporting water quality data honestly.
8. Webb County officials have been made aware repeatedly -- both by citizen complaints and state enforcement actions -- of the problems with the drinking water they are responsible for treating and providing but have consciously ignored the issues or attempted to conceal their importance and severity.
9. State enforcement actions have failed to ensure that the County complies with it with safe drinking water regulations and the SDWA. In fact, remarkably, a recent 2013 investigation by the State found some of the same violations cited in a 2010 investigation. A true and correct copy of TCEQ's Investigation Report is attached hereto and incorporated herein for all purposes as Exhibit A.
10. Plaintiffs seek both a declaratory judgment that their rights under the SDWA have been violated and are presently being violated and that there is a reasonable likelihood that past violations will be committed again in the future by

Defendant Webb County. Plaintiffs also seek as an injunction requiring immediate and ongoing compliance with the SDWA.

II. JURISDICTION

11. This court has jurisdiction pursuant to 28 U.S.C. §1331 (federal question) and under 42 U.S.C. Sec. 300j-8(a) (SDWA citizen suit).
12. The court has jurisdiction to enter a declaratory judgment pursuant to the Declaratory Judgment Act, 28 U.S.C. §§ 2201-2202.
13. Venue is proper pursuant to 28 U.S.C. § 1391.

III. PARTIES

14. Plaintiff Comité de Ciudadanos Unidos de El Cenizo (Comité) is an organization of residents of El Cenizo, Texas. Comité's general mission is to improve and protect the basic quality of life of residents in El Cenizo. One of Comité's principle purposes is to take civic action to resolve the problems with both the public drinking water and wastewater systems in El Cenizo. Members of the Comité live and own homes in in El Cenizo, get drinking water from the Rio Bravo Water Treatment Plant, and pay the County for their drinking water. All of Comité's members have been and are being adversely affected by Defendant Webb County's violations of the Safe Drinking Water Act.
15. Plaintiff Alianza de Rio Bravo por Agua Pura (Alianza) is an organization of residents of Rio Bravo, Texas. Alianza's general mission is to improve and protect the basic quality of life of residents in. Rio Bravo. One of Alianza's principle purposes is to take civic action to resolve the, problems with both the public drinking water and wastewater systems. Members of Alianza live and own

homes and Rio Bravo get their water from the Rio Bravo Water Treatment Plant and pay the County for their drinking water. All of Alianza's members have been and are being adversely affected by Defendant Webb County's violations of the Safe Drinking Water Act.

16. Plaintiff Bertha Torres is an individual who resides in El Cenizo, Texas. She is a member of Plaintiff Comité. She has been a consumer of the drinking water provided by Webb County's Water Treatment Plant since Webb County began operating the water plant years ago. She and her family of three have been and continue to be adversely affected by Webb County's violations of the SDWA, including suffering because of the extremely bad smell of the drinking water, the ill effects of the contaminants on their health, the economic costs of having to buy bottled water, and the burden and inconvenience of having to boil the water before consuming it.

17. Plaintiff Maria G. Gonzalez is an individual who resides in Rio Bravo, Texas. She is a member of Plaintiff Alianza. She has been a consumer of the drinking water provided by Webb County's Water Treatment Plant since Webb County began operating the water plant years ago. She and her family have been and continue to be adversely affected by Webb County violations of the SDWA including, suffering because of the extremely bad smell of the drinking water, the ill effects to their health caused by the contaminants in the drinking water, the economic costs of having to buy bottled water, and the burden and inconvenience of having to boil the water before consuming it.

18. Plaintiff Manuel Arnero is an individual who resides in Rio Bravo, Texas. He is also a member of Plaintiff Alianza. . He has been a consumer of the drinking water provided by Webb County's Water Treatment Plant since Webb County began operating the water plant years ago. He and his family have been and continue to be adversely affected by Webb County violations of the SDWA , including, suffering because of the extremely bad smell of the drinking water, the ill effects to their health caused by the contaminants in the drinking water, the economic costs of having to buy bottled water, and the burden and inconvenience of having to boil the water before consuming it.
19. Plaintiff Manuela Menchaca is an individual who resides in Rio Bravo, Texas. She is also a member of Plaintiff Alianza. She has been a consumer of the drinking water provided by Webb County's Water Treatment Plant since Webb County began operating the water plant years ago. She and her family have been and continue to be adversely affected by Webb County violations of the SDWA, including suffering because of the extremely bad smell of the drinking water, the ill effects to their health caused by the contaminants in the drinking water, the economic costs of having to buy bottled water, and the burden and inconvenience of having to boil the water before consuming it.
20. Defendant Webb County, Texas, is a political subdivision of the State of Texas. Its governing body is the Webb County Commissioners Court, which is constituted by the County Judge and four County Commissioners. Under Texas law, the County Judge serves as the County's Chief Executive Officer. Service of process may be effected on Defendant Webb County by delivering the

summons and a copy of the complaint to Webb County's Chief Executive Officer, Webb County Judge Daniel Valdez, 1000 Houston Street; 3rd Floor, Laredo, Texas 78040.

IV. STATEMENT OF FACTS

A. History of the Plant and Past Violations of the Safe Drinking Water Act

21. Webb County completed construction of the existing Rio Bravo Water Treatment Plant as well as wastewater services and lines in February 2010. The Texas Water Development Board, a state agency, provided the County \$27.9 million in Economically Distressed Areas Program grants for the project. The TWDB provided an additional \$3 million in grants to help complete the project.
22. The new Plant was heralded nationally for having a specially designed electronic monitoring system, called the Supervisory Control and Data Acquisition (SCADA) system. The Plant's SCADA equipment was the first in the nation to use both English and Spanish so that operators could choose their language of preference to operate the plant.
23. Before the Rio Bravo Treatment Plant was updated, Webb County had already violated the Safe Drinking Water Act at the older Rio Bravo Water Treatment Plant. In May 2009, County Judge Valdez received notices of violations because the Plant failed to maintain proper disinfectant levels in the drinking water. The County also had failed to submit a required report. (TCEQ CCEDS Report # 737532)
24. During the last quarter of 2008 and the first quarter of 2009, the Plant's drinking water contained excess trihalomethanes. Allegedly, according to TCEQ

notes, the problem was resolved. (TCEQ Enforcement Case # 37727, Docket No. 2009-0818-PWS-E)

25. On May 19, 2010, only months after the new Plant began operating, TCEQ inspected the Plant and cited the County for numerous violations of the Safe Drinking Water Act. The violations of the law included:

(a) Failure to maintain proper monthly disinfection levels required for public drinking water;

(b) Failure to properly report data on the Monthly Operating Reports filed with the TCEQ;

(c) Failure to maintain an updated water quality monitoring program;

(d) Failure to ensure maintenance so that online equipment is calibrated properly;

(e) Failure to submit a planning report once the water storage capacity reached 85%;

(f) Failure to properly enclose storage tanks; and

(g) Failure to make records available during an inspection.

(TCEQ CCEDS Report # 824259)

26. On May 20, 2010, after the new Plant had been operating only months, a resident called TCEQ to complain of “discolored and malodorous” drinking water. TCEQ found no violations of the law at that time but notified the County Judge Valdez of the complaint and the State’s conclusion.

27. A year later, in April 2011, TCEQ cited the Plant for more SDWA violations including:

- (a) Failure to calibrate the pH meter once every 30 days;
- (b) Failure to calibrate the turbidimeter (which measures turbidity or sediment in the water) every 90 days;
- (c) Failure to maintain the proper disinfectant residual level in the drinking water; and
- (d) Failure to provide a tight-fitting overflow cover.

A notice of these violations was provided to County Judge Valdez in April 2011. (TCEQ CCEDS # 959203)

28. Ten months later, in February 2012, TCEQ reviewed the Plant's files to see if the Plant was complying with the SDWA. Almost a year later, the Plant still had not corrected the April 2011 problems. TCEQ issued an "inadequate documentation" letter to County Judge Valdez for active violations.
29. Beginning in April 2013, operator logs at the Plant started recording low monochloramine levels, which can cause taste and odor problems in drinking water. Those improper chlorine levels evince problems with the disinfectant process. (TCEQ Report on Aug. 2013 investigation, hereinafter Investigation, p. 3, attached as Exhibit A).
30. Two years after the April 2011 findings of violations, in May 2013, TCEQ reviewed the Plant's records to find that all but one of the 2011 violations had been resolved. But the County still had not purchased a tight-fitting overflow cover to protect the water. The records are not clear whether that cover has been installed.

31. In addition, the May 2013 investigation uncovered similar but new violations of the SDWA. Plant operators continued to improperly disinfect the drinking water, and di- and tri- chloramines appeared to be forming in the drinking water distribution system. (These problems were similar the April 2011 findings related to disinfectant residual.) TCEQ notified County Judge Valdez regarding these violations.
32. In May 2013, TCEQ asked its private contractor to provide free technical assistance at the Plant to teach County operators how to properly disinfect the water. The contractor notified TCEQ that assistance could not be provided because the County did not have “functional equipment at the plant.” (Investigation, p. 3)
33. Even though TCEQ knew in May 2013 that there was not “functional equipment” at the Plant, besides sending a letter to County Judge Valdez in June, no additional steps appear to have been taken to ensure safe drinking water to Plaintiffs.
34. The TCEQ records contain no evidence of any actions taken by the County to repair its equipment after June 2013. To this date, Plaintiffs are not assured that the Plant has “functional equipment” to provide them safe drinking water.
35. On June 6, 2013, another resident complained to TCEQ of malodorous drinking water. A TCEQ investigation revealed continued improper disinfection of the drinking water and ongoing possible formation of di- and tri- chloramines

in the drinking water distribution system. On August 5, 2013, TCEQ issued yet another letter to County Judge Valdez.

36. In June and August 2013, TCEQ notified Webb County Judge Valdez of problems with the disinfectant process as well as the lack of functioning equipment at the Plant. (Investigation, p. 3)

37. Then, on August 6, 2013, more residents complained of malodorous drinking water. This time, TCEQ's tests of the public drinking water found coliform bacteria.

38. On August 7, 2013, TCEQ tested the water for coliform. Four samples of drinking water taken by TCEQ at the Plant tested positive for total coliform. (Investigation, p. 3) The Safe Drinking Water Act required Webb County to warn customers to boil their water before drinking it.

39. Webb County issued a boil water notice on August 8, 2013. The notice informed Plaintiffs and residents:

“To ensure destruction of all harmful bacteria and other microbes, water for drinking, cooking, and making ice should be boiled and cooled prior to use. The water should be brought to a vigorous, rolling boil and then boiled for two minutes. In lieu of boiling, you may purchase bottled water or obtain water from some other suitable source.” (Webb County Boil Water Notice, August 8, 2013)

40. For every day from August 8 through August 30, 2013, the County was required to issue boil water notices because it took three weeks for the drinking water tests to show that the water was safe to drink. The water had turbidity problems that required the notice.

41. For more than three weeks, Plaintiffs could not drink the water from their tap. They had to purchase bottled water or boil their water for at least two

minutes before consuming it.

42. In August 2013, TCEQ began seriously investigating the Rio Bravo Treatment Plant. A six-week investigation, reviewing records in July and August 2013, as well as operations at the Plant, found hundreds of violations of the SDWA.

B. How Drinking Water is Treated and Regulated to Be Safe

43. Drinking water is filtered and treated with particular chemicals in order to remove unhealthful constituents.
44. The chemicals injected into the drinking water must be in the proper amounts or else the water will not be safe. The disinfectant levels cannot be too low or too high.
45. The filters and other equipment at the plant must be functional to appropriately remove unhealthful constituents.
46. The water must be properly monitored to ensure that it meets standards for safe drinking water.
47. Finally, public drinking water systems must report the results of their monitoring to assure regulatory authorities that the water supplied to the public meets drinking water standards.
48. The Plant has failed and continues to fail to meet the requirements in the basic treatment, monitoring and reporting of safe drinking water, outlined in paragraphs 43-47.

C. Rio Bravo Plant Violates Standards for Drinking Water

49. Just during the July and August 2013 TCEQ investigation, the Plant's

water quality violated the chlorine requirements eight times. There was insufficient chlorine in the drinking water, in violation of 30 Tex. Admin. Code § 290.46(d)(2)(B). Since the Plant operators were not properly measuring chlorine residuals in the drinking water, (see, e.g. para. 69, *infra*), it cannot be determined how many other violations of this standard occurred. The violations measured were:

Date Level	Location	Required Chlorine 0.5 mg/L or more
Aug. 6, 2013	Morales & Silva intersection	0.4
Aug. 7, 2013	1539 Centeno	0.07
Aug. 7, 2013	1707 Centeno	0.09
Aug. 7, 2013	1521 Centeno	0.00
Aug. 7, 2013	1504 Margarita	0.22
Aug 6, 2013	Clearwell lab tap, total chlorine	0.24
Aug. 6, 2013	total chlorine in system	0.39
Aug. 7, 2013	total chlorine in system	0.34

50. Just during the few months that TCEQ investigated the Rio Bravo Treatment Plant, water samples violated turbidity standards more than 80 times. The measurement of turbidity is called an NTU (nephelometric turbidity unit). Those violations of 30 Tex. Admin. Code § 290.111(e)(1)(A) occurred:

Date	Required Level 1.0 NTU or Below
June 5, 2013	3.17
June 6, 2013	2.49

June 6, 2013	2.43
June 7, 2013	2.32
June 9, 2013	1.86
June 9, 2013	1.58
June 10, 2013	1.56
June 11, 2013	1.20
June 11, 2013	1.31
June 12, 2103	1.47
June 13, 2013	2.05
June 14, 2013	1.89
June 18, 2013	1.97
June 18, 2013	2.15
June 19, 2013	1.69
June 19, 2013	1.65
July 1, 2013	1.79
July 3, 2013	1.72
July 3, 2013	1.55
July 8, 2013	1.52
July 8, 2013	1.43
July 8, 2013	2.03
July 17, 2013	1.31
July 17, 2013	1.19
July 18, 2013	1.33

July 18, 2013	1.31
July 19, 2013	1.98
July 19, 2013	1.73
July 30, 2013	3.64
July 31, 2013	1.27
August 3, 2013	1.29
August 3, 2013	1.46
August 4, 2013	1.38
August 4, 2013	1.57
August 5, 2013	1.61
August 5, 2013	1.50
August 8, 2013	1.72
August 10, 2013	1.07
August 10, 2013	1.20
August 10, 2013	1.22
August 11, 2013	1.64
August 11, 2013	1.90
August 11, 2013	1.20
August 11, 2013	1.08
August 11, 2013	1.55
August 12, 2013	1.55
August 12, 2013	1.36
August 12, 2013	1.08

August 12, 2013	1.05
August 13, 2013	1.17
August 13, 2013	1.12
August 13, 2013	1.05
August 13, 2013	1.20
August 13, 2013	1.38
August 14, 2013	1.84
August 14, 2013	1.48
August 14, 2013	1.86
August 14, 2013	1.63

The turbidity level of the combined effluent is required to be 1.0 NTU or less, but the following exceedances in two hour readings were detected:

August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89

August 15, 2013	between 1.31 and 1.89
August 15, 2013	between 1.31 and 1.89
August 16, 2013	between 1.06 and 2.76
August 16, 2013	between 1.06 and 2.76
August 16, 2013	between 1.06 and 2.76
August 16, 2013	between 1.06 and 2.76
August 16, 2013	between 1.06 and 2.76
August 16, 2013	between 1.06 and 2.76
August 16, 2013	between 1.06 and 2.76
August 16, 2013	between 1.06 and 2.76
August 19, 2013	1.55
August 19, 2013	1.10
August 22, 2013	1.97
August 22, 2013	1.38
August 22, 2013	1.10
September 4, 2013	1.24

51. Additionally, turbidity concentrations were in excess of required standards at individual filters on numerous occasions during TCEQ's investigation, violating 30 Tex. Admin. Code § 290.111(e)(2)(A).

Date	Filter	Required Level 1.0 NTU or Below
June 12, 2013	4	2.36
July 1, 2013	4	1.10

The following turbidity levels exceeded the 1.0 NTU level and also were not

reported on the monthly operating reports.

July 11, 2013	4	3.33
July 11, 2013	4	6.39
July 12, 2013	3	1.11
July 12, 2013	4	1.73
July 12, 2013	4	2.14
July 15, 2013	3	1.37
July 15, 2013	3	2.36
July 15, 2013	4	2.56
July 15, 2013	4	4.13
August 1, 2013	4	1.04
August 1, 2013	4	1.14
August 2, 2013	4	1.41
August 2, 2013	4	1.32
August 3, 2013	4	1.96
August 3, 2013	4	1.46
August 4, 2013	4	1.38
August 4, 2013	4	1.57
August 5, 2013	4	1.61
August 5, 2013	4	1.50
August 5, 2013	4	1.92
August 5, 2013	4	1.11
August 5, 2013	4	1.74

August 5, 2013	4	2.04
August 8, 2013	4	1.01
August 8, 2013	4	1.32
August 9, 2013	4	1.13
August 9, 2013	4	1.36
August 9, 2013	3	1.32
August 9, 2013	3	2.41
August 10, 2013	3	1.44
August 10, 2013	3	1.36
August 12, 2013	4	1.43
August 12, 2013	4	1.05
August 13, 2013	4	1.30
August 13, 2013	4	1.01
August 14, 2013	4	1.48
August 14, 2013	4	1.64
August 14, 2013	4	1.48
August 14, 2013	4	1.31
August 14, 2013	4	1.12
August 15, 2013	4	1.35
August 15, 2013	4	2.70
August 16, 2013	3	1.16
August 16, 2013	3	1.22

52. On information and belief, in November 2013, the Plant violated the

SDWA when less than 95% of its monthly turbidity readings were under 0.3 NTUs. 30 T.A.C. 290.111(e)(1)(B). Upon further information and belief, the Plant has continued and is continuing to violate the SDWA by having less than 95% of its monthly turbidity measurements under 0.3 NTUs. *Id.* The County was and is required to investigate the cause of the problem and take appropriate corrective action but it has not done so.

D. Equipment Not Functioning and Not Properly Maintained

53. According to Plant operator Luis Camacho, since 2010 the heralded electronic SCADA monitoring system has been malfunctioning at the Plant. (Investigation, p. 3)
54. Plant operators have not properly tested the meters used to measure turbidity or the meters used to test pH. Many of the instruments at the plant do not function and have expired standards, in violation of 30 Tex. Admin. Code § 290.46(s)(2).
55. The following equipment was not properly operating at the Plant in the summer of 2013, in violation of 30 Tex. Admin. Code § 290.46(m). The duration of the most equipment failure is unknown at the time, and there is no evidence to indicate that all the equipment has been repaired:
- (a) online monitors and recorders for pH;
 - (b) monitors and recorders for chlorine residual;
 - (c) online monitors and recorders for turbidity – not operational since 2009;
 - (d) online monitors and recorders for air scour backwash;
 - (e) missing gauges on filters; and

(f) chemical feed pumps for alum and polymer not operational.

56. The meters that measure raw water and recycled water coming into the plant were not properly functional in 2013, in violation of 30 Tex. Admin. Code § 290.42(d)(5). The duration of time is unclear at this point, and there is no evidence to indicate these meters have been repaired.

57. Since 2009, the monitors that measure turbidity in the water have not been properly functioning, in violation of 30 Tex. Admin. Code § 290.111(e)(5)(c)(iii).

58. In August 2013, the Plant's tanks for liquid storage did not meet regulatory requirements. Incompatible chemicals had been stored in the same structure. The County did not have a container for its polymer tank, and one of the walls for the alum containment structure was missing, in violation of 30 Tex. Admin. Code § 290.42(f)(1)(E)(ii). There is no evidence to indicate this has been corrected.

59. The July 22, 2013, agenda of the Webb County Commissioners Court notified the public on July 22, 2013 that the County would consider approval of a contract to clean sediment ponds at the Rio Bravo Water Treatment Plant. The minutes do not indicate that the item was approved.

60. A review of Webb County Commissioners Court agendas and minutes after the numerous violations of the SDWA were discovered reveals no expenditures to correct the serious problems with the Plant.

61. Since the 2013 violations were discovered, Webb County has consulted with an engineering firm to assist in compliance with the SDWA, but that contract languishes, with no funding supplied to the contractors to begin any work.

62. Additionally, the Scope of Work for the Consulting Engineering work merely requires: training employees, conducting a contact time study for disinfectant, making recommendations for operating “efficiency,” prioritizing equipment maintenance and replacement, creating standards for operating the Plant, and recommending changes in the billing process. It is unclear how the consulting engineers can train Plant employees how to operate a plant that does not have functional equipment, the same dilemma faced by free consultants offered by TCEQ in May 2013. The scope of work does not require the consultants to ensure that equipment is replaced or to monitor compliance with any procedures. The scope of work does not seek to find the operators who have falsified reports. The scope of work does not provide for any public briefing or opportunity for the public to review the consultants’ comments. (Webb County RFQ-2013-013 “Water Treatment Plant Operation Services.”)

E. Water Plant Not Properly Run – Water Not Properly Disinfected

63. In order to legally operate a public water supply system of the size of the Rio Bravo Plant, there must be a licensed Class C operator of the system on the site at all times. 30 Tex. Admin. Code § 290.46(e)(6)(C). If a Class C operator is not at the plant, then the plant must have monitors that continuously monitor for turbidity and disinfectant residual. Such a continuous monitoring system must have automatic shutdown and alarms. Webb County had neither a Class C operator system nor the legally required monitoring system in August 2013. It is unclear how long Webb County violated this requirement.

64. In order to be permitted to operate a public drinking water plant, engineers for Webb County had to design a disinfectant study showing how water taken from the Rio Grande River would be properly disinfected. Engineers produced a study that described where chlorine and ammonia would be injected so as to properly disinfect the water. On information and belief, since 2010, disinfectants have not being injected as required by the study and the permit, in violation of 30 Tex. Admin. Code § 290.111(d)(2)(B).

65. During the treatment process, water is required to flow through the gravity filters at 5.0 gallons per minute. Three times during TCEQ’s six-week investigation the flow rate of the water was insufficient, in violation of 30 Tex. Admin. Code § 290.42(d)(11)(B)(ii). Because County records are insufficient, and have been falsified, it is unclear how many times the flow rate did not and still does not comply with the law.

Date	Legal Flow Rate Required 5.0 gallons/sq. /minute (gpm)
Aug. 6, 2013	1.201
Aug. 8, 2013	1.242
Aug. 8, 2013	1.244

66. When turbidity levels exceed standards consecutively, Plant operators must determine how to prevent a future violation. Just during the TCEQ Investigation, the County violated this requirement over twenty times, in violation of 30 Tex. Admin. Code § 290.111(e)(4)(A)(i):

Date	Filter	Required Level 1.0 NTU or below
-------------	---------------	--

July 11, 2013	4	3.33 and 6.39
July 12, 2013	4	1.73 and 2.14
July 15, 2013	3	1.37 and 2.36
July 15, 2013	4	2.56 and 4.13
August 1, 2013	4	1.04 and 1.14
August 2, 2013	4	1.41 and 1.32
August 3, 2013	4	1.96 and 1.46
August 4, 2013	4	1.38 and 1.57
August 5, 2013	4	1.61 and 1.50
August 5, 2013	4	1.92 and 1.11
August 5, 2013	4	1.74 and 2.04
August 8, 2013	4	1.01 and 1.32
August 9, 2013	4	1.13 and 1.36
August 9, 2013	3	1.32 and 2.41
August 10, 2013	3	1.44 and 1.36
August 12, 2013	4	1.43 and 1.05
August 13, 2013	4	1.30 and 1.01
August 14, 2013	4	1.48 and 1.64
August 14, 2013	4	1.48 and 1.31
August 14, 2013	4	1.31 and 1.12
August 15, 2013	4	1.35 and 2.70
August 16, 2013	3	1.16 and 1.22

67. Also, when turbidity measurements exceed drinking water standards two

times in a row on three separate occasions during any three months, a Plant operator must assess the water filters to determine if there is a problem. During the TCEQ investigation, the County should have assessed its filters at least five times, but instead violated 30 Tex. Admin. Code § 290.111(e)(4)(A)(ii):

(a) On July 11, 12 and 15, 2013, there were 2 consecutive readings of exceedances. Within 14 days of July 15, Webb County should have conducted a filter assessment.

(b) On August 1, 2 and 3, 2013, there were 2 consecutive readings of exceedances. Within 14 days of August 3, Webb County should have conducted a filter assessment.

(c) On August 4, 5, and 8, 2013, there were 2 consecutive readings of exceedances. Within 14 days of August 8, Webb County should have conducted a filter assessment.

(d) On August 9, 10, and 12, 2013, there were 2 consecutive readings of exceedances. Within 14 days of August 12, Webb County should have conducted a filter assessment.

(e) On August 13, 14, and 16, 2013, there were 2 consecutive readings of exceedances. Within 14 days of August 16, Webb County should have conducted a filter assessment.

68. Webb County must maintain appropriate water pressure throughout its public water system. During the TCEQ 2013 investigation, water pressure violated standards on five occasions, violating 30 Tex. Admin. Code § 290.46(r):

Date	Water Pressure Required 35 psi
-------------	---------------------------------------

August 6, 2013	27.7-34.2
August 7, 2013	23.9-32.8 & 22.9-33.6
August 8, 2013	26.1 – 34.0
August 9, 2013	26.8, 34.7
August 13, 2013	30.8, 25.4-32.8

69. Plant operators did not use correct procedures to measure chlorine residuals in the water system in August 2013, in violation of 30 Tex. Admin. Code § 290.110(d)(2). It is unclear how long the operators have been improperly measuring chloramine and whether there have been years of violation of standards. It is also not clear whether correct procedures are being properly used at the time.
70. The law requires that monitoring and samples comply with certain scientific requirements and that the sampling be done during peak hourly raw water flow rates. Webb County has submitted a monitoring plan to TCEQ, but that plan has not been followed. There is no evidence to show whether the plan is now being followed.
71. Plant operators have been collecting water samples immediately after the chlorine was injected instead of at the end of the zone, as required. (This monitoring method likely has skewed results reported to the state.)
72. Because the raw water meter at the transfer station has not been functional, Plant workers have been estimating a gallon per minute value instead of actually measuring a value.
73. As a result of the problems listed in paragraphs 63-72, Plant operators

improperly sampled and monitor levels for chlorine, pH, temperature, and flow rate of water, in violation of 30 Tex. Admin. Code § 290.111(d)(2)(A). It is unclear for how long these violations have occurred and whether they are still occurring.

74. Every four hours, the County must measure and record the turbidity levels of the water serving the public. This is a measure of the combined filter effluent. The County has not been regularly taking these measurements, violating 30 Tex. Admin. Code § 290.111(e)(3)(B). It is unclear for how long these violations occurred and whether they are still occurring.

75. The law requires the County to either use a continuous monitor or to take three “grab samples” each day to measure disinfectants in the water. The County does not have a continuous monitoring system and was not taking three grab samples each day as required by 30 Tex. Admin. Code § 290.111(c)(1)(A). It is unclear for how long these violations have occurred and whether they are still occurring.

76. Webb County’s monitoring plan requires sampling for certain chemicals and microbiological substances. The County has not complied with its monitoring plan and has violated and within a reasonable likelihood is still violating 30 Tex. Admin. Code § 290.121 in the following ways:

(a) Coliform monitoring sites were not consistent with the plan filed with TCEQ;

(b) Organic sampling locations in Table 2 of the plan were not included in the monitoring plan filed with TCEQ.

(c) The County's disinfection zone monitoring did not comply with the plan or the TCEQ-approved Contact Time (CT) study.

77. The County must monitor and record the turbidity levels at each filter every 15 minutes. Since 2009, the automated monitoring and recording system (SCADA) and the online turbidimeters have not been in operation. Turbidity readings have not been recorded every 15 minutes as required for at least 3-1/2 years, in violation of 30 Tex. Admin. Code § 290.111(e)(3)(C).

F. County Violates Duty to Retain Water Quality Records

78. Water treatment systems must retain certain reports for at least ten years. Webb County has not kept the following reports as required by 30 Tex. Admin. Code § 290.46(f)(3)(E). The County has failed to retain ten years of the following records:

(a) Monthly Operating Reports (MORs) and supporting turbidity monitoring results;

(b) individual operator logs for data transferred to the official operator log for June, 2013; and

(c) individual filter effluent 15-minute electronic readings after 2009.

79. Even after being informed of hundreds of violations of the SDWA, the County failed to file its Monthly Operating Report in November 2013. As of March 2014, that report has not been filed with TCEQ.

G. The County Has Repeatedly Filed False Reports with the State

80. In June 2013, the County filed its required Monthly Operating Report signed by plant operator Gabino Cerda, which falsely reported sediment levels in

the drinking water, reflected in the turbidity of the water. On 17 occasions in June, the plant records showed levels over 0.3 NTU (Nephelometric turbidity units), but the County reported levels under 0.3 NTU. The false reports in June are listed below:

Date	Plant Records	Official Report to the State Monthly Operating Report
June 5	3.17	<0.3
June 6	2.49	<0.3
June 6	2.43	<0.3
June 7	2.32	<0.3
June 9	1.86	<0.3
June 9	1.58	<0.3
June 10	1.56	<0.3
June 10	1.19	<0.3
June 11	1.20	<0.3
June 11	1.31	<0.3
June 12	1.47	<0.3
June 13	2.05	<0.3
June 14	1.89	<0.3
June 18	1.97	<0.3
June 18	2.15	<0.3
June 19	1.69	<0.3
June 19	1.65	<0.3

(Investigation, p. 4)

81. During the investigation of June 2013 turbidity reporting, the Plant did not have any additional logs after June 19. Thus, reporting for the rest of June could not be verified. The County had not been regularly taking these measurements, in violation of 30 TAC 290.111(e)(3)(B). (Investigation, p. 4)

82. Disinfection data on the Plant's logs did not match the data reported to the state in June 2013, with none of the required data after June 19, 2013. (Investigation, p. 4)

83. Individual filter effluent data (IFE) were also falsely reported to TCEQ in June 2013. Defendant did not have any additional reports for the entire month of June.

Date	Plant Records	Official Report to the State
June 12	2.36	0.58

84. In July 2013, the County continued to make false reports of turbidity levels to TCEQ. In its July 2013 report, signed by plant operator John Amaya, the County falsely reported turbidity data to TCEQ 27 times.

Date	Plant Records	Official Report to the State
July 1	1.79	<0.3
July 3	1.72	<0.3
July 3	1.55	<0.3
July 4	>0.3	<0.3
July 7	>0.3	<0.3
July 8	1.52	<0.3

July 8	1.43	<0.3
July 8	2.03	<0.3
July 9	>0.3	<0.3
July 10	>0.3	<0.3
July 11	>0.3	<0.3
July 12	>0.3	<0.3
July 13	>0.3	<0.3
July 14	>0.3	<0.3
July 15	>0.3	<0.3
July 17	1.31	<0.3
July 17	1.19	<0.3
July 18	1.33	<0.3
July 18	1.31	<0.3
July 19	1.98	<0.3
July 19	1.73	<0.3
July 24	>0.3	<0.3
July 25	>0.3	<0.3
July 26	>0.3	<0.3
July 27	>0.3	<0.3
July 30	3.64	<0.3
July 31	1.27	<0.3

(Investigation, pp. 4-5)

85. According to TCEQ, for “every date in July 2013 [the County] misreported IFE turbidity values.” (Investigation, p 5) Specific false report for July individual reporting include:

Date	Plant Records	Official Report to the State
July 1	1.10	0.56

(Investigation, p. 5)

86. The County had two logs monitoring water qualify for July 2013 written in two different handwriting styles, neither of which corresponded to the Monthly Operating Report filed by the County. The second monitoring log was shown to TCEQ in August 2013; these August logs (the second entry for each day below) show, for the most part, lower numbers than that reported in the July log. According to TCEQ, the County filed false filter data twelve times in its July 2013 reports to the state.

Date	Filter	Plant Records	Report to the State
July 11	3	0.63	0.65
July 11	3	0.64	0.64
July 11	4	6.39	0.64
July 11	4	0.8	0.64
July 12	3	1.11	0.59
July 12	3	0.59	0.59
July 12	4	2.14	0.65
July 12	4	0.84	0.65
July 15	3	2.36	0.55

July 15	3	0.77	0.55
July 15	4	4.13	0.56
July 15	4	0.89	0.56

87. On August 26, 2013, TCEQ officials including the TCEQ regional director, had a conference call and discussed August 2013 false reports with County Judge Valdez, Commissioner Montemayor and Mr. Luis Perez, Webb County Engineer. TCEQ specifically discussed with County officials “discrepancies between an operator’s handwritten notes and the operator log.” (Investigation, p. 5) The operator’s notes listed turbidity values for individual filter 3 being 1.15 NTU and filter 4 being 1.15 NTU. But those values were officially reported as 0.26 NTU (not 1.15) and 0.53 (not 1.15). (Investigation, p. 5) In this meeting, TCEQ required the County to submit sampling results to TCEQ by 8:30 am each day.

88. Even after a specific conversation with County officials regarding false reporting, TCEQ still discovered misrepresentations. On September 5, 2013, TCEQ investigator Elizabeth Hull reviewed the Plant Operator’s notes and compared them to what was reported in the official operator log. The following false numbers were reported:

Date	Plant Operator’s Notes	Official Operator Log
Sept. 4	1.24 NTU for CFE	0.81 NTU for CFE
Sept. 4	5.8 mg/L total chlorine	4.0 mg/L total chlorine
Sept. 4	1.18 NTU for filter 1	0.85 NTU for filter 1

(Investigation, p. 7)

89. On September 5, 2013, Plant operators admitted a pattern of improper sampling. The operators explained that when sampling found a high turbidity reading, the operators would “make adjustments in the plant and resample until an acceptable reading [wa]s obtained and ... report the lowest turbidity value on the log.” (Investigation, p. 7) In other words, accurate information was not reported.

90. Monthly Operating Reports must report information about not just turbidity but also pH, chlorine residual, and raw water pumpage. Even though individual operator logs for the Plant show no sampling for these parameters, the monthly reports in June and July 2013 reported data to the State. There is no backup for these data. It appears these data were simply falsely reported.

91. It appears employees who falsified records still work at the Plant.

92. Even though willfully filing false claims on federally required documents is a criminal violation, 18 U.S.C. § 1001, no criminal charges have been brought against those who repeatedly filed the falsified documents. There is precedent for criminally prosecuting operators of water plants who have falsified records. *See, e.g., U.S. v. Wright*, 986 F.2d 1036 (10th Cir. 1993); and *U.S. v. Louisiana Pacific*, 925 F.Supp. 184 (D. Col. 1986).

93. Likewise, the licenses of operators who filed false reports have not been suspended.

H. The County Repeatedly Fails to Notify the Public and TCEQ of Water Quality Problems

94. When the turbidity levels in the drinking water exceed 5.0 NTU, the County must issue a boil water notice within 24 hours. Because Plant operators did not properly test for turbidity and did not accurately report these data, it is

impossible to know how many times the turbidity levels exceeded drinking water standards, or whether the levels continue to exceed standards. It is clear that the County failed to issue a notice in July 2013, in violation of 30 Tex. Admin. Code § 290.46(q).

Date	Drinking Water Standard Less than 5.0 NTU
July 11, 2013	6.39

95. The County must notify TCEQ when the turbidity of the combined filter effluent exceeds 1.0. On the following dates, the County failed to notify TCEQ and violated 30 Tex. Admin. Code § 290.111(j)(2):

June 5, 2013

June 6, 2013

June 7, 2013

June 9, 2013

June 10, 2013

June 11, 2013

June 12, 2013

June 13, 2013

June 14, 2013

June 18, 2013

June 19, 2013

July 1, 2013

July 3, 2013

July 8, 2013

July 17, 2013

July 18, 2013

July 19, 2013

July 30, 2013

July 31, 2013

August 3, 2013

August 4, 2013

August 5, 2013

August 8, 2013

September 4, 2013

96. The County has a duty to notify the public of an acute threat to public health, specifically that the County had failed to consult with TCEQ when its combined filter effluent turbidity readings exceeded 1.0 NTU, in violation of 30 Tex. Admin. Code § 290.111(j)(2)(B). The duty to notify the customers was triggered by turbidity readings and failure to consult on the following dates:

June 5, 2013

June 6, 2013

June 7, 2013

June 9, 2013

June 10, 2013

June 11, 2013

June 12, 2013

June 13, 2013

June 14, 2013

June 18, 2013

June 19, 2013

July 1, 2013

July 3, 2013

July 8, 2013

July 17, 2013

July 18, 2013

July 19, 2013

July 30, 2013

July 31, 2013

August 3, 2013

August 4, 2013

August 5, 2013

August 8, 2013

September 4, 2013

V. CAUSE OF ACTION UNDER THE SAFE DRINKING WATER ACT

97. Plaintiffs incorporate paragraphs 1-96.
98. Plaintiff's Alianza de Rio Bravo por Agua Pura and its members, Comité de Ciudadanos Unidos de El Cenizo and its members, and Bertha Torres, Maria G. Gonzalez, Manuel Arnero and Manuela Menchaca are "persons" within the meaning of the Safe Drinking Water Act's "citizen suit" provisions set forth in 42 U.S.C. § 300j-8(a) of the SDWA.

99. Defendant Webb County, Texas, as the owner and operator of a “public water system” (PWS), the Rio Bravo Water Treatment Plant, was and continues to be subject to the SDWA, 42 U.S.C. §§ 300g, et seq., and is amenable to suit by Plaintiffs for violating the SDWA under the “citizen suit” provisions set forth in 42 U.S.C. § 300j-8(a)(1)

100. Plaintiffs have complied with the SDWA’s “citizen suit” conditions precedent that must be satisfied before a suit may be filed, including providing Defendant Webb County and the TCEQ with a formal 60-day notice of intent to sue under the SDWA that fully complied with all of the requisites of such notice. See attached Exhibit B, a true and correct copy of the 60-day notice, which is incorporated by reference herein for all purposes. This suit has been brought after the 60-day period has run as required by the “citizen suit” provisions of the SDWA. See, 42 U.S.C. §. 300j-8.(b)(1)(A).

101. Pursuant to to 42 U.S.C. § 300g-2(a)(1) of Safe Drinking Water Act, the State of Texas has been granted primary enforcement responsibility over public water systems in Texas that are subject to the SDWA. This grant of SDWA enforcement power required the State of Texas to adopt "drinking water regulations that are no less stringent than the national primary drinking water regulations promulgated by the Administrator [of EPA]." *Id.*; see, also, 40 C.F.R. Part 141 (National Primary Drinking Water Regulations). Texas had adopted regulations, found in Chapter 30 Tex. Admin. Code § 290.01 et seq., that track the federal drinking water regulations. Therefore, all violations of Chapter 30 of Texas Admin. Code § 290.01, et seq., alleged herein, are also violations of the

SDWA and its implementing regulations found in 40 C.F.R. Part 141.

102. As stated in the foregoing, Defendant Webb County has failed and continues to fail to meet treatment, compliance, monitoring, water quality, and reporting requirements under the Safe Drinking Water Act. Further, water quality repeatedly violates standards for turbidity and chlorine residual. Defendant Webb County has violated at least 24 different regulatory provisions of the Safe Drinking Water Act's regulations, as detailed in paragraphs 1-96.
103. Defendant has violated and is presently violating the SDWA with regard to one or more of the SDWA's treatment, compliance, monitoring, water quality and reporting requirements. Notwithstanding the existence of a present, continuing violation of the SDWA, Webb County's history of intermittent violations of the SDWA creates a reasonable likelihood that Webb County will violate one or more of the requirements of the SDWA in the future.
104. Plaintiffs Alianza's and Comité 's respective members, Bertha Torres, Maria G. Gonzalez, Manuel Arnero and Manuela Menchaca have been and continue to be adversely affected by violations of the SDWA by Webb County. Because of intermittent and repeated violations of the SDWA by Webb County, there is a reasonable likelihood that they will be adversely affected by violations of the SDWA in the future.
105. Under the "citizen suit" provisions of the SDWA, 42 U.S.C. §. 300j-8(a), Plaintiffs are entitled to: (A) a declaratory judgment that their rights and protections under the SDWA are presently being violated and that there is a reasonable likelihood that their rights and protections under the SDWA will be

violated again in the future; and (B) to a preliminary and permanent injunction ordering Defendant Webb County to comply with the requirements of the SDWA, and to pay costs of this action including Plaintiffs' reasonable attorney's fees and expert witness fees.

VI. Relief Sought

Plaintiffs request that the Court:

- A. Declare that Plaintiff's rights and protections under the Safe Drinking Water Act have been violated and continue to be violated by Webb County and that there is a reasonable likelihood that Webb County will violate the SDWA's requirements again in the future;
- B. Preliminarily and permanently enjoin Webb County, its agents, employees, and any and all persons acting in concert with them, requiring operation of Webb County's Rio Bravo Treatment Plant in compliance with Safe Drinking Water Act's regulations and mandating that compliance will be reported in a verifiable manner locally and publically to ensure that the operation of the plant meets the SDWA standards;
- C. Appoint a special master to oversee Webb County's compliance with the SDWA;
- D. Award Plaintiffs their reasonable attorney's fees and expert witness fees; and
- E. Award Plaintiffs any and all legal and equitable relief the Court deems appropriate.

Respectfully Submitted,

Safe Drinking Water Act Citizen Suit Sample Settlement Agreement

Draft Proposed Agreement

1. Webb County agrees to use engineers from the firms LNV or C2HM Hill (hereafter the “Engineers”) to bi-monthly sample drinking water in both El Cenizo and Rio Bravo, with four samples taken in each city at representative locations. The sampling shall commence within a week of the signing of this settlement agreement. The samples shall be tested for chlorine, turbidity and coliform, with the results provided to Plaintiffs’ designated counsel and posted on-line within one week of receipt of results of the testing. This sampling and testing shall continue for six months from the date of the execution of this settlement agreement. The sampling may be extended beyond six months if the samples reveal failures to comply with water quality standards.
2. Webb County agrees to investigate allegations of falsification of records at the Rio Bravo Water Treatment Plant (the “Plant”) and to report to Plaintiffs within thirty days of this settlement regarding the progress of that investigation. The goal of the investigation shall be to determine whether any current staff members knowingly or intentionally falsified official records of the Plant and to take appropriate action regarding any staff members who may have falsified records.
3. Webb County agrees to immediately send to Plaintiffs’ designated counsel a copy of a signed contract with the Engineers and within two days of receipt by the County of the signed contract to send to the Engineers a notice to

proceed under the contract. Webb County agrees to provide a copy of the notice to proceed to Plaintiffs.

4. Webb County agrees that C2HM Hill representative Rhonda Harris or her designee as well as a representative from LNV shall make presentations to community meetings in both Rio Bravo and El Cenizo, publicized by the County, explaining to each community the work the Engineers are undertaking to ensure that the drinking water and wastewater systems are compliant with federal and state law. Such presentations shall be made within two months of this settlement. Webb County will coordinate with the Plaintiff organizations to choose appropriate dates and locations for the meetings.
5. Webb County agrees that its County Engineer will meet monthly with representatives from Plaintiffs' organizations, who have been selected by Plaintiffs as members of the Citizens Advisory Committee, to discuss progress on the water treatment plant, the wastewater plant and any terms or agreements in this settlement. Such meetings shall start no later than 30 days after signing of this settlement agreement by the parties and continue monthly for at least a year, unless all parties agree that the meetings shall cease.
6. Webb County agrees to post the Plant's daily operating logs and Monthly Operating Reports on line within one week of the completion of the reports.
7. Webb County agrees that Plaintiffs' designated Counsel shall be allowed to consult with C2HM Hill engineer Rhonda Harris and/or her designee to seek

independent review and analysis regarding the Plant. Such consultations shall be managed under the current contract between the County and the Engineers.

8. Webb County agrees to provide full, complete and unredacted copies of all draft engineering reports written by the Engineers to Plaintiffs within two days of receiving those reports.
9. Webb County agrees to immediately begin procurement of any equipment that the Engineers recommend is needed for the Plant. If any equipment is recommended on an emergency basis, Webb County agrees to use emergency procurement methods to purchase that urgently needed equipment.
10. Webb County agrees to make the following addendums to its contract with the Engineers:
 - (a) The Engineers shall make public presentations in Rio Bravo and El Cenizo explaining the work to be performed. The presentations shall be designed to explain to consumers of the drinking water the steps to be taken to ensure their water complies with standards and to explain the timeline for the work.
 - (b) C2HM Hill engineer Rhonda Hill shall consult with Plaintiffs regarding any questions about the Plant.
 - (c) Section 2.(a) shall be amended to require the Engineers to report to the County regarding the falsification of records, specifically asking the Engineers to determine who falsified records and why and to make recommendations so that data will be accurately reported in the future.

- (d) Section 2(a)(ii) shall be amended so that the review will include two consecutive months, and then the Engineers will review two other months selected at random by the Engineers within a year of the contract.
- (e) Sections 3(g) shall be amended to include Plaintiffs as stakeholders.
- (f) Phase III, section II 2 (a) shall state that the rate base for the water utility shall not include monies expended to comply with TCEQ's October 2013 enforcement Order, specifically including costs for consultants, equipment, and training in order to comply with the October 2013 Order.

11. Webb County agrees to seek the following changes to the Proposed Order by TCEQ:

- (a) 2.b.x – Delete words “*Begin to*”
- (b) 2.b.xiii – add “*Notice shall also be given to County Commissioners, with the issue to be placed on the agenda for the next Commissioners’ public meeting*”
- (c) 2.d.i – Add “*If there have not been six months of compliant reporting, this provision will continue an additional six months, until there have been six months of compliant reporting.*”
- (d) 2.d.ii – Add “*If there have not been six months of compliant reporting, this provision will continue an additional six months, until there have been six months of compliant reporting.*”
- (e) 2.f. – these requirements should be moved to 2b. 2.b.x.i and 2.b.xviii. require turbidity results to come back in compliance 95% of the time. They will need proper equipment to meet this 2.b.xviii requirement. There is no reason why the turbidity devices can't be purchased within 30 days. That change also means that 2.c is modified to include reporting on turbidity devices within 45 days. If 2.f is moved, then 2.g must be changed.
- (f) 2.i – Move the sentence “The written certification shall be notarized” to the second paragraph and change the language to state, “*Any written certification required by this order shall...*”

Add: All reports shall highlight violations of any standards in such a way that the public may easily determine that standards have been violated.

Highlighting can be done with a yellow highlight on the report or by using red typeface to indicate noncompliance.

Any written certification shall be kept in a file at the County office and shall be publically available for viewing without the need for any written request.

(f) No extension of any deadline shall be sought without approval of the County Commissioners in an open meeting. Comite de Cuidanos de El Cenizo and Alianza de Rio Bravo Por Agua Pura shall receive 7 days advance notice in writing and via email of any open meeting in which extensions will be requested. Copies of such notice shall also be sent to counsel for the two organizations.

(b) Add "This agreed order shall not be admissible against the Respondent in a civil proceeding unless the proceeding is brought by Comite de Cuidanos de El Cenizo or Alianza de Rio Bravo Por Agua Pur to "(1) enforce the terms of this Agreed Order; or (2) pursue violations of a law that Comite or Alianza can enforce."

12. Webb County agrees to propose the following Supplemental Environmental

Project (SEP):

(a) El Cenizo – To conserve water, the County will use flushed water from the Plant to water a newly created park located next to Zaragosa school. Webb County commits to work with representatives of the school district and the xxxx foundation to create a public park with a field planted by the foundation and watered regularly by the County

(b) Rio Bravo

13. Webb County agrees that the costs expended to make the Plant compliant

with federal and state requirements, including, but not limited to, engineering costs, costs to purchase new equipment, costs of litigation with Plaintiffs and other costs to make the Plant compliant with law, shall not be included in any rate base, such that costs incurred in repairing the plant and

training employees shall be paid by the entire County and not only the ratepayers of the water utility.

14. Webb County agrees to compensate Texas RioGrande Legal Aid the sum of \$90,806 for attorneys' fees and expenses incurred in bringing Civil Action No. 5:14-CV-0041 in the United States District Court for the Southern District of Texas, Laredo Division.
15. This settlement agreement may be enforced in federal or state court. Plaintiffs must send a 30-day written notice to the County if Plaintiffs contend that the County is not complying with the settlement agreement. If Plaintiffs successfully enforce the settlement agreement, they shall be awarded their fees and costs incurred in order to enforce the settlement agreement.
16. In consideration of these agreements, Plaintiffs agree not to oppose TCEQ's enforcement order and to support the proposed SEP at TCEQ. Plaintiffs also agree to dismiss their federal lawsuit, Civil Action No. 5:14-CV-0041, with prejudice.

Appendix 10. Public Water System Classification, Jurisdiction, and Funding

	Water Districts	Nonprofit Water Supply Corporations	Investor Owned Utilities	Municipally Owned Utilities
Definition	<p>A local, governmental entity that provides limited services to its customers and residences. There are many types of water districts.¹⁶⁹</p> <ul style="list-style-type: none"> • Municipal Utility District • Water Control and Improvement Districts • River Authorities • Groundwater Conservation Districts 	<p>Member-owned, member-operated nonprofit utilities organized under Chapter 67, Texas Water Code and where Board of Directors is not appointed by a municipality or county commissioner.</p>	<p>A water utility managed as a private enterprise rather than as a function of government or a cooperative arrangement.</p>	<p>Any utility owned, operated, and controlled by a municipality (could be in the form of a water district) or a non-profit corporation whose directors are appointed by a municipality.</p>
Rate-making Jurisdiction	<p>Original Jurisdiction <small>167</small></p> <p>Board of Directors</p>	<p>Board of Directors</p>	<p>Inside city-limits: City Council has original jurisdiction to set water rates, but can cede original jurisdiction to PUC.</p> <p>Outside city-limits: PUC has original jurisdiction (see 16 TAC §24.22 for rate-setting process)</p>	<p>City Council has original jurisdiction to set water rates for all utilities operating in the corporate boundaries of the municipality; can cede original jurisdiction to PUC.</p>
	<p>Appellate Jurisdiction with PUC? <small>168</small></p> <p>Yes</p>	<p>Yes</p>	<p>Yes</p>	<p>Yes, but only if ratepayer appealing lives outside the corporate limits of the municipality.</p>
Funding	<p>State Revolving Funds</p> <p>Yes</p>	<p>Yes</p>	<p>Yes; up to \$300,000 in loan (principal forgiveness available in certain circumstances)</p>	<p>Yes</p>
	<p>USDA</p> <p>No</p>	<p>Yes</p>	<p>No</p>	<p>Yes</p>
	<p>EPA</p> <p>Yes</p>	<p>Yes</p>	<p>No</p>	<p>Yes</p>
	<p>DFund</p> <p>Yes</p>	<p>Yes</p>	<p>No</p>	<p>Yes</p>

Endnotes

- ¹ Texas Commission on Env't Quality, "State of Texas Public Drinking Water Program 2016 Annual Compliance Report" (July 1, 2017), p. 8, available at https://www.tceq.texas.gov/assets/public/permitting/watersupply/pdw/EPA_ACR_2017_final.pdf.
- ² 42 USCA §300f et. seq.
- ³ 30 TAC §290.38(71).
- ⁴ TCEQ Office of Water, "State of Texas Public Drinking Water Program 2016 Annual Compliance Report" (July 1, 2017), p. 5, available at https://www.tceq.texas.gov/assets/public/permitting/watersupply/pdw/EPA_ACR_2016_final.pdf.
- ⁵ 42 USCA §300g-1; See 40 CFR §141.50-.55 for MCLGs.
- ⁶ 42 USCA §300g-1(b).
- ⁷ <https://www.epa.gov/dwregdev/how-epa-regulates-drinking-water-contaminants>.
- ⁸ <https://www.epa.gov/dwregdev/how-epa-regulates-drinking-water-contaminants>; 42 USCA §300g-1(b).
- ⁹ EPA, "Drinking Water Regulations and Contaminants," available at <https://www.epa.gov/dwregdev/drinking-water-regulations-and-contaminants#List>.
- ¹⁰ 42 USCA §300g-1(b)(9).
- ¹¹ 42 USCA §300g-1(b)(9).
- ¹² 42 USCA §300f(1)(C)(i).
- ¹³ 42 USCA §300g-1(b)(7)(A); 42 USCA §300f(1)(C)(ii).
- ¹⁴ <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals>; see also Appendix 1.
- ¹⁵ For fluoride, however, there is a mandatory federal requirement that systems report to customers within 12 months after fluoride levels exceed 2 mg/L. 40 CFR §141.208.
- ¹⁶ 30 TAC §290.118. In addition to the the contaminants on EPA's Secondary MCL list, TCEQ includes hydrogen sulfide. TCEQ's maximum contaminant levels are different from EPA's levels for chloride, pH, sulfate and Total Dissolved Solids.
- ¹⁷ 30 TAC §290.118.
- ¹⁸ 40 CFR §141.40
- ¹⁹ 81 Fed.Reg. 244, 92666 (December 20, 2016), available at <https://www.gpo.gov/fdsys/pkg/FR-2016-12-20/pdf/2016-30469.pdf>. See Appendix 2 for UCMR 4 contaminants.
- ²⁰ TCEQ rules implementing the SDWA are found at 30 Texas Administrative Code ("TAC") Chapter 290.
- ²¹ The PUC's water rules are at 16 TAC Chapters 22 and 24.
- ²² 30 TAC §290.39.
- ²³ TCEQ, "Quality Assurance Project Plan for the Teas Commission on Environmental Quality Public Water System Supervision Program Relating to the Safe Drinking Water Act," Addendum #5 (Nov. 4, 2016) at p. 12. https://www.tceq.texas.gov/assets/public/permitting/watersupply/pdw/qapp/PWSSP_QAPP_Addendum5_Rev0_CCI.s.pdf.
- ²⁴ TCEQ, "Texas Drinking Water Watch," available at <https://dww2.tceq.texas.gov/DWWW/>.
- ²⁵ TCEQ, "Drinking Water Home Page," available at <https://www.tceq.texas.gov/drinkingwater>.
- ²⁶ Tex. Water Code §13.242. Most systems, other than certain municipally-owned systems, are required to obtain a CCN.
- ²⁷ 24 TAC §24.114.
- ²⁸ See, <https://www.twdb.texas.gov/waterplanning/index.asp>.
- ²⁹ TCEQ Office of Water, "State of Texas Public Drinking Water Program 2017 Annual Compliance Report" p. 8.
- ³⁰ TCEQ Office of Water, "State of Texas Public Drinking Water Program 2017 Annual Compliance Report" p. 9.
- ³¹ EPA, "Overview of the Drinking Water Sole Source Aquifer Program" available at <https://www.epa.gov/dwssa/overview-drinking-water-sole-source-aquifer-program#Authority>.
- ³² The SDWA requires each state to implement a Source Water Assessment and Protection (SWAP) Program. 42 U.S.C. §1453. The purpose of the program is to delineate areas which contain drinking water sources and to identify sources of contamination to the waterbodies in that area. Under SWAP, each state must make publicly available information about contaminants and sources of contaminates found in each delineated area.
- ³³ See, <https://www.tceq.texas.gov/gis/swaview>.
- ³⁴ 42 U.S.C. §1452(k)
- ³⁵ Center for Disease Control, "Drinking Water: Diseases and Contaminants" (July 1, 2015); available at <https://www.cdc.gov/healthywater/drinking/private/wells/disease/arsenic.html>.
- ³⁶ Texas A&M University, Texas Cooperative Extension, "Drinking Water Problems: Arsenic," available at <https://texaswater.tamu.edu/resources/factsheets/15467arsenic.pdf>.
- ³⁷ Texas A&M University, Texas Cooperative Extension, "Drinking Water Problems: Arsenic," at 3.
- ³⁸ University of Texas Bureau of Economic Geology, "Naturally Occurring Groundwater Contamination in Texas" p. 9 (October 13, 2011); available at http://www.twdb.texas.gov/publications/reports/contracted_reports/doc/1004831125.pdf; see also, U.S. EPA, "Technical Fact Sheet: Final Rule for Arsenic in Drinking Water" (Jan. 2001), available at <https://nepis.epa.gov/Exe/ZyPdf.cgi?Dockey=20001XXE.txt> and U.S. Agency for Toxic Substances and Disease Registry, "ToxGuide for Arsenic" (Oct. 2007), CAS# 7440-38-2, available at <https://www.atsdr.cdc.gov/toxguides/toxguide-2.pdf>.
- ³⁹ World Health Organization, "Nitrate and nitrite in drinking water: Background document for development WHO Guidelines for Drinking-Water Quality" (2011) p. 1; available at: http://www.who.int/water_sanitation_health/dwq/chemicals/nitratenitrite2ndadd.pdf.

- ⁴⁰ Texas A&M Agrilife Extension, "Drinking Water Problems: Nitrates," available at <http://publications.tamu.edu/WATER/B-6184.pdf>.
- ⁴¹ Texas A&M Agrilife Extension, "Drinking Water Problems: Nitrates," p. 8.
- ⁴² Texas A&M Agrilife Extension, "Drinking Water Problems: Nitrates," p. 8.
- ⁴³ Cornell University Cooperative Extension, Pesticide Safety Education Program, "Nitrate: Health Effects in Drinking Water," available at: <http://psep.cce.cornell.edu/facts-slides-self/facts/nit-heef-gnw85.aspx>.
- ⁴⁴ National Research Council of the National Academies, "Fluoride in Drinking Water: A Scientific Review of EPA's Standards" (2006), pp. 5-6, available at <http://www.actionpa.org/fluoride/nrc/NRC-2006.pdf>; World Health Organization, "Fluoride in Drinking-water (2006), p. 2, 32-34, available at http://www.who.int/water_sanitation_health/publications/fluoride_drinking_water_full.pdf.
- ⁴⁵ Sriroop Chaudhuri, Srinivasulu Ale, "Evaluation of Long-Term (1960-2010) Groundwater Fluoride Contamination in Texas," *J. Environ. Qual.* 43:1404-1416, 1414 (2014).
- ⁴⁶ Sriroop Chaudhuri, Srinivasulu Ale, "Evaluation of Long-Term (1960-2010) Groundwater Fluoride Contamination in Texas" p. 1404.
- ⁴⁷ National Research Council, "Fluoride in Drinking Water: A Scientific Review of EPA's Standards at 30," Washington, DC: National Academies Press (2006) available at <https://www.nap.edu/catalog/11571/fluoride-in-drinking-water-a-scientific-review-of-epas-standards>). See also, Kheradpisheh, Z. et al. "Impact of Drinking Water Fluoride on Human Thyroid Hormones: A Case- Control Study," *Scientific Reports* (2018) 8:2674, available at <https://www.nature.com/articles/s41598-018-20696-4.pdf>.
- ⁴⁸ Morteza, B. et al., "Prenatal Fluoride Exposure and Cognitive Outcomes in Children at 4 and 6–12 Years of Age in Mexico," *Environ. Health Perspect.* (2017) 125(9) 097017, available at DOI: 10.1289/EHP655.
- ⁴⁹ Bruce Lesikar, Rebecca Melton, Michael Hare, Janie Hopkins, Monty Dozier, Texas A&M Agrilife Extension, "Drinking Water Problems: Radionuclides," available at <http://twon.tamu.edu/media/385814/drinking%20water%20problems-radionuclides.pdf>.
- ⁵⁰ Bruce Lesikar, Rebecca Melton, Michael Hare, Janie Hopkins, Monty Dozier, Texas A&M Agrilife Extension, "Drinking Water Problems: Radionuclides."
- ⁵¹ TCEQ, "Radiochemicals and Drinking Water," available at <https://www.tceq.texas.gov/drinkingwater/chemicals/radionuclides>.
- ⁵² Bruce Lesikar, Rebecca Melton, Michael Hare, Janie Hopkins, Monty Dozier, Texas A&M Agrilife Extension, "Drinking Water Problems: Radionuclides", available at <http://twon.tamu.edu/media/385814/drinking%20water%20problems-radionuclides.pdf>.
- ⁵³ TCEQ, "Disinfection Byproducts in Public Water Systems," available at <https://www.tceq.texas.gov/drinkingwater/chemicals/dbp>.
- ⁵⁴ 40 CFR §§141.64, 141.65; see also, U.S. EPA, National Primary Drinking Water Regulations, available at www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations#Byproducts. The disinfection byproduct rule was implemented in two stages, with stage 2 adding a requirement that compliance for TTHMs and HAA5s be determined based on a "locational running average" at each monitoring location. 40 CFR §141.6(b)(2).
- ⁵⁵ EPA, "Basic Information about Lead in Drinking Water," available at <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water#health>.
- ⁵⁶ EPA, "Learn About Lead," available at <https://www.epa.gov/lead/learn-about-lead>.
- ⁵⁷ https://www.epa.gov/sites/production/files/2016-10/documents/508_lcr_revisions_white_paper_final_10.26.16.pdf.
- ⁵⁸ 40 CFR §141.80(c).
- ⁵⁹ 40 CFR §§ 141.81-141.85
- ⁶⁰ 40 CFR §141.86(a)(3) & (4); 30 TAC §290.117(c).
- ⁶¹ 30 TAC §290.117(c)(2)(D).
- ⁶² 10 TAC 290.117(c)(2)(A)-(C).
- ⁶³ State of Texas Public Drinking Water Program 2017 Annual Compliance Report at p. 6.
- ⁶⁴ TCEQ, "State of Texas Public Drinking Water Program 2017 Annual Compliance Report," p. 5.
- ⁶⁵ EPA, Office of Inspector General, "Drinking Water: EPA Needs to take Additional Steps to Ensure Small Community Systems Designated as Serious Violators Achieve Compliance" (March 22, 2016) p.2, available at <https://www.epa.gov/sites/production/files/2016-03/documents/20160322-16-p-0108.pdf>.
- ⁶⁶ EPA, Office of Inspector General, "Drinking Water: EPA Needs to take Additional Steps to Ensure Small Community Systems Designated as Serious Violators Achieve Compliance," p. 2.
- ⁶⁷ Bureau of Economic Geology, University of Texas at Austin, "TCEQ Feasibility Studies for Small Public Water Systems (2004-2009)," available at <http://www.beg.utexas.edu/research/areas/groundwater-studies/tceq-feasibility-for-small-public-water-systems>.
- ⁶⁸ EPA, "The Public Notification Rule: A Quick Reference Guide" (August 2009), available at https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P100529C.txt#_ga=1.47005794.72891366.1423060476.
- ⁶⁹ 30 TAC §290.122(d). At a minimum, it must include contact information for consumers who need to obtain a translated copy in the appropriate language.
- ⁷⁰ 30 TAC §290.122
- ⁷¹ 10 TAC §290.122.
- ⁷² 42 U.S.C. § 300g-3(c)(4); 40 CFR §§ 141.151-.155; 30 TAC Chapter 290, Subchapter H.
- ⁷³ 30 TAC §§ 290.271(a), 290.274(e) & (f). The TCEQ can waive the delivery requirements for a community water system serving 500 or fewer persons provided that the system provides notice at least once per year by July 1 to its customers by mail, door-to-door delivery, or by posting

in an appropriate location that the report is available upon request.

⁷⁴ <https://www.puc.texas.gov/industry/water/utilities/map.html>; <https://www.puc.texas.gov/watersearch>.

⁷⁵ Advocates may also want to submit an open records request to TCEQ and a FOIA to EPA to obtain any other compliance or enforcement information. For general information about Texas' public information requests, see <https://www.texasattorneygeneral.gov/og/how-to-request-public-information> and the Texas Attorney General's Public Information Handbook at https://www.texasattorneygeneral.gov/files/og/PIA_handbook_2018.pdf. For specific information about submitting a request to TCEQ, see <https://www.tceq.texas.gov/agency/data/records-services/reqinfo.html>. For information about submitting Freedom of Information Act requests to EPA, see <https://www.epa.gov/foia>.

⁷⁶ EPA, SDWIS Federal Reports Search, available at <https://ofmpub.epa.gov/apex/sfdw/f?p=108:200:::.....>

⁷⁷ EPA, "Learn More About ECHO," available at <https://echo.epa.gov/resources/general-info/learn-more-about-echo>.

⁷⁸ TCEQ, "Approved Drinking Water Laboratories," available at <https://www.tceq.texas.gov/assets/public/permitting/watersupply/pdw/DWAApprovedLabs.pdf>.

⁷⁹ TCEQ, "Steps to Locate an Accredited Environmental Laboratory." Available at <https://www.tceq.texas.gov/assistance/resources/steps-to-locate-an-accredited-laboratory>; see also https://www.tceq.texas.gov/assets/public/compliance/compliance_support/qa/txnelap_lab_list.pdf.

⁸⁰ https://www.tceq.texas.gov/compliance/complaints/protocols/pws_protodef.html; see also TCEQ, "Gathering and Preserving Information and Evidence Showing a Violation," available at https://www.tceq.texas.gov/compliance/complaints/protocols/evi_proto.html; See also, form affidavit at <https://www.tceq.texas.gov/assets/public/compliance/enforcement/forms/affidavit-citizen-collected-evidence.pdf>.

⁸¹ TCEQ, "EnviroMentor Help for Small Businesses and Local Governments," available at <https://www.tceq.texas.gov/assistance/em>.

⁸² TCEQ, "Assistance for Public Water and Wastewater Systems," available at <https://www.tceq.texas.gov/drinkingwater/fmt#how-to-submit-assistance-request-forms-or-contact-us>. There are 65 identified tasks for which TCEQ can provide assistance, but PWS owner can ask for assistance with tasks beyond this list.

⁸³ PUC, "Assistance for Public Water and Sewer Utilities," available at <https://www.puc.texas.gov/industry/water/utilities/fmt.aspx>.

⁸⁴ Communities Unlimited, "Helping Communities with Water and Wastewater Infrastructure," available at <https://www.communitiesu.org/index.php/How-We-Help/water-wastewater-programs.html>.

⁸⁵ Texas Rural Water Association, "Technical Assistance," available at <https://www.trwa.org/page/40>.

⁸⁶ EPA, "Financial Technical Assistance and Tools for

Water Infrastructure," available at <https://www.epa.gov/waterfinancecenter/financial-technical-assistance-and-tools-water-infrastructure#affordability>.

⁸⁷ Texas Water Development Board, "Drinking Water State Revolving Fund (DWSRF) Loan Program," available at <http://www.twdb.texas.gov/financial/programs/DWSRF/index.asp>.

⁸⁸ TWDB, "Clean Water State Revolving Fund (CWSRF) Loan Program," available at <http://www.twdb.texas.gov/financial/programs/CWSRF/index.asp>.

⁸⁹ TWDB, "Texas Water Development Fund (DFund)," available at <http://www.twdb.texas.gov/financial/programs/TWDF/index.asp>.

⁹⁰ See, <http://medfas.com/tax-exempt-bank-loans-tebl-vs-industrial-development-bonds-idb/>.

⁹¹ TWDB, "Rural Water Assistance Fund (RWAFF) Program," available at <http://www.twdb.texas.gov/financial/programs/RWAFF/index.asp>.

⁹² TWDB, "State Water Implementation Fund for Texas (SWIFT)," available at <http://www.twdb.texas.gov/financial/programs/swift/index.asp>.

⁹³ United States Dep't of Ag., "Water & Waste Disposal Loan & Grant Program," available at <https://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program>.

⁹⁴ 7 CFR §§ 1780.7 & 1780.9.

⁹⁵ EPA, "U.S.-Mexico Border Water Infrastructure Grant Program," available at <https://www.epa.gov/small-and-rural-wastewater-systems/us-mexico-border-water-infrastructure-grant-program>.

⁹⁶ 33 U.S.C. §3901 et. seq.

⁹⁷ EPA, "Learn About the WIFIA Program," available at <https://www.epa.gov/wifia/learn-about-wifia-program#overview>.

⁹⁸ U.S. Dept. of Agriculture, "Small Towns Environmental Program (STEP)", available at [http://www.texasagriculture.gov/GrantsServices/RuralEconomicDevelopment/RuralCommunityDevelopmentBlockGrant\(CDBG\)/CDBGResources/Applications/STEPApplicationandGuide.aspx](http://www.texasagriculture.gov/GrantsServices/RuralEconomicDevelopment/RuralCommunityDevelopmentBlockGrant(CDBG)/CDBGResources/Applications/STEPApplicationandGuide.aspx).

⁹⁹ <https://www.tceq.texas.gov/compliance/complaints>.

¹⁰⁰ Tex. Water Code §7.0025, 30 TAC §70.4. See also, https://www.tceq.texas.gov/compliance/complaints/protocols/evi_proto.html.

¹⁰¹ 16 TAC §§ 24.205, 24.247.

¹⁰² 16 TAC §24.205(1); see also, *McCelvey v. State*, 143 S.W. 3d 522 (Tex. App.—Austin 2004)(finding the utility failed to render continuous and adequate service when the PWS knowingly provided water with benzene contamination at levels higher than the MCL for benzene.)

¹⁰³ 16 TAC §24.247(b).

¹⁰⁴ 16 TAC §24.247(c).

¹⁰⁵ Public Utility Commission, "Utility Complaint," available at <https://www.puc.texas.gov/consumer/complaint/Complaint.aspx>.

¹⁰⁶ 16 TAC §22.242; see also, <https://www.puc.texas.gov/consumer/complaint/complaintb.pdf>

- ¹⁰⁷ Tex. Water Code §§ 12.013, 13.043; 30 TAC §§ 24.41, 24.44.
- ¹⁰⁸ Tex. Water Code §13.043(b).
- ¹⁰⁹ 16 TAC §24.27.
- ¹¹⁰ 16 TAC §24.27(b)(5).
- ¹¹¹ Class A Utilities serve greater than 10,000 taps or active connections (Tex. Water Code §13.187); Class B utilities serve between 500-10,000 taps or active connections (Tex. Water Code §13.1871); and Class C utilities serve less than 500 taps or active connections (Tex. Water Code §13.1872).
- ¹¹² 16 TAC §24.101(b).
- ¹¹³ Tex. Water Code §13.1871(o).
- ¹¹⁴ 16 TAC §24.41(c).
- ¹¹⁵ 16 TAC §24.239(i).
- ¹¹⁶ 16 TAC §§ 24.239(a), (b) & (e).
- ¹¹⁷ 16 TAC §§ 24.239(d).
- ¹¹⁸ 16 TAC §§ 24.239(j).
- ¹¹⁹ 42 U.S.C. §300j-8(a).
- ¹²⁰ 42 U.S.C. §300j-8(b); 40 C.F.R. §§ 135.10-135.13.
- ¹²¹ 42 U.S.C. §300j-7.
- ¹²² 33 U.S.C. §1362(14).
- ¹²³ 33 U.S.C. §1365. Violations are only subject to Clean Water Act citizen enforcement if they are ongoing and are not the subject of a diligent federal or state enforcement action.
- ¹²⁴ 42 U.S.C. §6972. Citizen suits for imminent and substantial endangerment may be barred by certain ongoing government cleanup programs or enforcement actions.
- ¹²⁵ The series of PWS feasibility studies conducted for TCEQ by the University of Texas Bureau of Economic Geology include detailed information about researching potential new water sources for a PSW. See, <http://www.beg.utexas.edu/research/areas/groundwater-studies/tceq-feasibility-for-small-public-water-systems>. See for example the report for the City of Danbury pp. 1-6 to 1-10 and 2-6.
- ¹²⁶ See Texas Water Development Board Report “Study 3: Regionalization Strategies to Assist Small Water Systems in Meeting New SDWA Requirements” (2009), available at https://www.twdb.texas.gov/publications/reports/contracted_reports/doc/0704830692_RegionG/Brazos%20G%20Study%203%20Report.pdf. See also, <https://rcap.org/wp-content/uploads/2012/01/Regionalization-Great-Lakes-RCAP-final.pdf>.
- ¹²⁷ https://www.cdc.gov/healthywater/drinking/public/water_treatment.html.
- ¹²⁸ 40 CFR § 141.101.
- ¹²⁹ National Academy of Sciences, “Safe Drinking Water is Essential: Technologies,” available at <https://www.koshland-science-museum.org/water/html/en/Treatment/Membrane-Processes-technologies.html#tech3>.
- ¹³⁰ Oram, B., Water Research Center, “Reverse Osmosis,” available at <https://www.water-research.net/index.php/water-testing/private-well-testing/reverse-osmosis>.
- ¹³¹ National Academy of Sciences, “Safe Drinking Water is Essential,” available at <https://www.koshland-science-museum.org/water/html/en/Treatment/Adsorption-and-Ion-Exchange-Systems-technologies.html#tech2>.
- ¹³² University of Nebraska, “Drinking Water Treatment: Activated Carbon Filtration” (2013), available at <http://extensionpublications.unl.edu/assets/pdf/g1489.pdf>.
- ¹³³ Tex. Water Code §67.001 et. seq.
- ¹³⁴ Young, M., “Cooperative Infrastructures for Small Water Systems: A Case Study, Virginia Water Resources Research Center” (2001), available at <https://ageconsearch.umn.edu/bitstream/31816/1/cp01yo25.pdf>. There are also cooperatives where the members of the co-op are the owners of several IOUs.
- ¹³⁵ United States Dep’t of Health and Human Services, National Toxicology Program, “About NTP,” available at <https://ntp.niehs.nih.gov/about/>.
- ¹³⁶ EPA, “Perchlorate in Drinking Water,” available at <https://www.epa.gov/dwstandardsregulations/perchlorate-drinking-water>.
- ¹³⁷ EPA, “Perchlorate in Drinking Water Frequent Questions,” available at <https://www.epa.gov/dwstandardsregulations/perchlorate-drinking-water-frequent-questions>.
- ¹³⁸ EPA, “Technical Fact Sheet—Perchlorate” (Januray 2014), available at https://www.epa.gov/sites/production/files/2014-03/documents/ffrrofactsheet_contaminant_perchlorate_january2014_final.pdf.
- ¹³⁹ EPA, “Technical Fact Sheet—Perchlorate.”
- ¹⁴⁰ TCEQ, Surface Water Quality Monitoring Program, “Draft 2006 Guidance for Assessing and Reporting Surface Water Quality in Texas” (June 27, 2007), available at <https://clu-in.org/download/contaminantfocus/perchlorate/texas-surface-water-2006-guidance.pdf>.
- ¹⁴¹ Texas Dept’ of Health Environmental Epidemiology and Toxicology Division, “Physician Fact Sheet Perchlorate” (Oct. 30, 2002), available at www.dshs.texas.gov/epitox/fact_sheets/phys_pch.pdf.
- ¹⁴² EPA, “Fact Sheet PFOA & PFOS Drinking Water Health Advisories,” available at https://www.epa.gov/sites/production/files/2016-06/documents/drinkingwaterhealthadvisories_pfoa_pfos_updated_5.31.16.pdf.
- ¹⁴³ EPA, “Fact Sheet PFOA & PFOS Drinking Water Health Advisories.”
- ¹⁴⁴ 81 Fed.Reg. 92666 (December 20,2016); see also <https://www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule>.
- ¹⁴⁵ Mcdermott, J. and Gibbons, B. Associated Press, “Military to check for water contamination at 664 sites” (March 11, 2016), available at <https://www.mysanantonio.com/news/local/article/Military-to-check-for-water-contamination-at-664-6883378.php>.
- ¹⁴⁶ Wilbanks, K., KCBD, “Lubbock discusses option for citizens with contaminated wells near Reese Center” (March 1, 2018), available at <http://www.kcbd.com/story/37629122/lubbock-discusses-option-for-citizens->

[with-contaminated-wells-near-reese-center.](#)

¹⁴⁷ EPA, “Technical Fact Sheet—1,4-Dioxane” (November 2017), available at https://www.epa.gov/sites/production/files/2014-03/documents/ffrro_factsheet_contaminant_14-dioxane_january2014_final.pdf.

¹⁴⁸ EPA, “Technical Fact Sheet—1,4-Dioxane.”

¹⁴⁹ Wilbur S, Jones D, Risher JF, et al., Agency for Toxic Substances and Disease Registry (US), “Toxicological Profile for 1,4-Dioxane,” 2012 Apr. APPENDIX D, HEALTH ADVISORY; available at <https://www.ncbi.nlm.nih.gov/books/NBK153666/>.

¹⁵⁰ Wilbur S, Jones D, Risher JF, et al., Agency for Toxic Substances and Disease Registry (US), “Toxicological Profile for 1,4-Dioxane,” available at <https://www.atsdr.cdc.gov/toxprofiles/tp187.pdf>.

¹⁵¹ 30 TAC §§ 25.4(d) and 25.6(b).

¹⁵² EPA, Home Water Testing; available at https://www.epa.gov/sites/production/files/2015-11/documents/2005_09_14_faq_fs_homewatertesting.pdf.

¹⁵³ EPA, “Drinking Water State Revolving Fund (DWSRF),” available at <https://www.epa.gov/drinkingwatersrf>; see also <http://www.twdb.texas.gov/financial/programs/DWSRF/index.asp>.

¹⁵⁴ Includes PWS owned by municipalities, counties, water districts, and river authorities.

¹⁵⁵ Urgent Need projects are defined in each annual Intended Use Plan and “must address situations that require immediate attention to protect public health and safety.” There are specific situations which qualify, including reduced adequate water supply due to drought and a catastrophic event that causes a loss of over 20% of water service connections in a service area. Available at http://www.twdb.texas.gov/financial/programs/DWSRF/doc/SFY18/SFY2018_DWSRF_IUP.pdf.

¹⁵⁶ TWDB, “Texas Water Development Fund (DFund),” available at <http://www.twdb.texas.gov/financial/programs/TWDF/index.asp>.

¹⁵⁷ TWDB, “Rural Water Assistance Fund (RWAF),” available at <http://www.twdb.texas.gov/financial/programs/RWAF/index.asp>.

¹⁵⁸ TWDB, “Economically Distressed Areas Program (EDAP),” available at <http://www.twdb.texas.gov/financial/programs/EDAP/index.asp>.

¹⁵⁹ USDA, “Water & Waste Disposal Loan & Grant Program Fact Sheet,” available at <https://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program>.

¹⁶⁰ USDA, “Emergency Community Water Assistance Grants,” available at <https://www.rd.usda.gov/programs-services/emergency-community-water-assistance-grants>.

¹⁶¹ EPA, “Contact Us About small and Rural Wastewater Systems,” available at <https://www.epa.gov/small-and-rural-wastewater-systems/forms/contact-us-about-small-and-rural-wastewater-systems#mexico>.

¹⁶² EPA, “Water Infrastructure Finance and Innovation act (WIFIA); available at <https://www.epa.gov/wifia>.

¹⁶³ To subscribe to the EJ ListServ, send an email to:

environmental-justice@epa.gov indicating that you wish to be added to the mailing list.

¹⁶⁴ EPA, “Environmental Justice Grants, Funding and Technical Assistance,” available at <https://www.epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance>.

¹⁶⁵ EPA, “U.S.-Mexico Border Water Infrastructure Grant Program,” available at <https://www.epa.gov/small-and-rural-wastewater-systems/us-mexico-border-water-infrastructure-grant-program>.

¹⁶⁶ Border Environment Cooperation Commission, “Funding Programs,” available at <http://www.becc.org/funding-programs>.

¹⁶⁷ Tex. Water Code §13.042.

¹⁶⁸ Tex. Water Code §13.043.

¹⁶⁹ See Title 4, Tex. Water Code for the complete list of water districts, including the purposes of each type of water district.