

DRINKING WATER GUIDEBOOK



Choctaw Nation of Oklahoma

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**Choctaw Nation of Oklahoma Environmental Protection Service
P.O. Box 1210, Durant, OK 74702.**

Purpose

The purpose of this guidebook is to provide comprehensive guidelines for the operation and maintenance of water systems, ensuring compliance with regulatory standards, promoting water quality management, and supporting long-term system sustainability. It covers essential topics such as water quality parameters (e.g., chlorine levels and TTHMs), system capacity, routine and preventative maintenance, and record-keeping requirements.

Additionally, the guidebook offers information on certification, training, and regulatory bodies of the Department of Environmental Quality (DEQ), the Oklahoma Water Resources Board (OWRB), and the Environmental Protection Agency (EPA), as well as other key contacts for permits, enforcement, and grants.

This guidebook illustrates the Choctaw Nation of Oklahoma's cultural commitment to fostering sustainable communities. It reflects the Nation's longstanding stewardship values and dedication to responsible resource management for the benefit of present and future generations. Furthermore, it aligns with the objectives and provisions set forth in the Tribal Water Settlement Agreement, reinforcing the Nation's commitment to cooperative water governance and environmental sustainability. By providing clear instructions and practical resources, this guidebook aims to help water system operators maintain efficient, safe, and compliant operations.



Departmental Contacts

Choctaw Nation Office of Water Resource Management

The Office of Water Resource Management is a department within the Environmental Protection Services at Choctaw Nation of Oklahoma. Established as a division to oversee the Tribal Water Settlement Agreement, this management team is dedicated to bettering the well-being of both the Choctaw people and the environment by improving and managing water resources. Their efforts focus on monitoring and improving water quality, planning sustainable water use, ensuring reliable infrastructure, and protecting the watersheds within the Choctaw Nation.

Ahndria Ablett | Water Resource Director
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POLICY AND PLANNING

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WATER QUALITY

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WATERSHED STEWARDSHIP

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WATER SUSTAINABILITY

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btboehme@choctawnation.com | 580.380.6642

Mary Kate Higginbotham | Hydrologist
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CHOCTAW NATION SUSTAINABLE COMMUNITIES

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Mark Shelton | Water Infrastructure Planner
mbshelton@choctawnation.com | 580.615.2093

Jordan Mooney | Water Infrastructure Planner
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Choctaw Nation Utility Authority

The Choctaw Nation Utilities Authority is a department within Integrated Services at the Choctaw Nation of Oklahoma. The Utilities Authority oversees all purchased water, wastewater operations, and electricity, as well as utility locations and billing within Choctaw Nation facilities. Their efforts focus on providing safe drinking water to all Choctaw Nation-owned properties, quality effluent discharge water, and the accurate locations of Choctaw Nation utilities.

Stan Self | Director, Utility Authority
sself@choctawnation.com | 580.380.1516

Jonathon Davis | Utility Authority Manager
jondavis@choctawnation.com | 580.380.1680

Trent Marlett | Energy Manager
tmarlett@choctawnation.com | 580.775.3315

Oklahoma Department of Environmental Quality (ODEQ)

The Oklahoma Department of Environmental Quality (DEQ) is the primary state agency responsible for protecting human health and safeguarding Oklahoma's air, water, and land resources. The agency monitors and enforces water and wastewater quality standards for all water systems in the state. The agency also regulates and is responsible for the permitting of water systems and infrastructure improvements on existing and new construction. The following links are websites for the Choctaw Nation's tribal area..

ODEQ | <https://oklahoma.gov/deq>

SDWIS | dwis.deq.state.ok.us

TECHNICAL ASSISTANCE AND ENFORCEMENT | The Public Water Supply Engineering & Enforcement Section (PWSES) of the Oklahoma Department of Environmental Quality (ODEQ) provides technical assistance to all regulated Public Water Supply (PWS) systems across the state. In addition to offering technical support, PWSES collaborates with the Environmental Complaints & Local Services Division (ECLS) to respond to PWS emergencies, address citizen complaints, and conduct Sanitary Surveys. The PWSES also carries out Comprehensive Performance Evaluations, enforces primary drinking water standards, and participates in the Area-Wide Optimization Program (AWOP). The section is made up of district engineers and representatives who are dedicated to protecting public health and the environment in Oklahoma.

Compliance

KayLene Haney | Manager | 405.702.8127

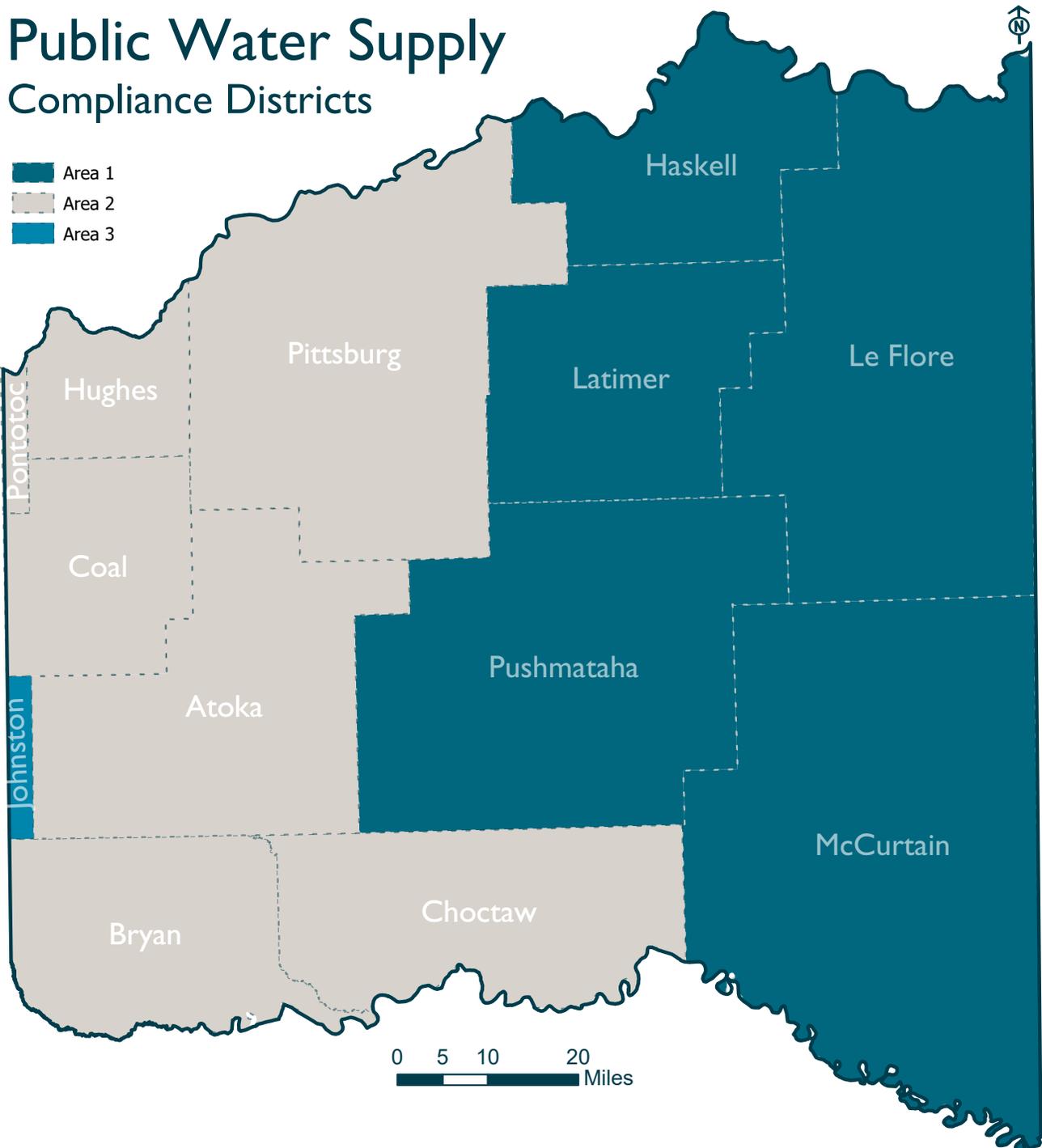
Area 1 | 405.702.8117

Area 2 | 405.702.8241

Area 3 | 405.702.8171

Support | 405.702.8231

Public Water Supply Compliance Districts



Engineering

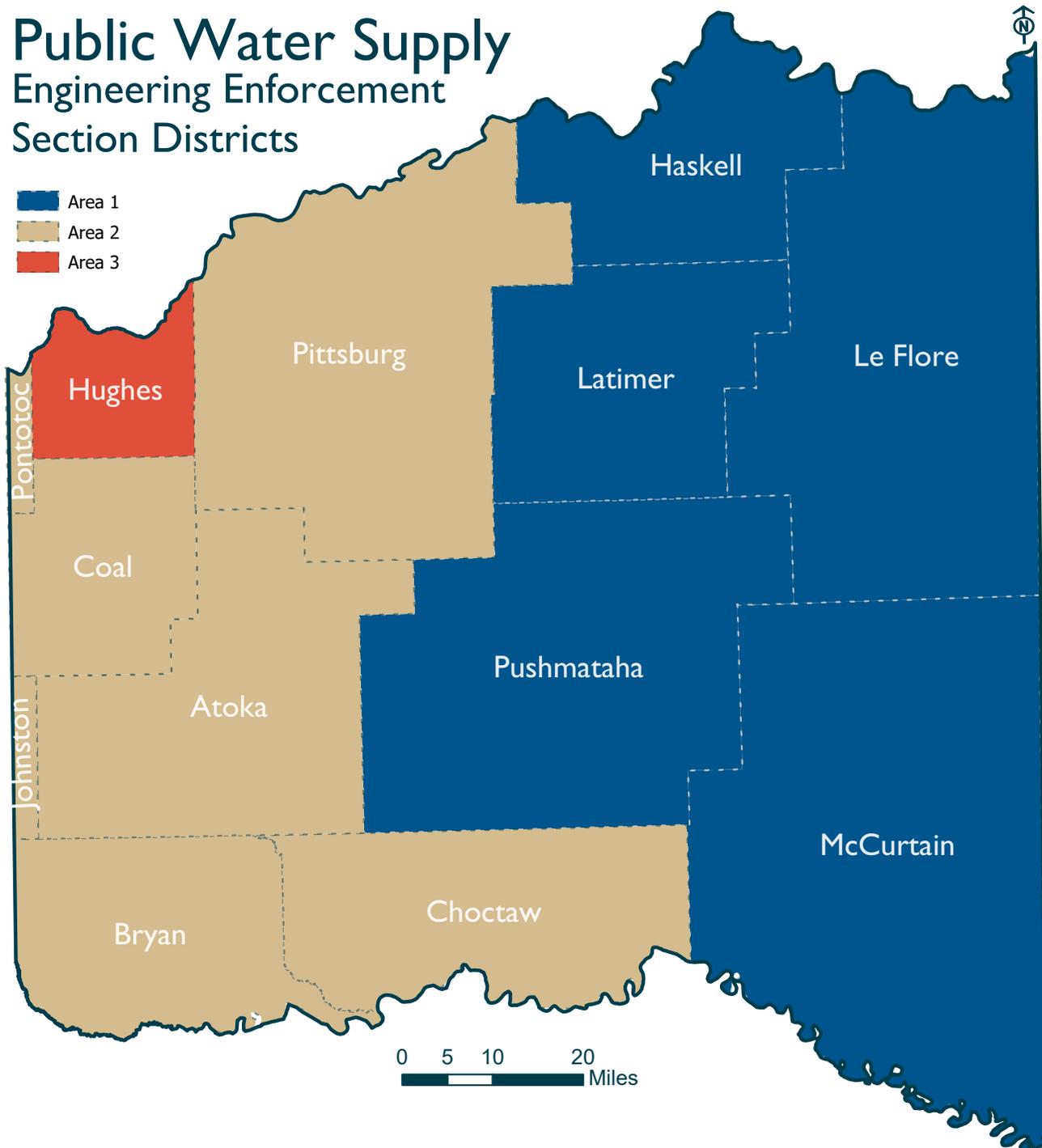
Siobhan Gibbons | Manager
siobhan.gibbons@dq.ok.gov | 405.702.0100 Ext. 8245

Rocky Overgaard | Area 1 | Engineer
rocky.overgaard@deq.ok.gov | 405.702.0100 ext.8194

Xavier Branch | Area 2 | Engineer
xavier.branch@deq.ok.gov | 405.702.0100 ext. 8229

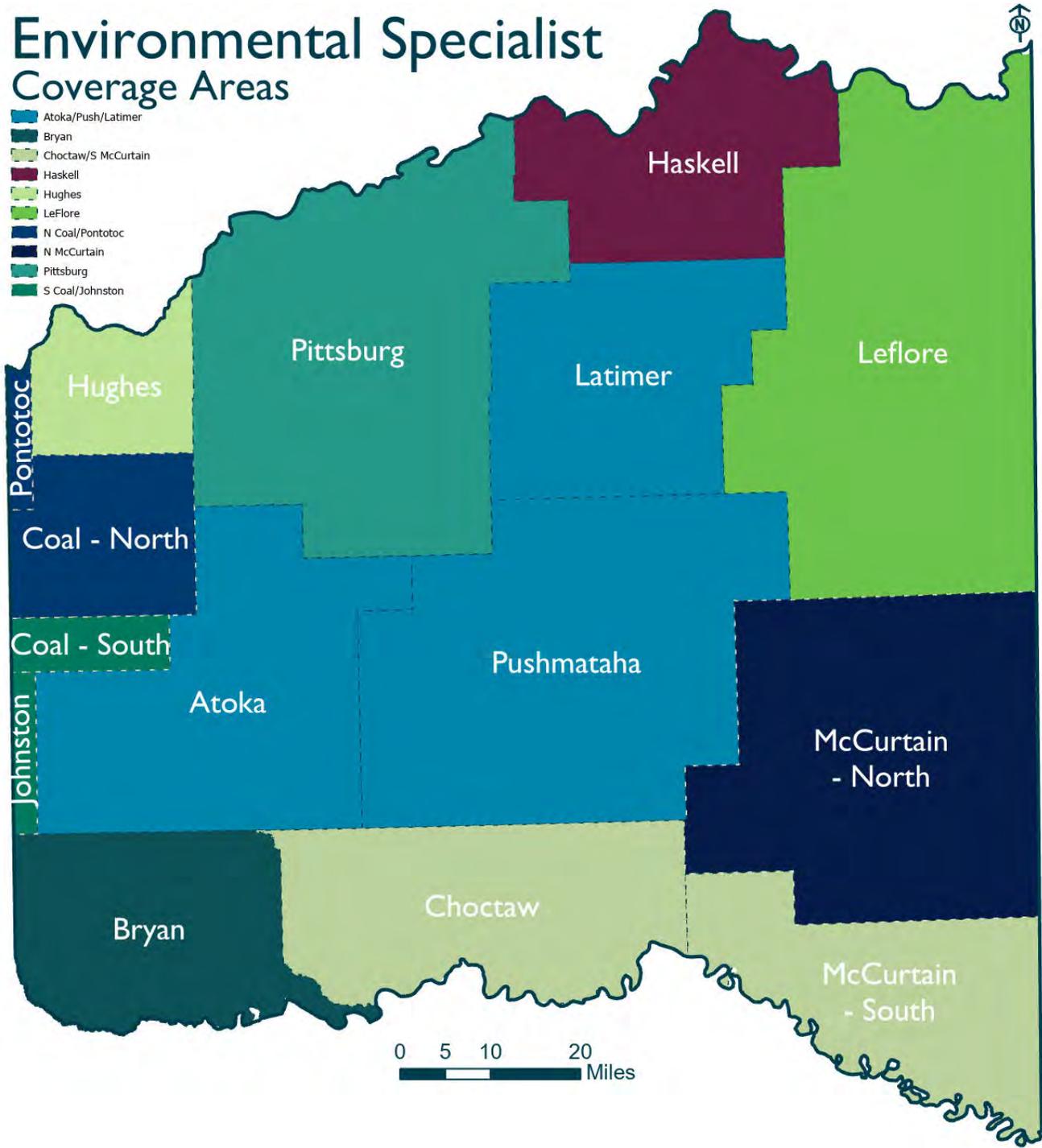
Moussa Coulibaly E.I. | Area 3 | Engineer
405.702.0100 ext. 8177

Public Water Supply Engineering Enforcement Section Districts



Environmental Specialist Coverage Areas

- Atoka/Push/Latimer
- Bryan
- Choctaw/S McCurtain
- Haskell
- Hughes
- LeFlore
- N Coal/Pontotoc
- N McCurtain
- Pittsburg
- S Coal/Johnston



ECLS

Regional Manager

jeff.brents@deq.ok.gov

Regional Manager

cassandra.atwood@deq.ok.gov

Atoka/Pushmataha/Latimer County

elizabeth.apala@deq.ok.gov | 572.206.9492

North McCurtain County

james.bobo@deq.ok.gov | 572.206.9473

Coal County

james.dejarnett@deq.ok.gov | 572.206.9520

Choctaw County

kody.johnson@deq.ok.gov | 572.206.9513

Leflore County

jeremy.holman@deq.ok.gov | 572.206.9516

Bryan County

derek.kinard@deq.ok.gov | 572.206.9498

South Coal County

william.littrell@deq.ok.gov | 572.206.9511

Haskell County

caleb.McCoy@deq.ok.gov | 572.206.9495

Hughes County

mark.manwell@deq.ok.gov | 572.206.9496

Pittsburg County

johnathan.schulz@deq.ok.gov | 572.206.9505

Oklahoma Water Resources Board (OWRB)

The Oklahoma Water Resources Board (OWRB) is in charge of planning and managing the state's water resources. It is made up of nine members who are appointed by the governor with approval from the state senate. These members serve for seven years and represent different regions of the state. To make sure all water uses are covered, at least one board member is knowledgeable about each major water use, like recreation, industry, irrigation, municipal needs, rural housing, agriculture, soil conservation, and oil and gas. No more than two members can represent the same sector.

OWRB | 405.530.8800

WATER PERMIT INQUIRIES | waterpermitting@owrb.ok.gov

WEBSITE | <https://oklahoma.gov/owrb/water-permitting.html>

Water Conversion Factors

Basic Units and Conversions

1 foot (ft) = 12 inches = 0.305 meters

1 mile (mi) = 5,280 feet

1 acre (ac) = 43,560 square feet

1 square mile (mi²) = 640 acres

1 ton = 2,000 pounds

1 psi (pound per square inch) = 2.31 feet of water

1 cubic foot (ft³) = 7.4805 gallons = 0.02832 cubic meters

1 cubic foot per second (cfs) = 7.4805 gallons per second = 0.646 million gallons per day (MGD)

1 cubic foot per second (cfs) = 448.8 gallons per minute (GPM)

1 cubic foot per second (cfs) = 1.983 acre-feet per day

1 cubic foot per second (cfs) = 2,447 cubic meters of water per day

1 acre-foot (ac-ft) = 43,560 cubic feet = 325,851 gallons = 1,233 cubic meters

1 acre-foot (ac-ft) = 0.504 cubic feet per second per day (cfs/day)

1 gallon (gal) = 0.1337 cubic feet = 3.79 liters

1 million gallons (MG) = 3.07 acre-feet = 1.547 cfs per day

1 part per million (ppm) = 1 mg/L = 8.35 lbs per million gallons

Water Flow and Weight

1 gallon of water = 8.34 pounds

1 cubic foot of water = 62.4 pounds

1 gallon = 3,785 milliliters

1 pound = 454 grams

Time Conversions

1 day = 1,440 minutes

Miscellaneous

π (pi) ≈ 3.14159

1% concentration = 10,000 mg/L

Temperature (Celsius to Fahrenheit)

0° C = 32° F

(Degrees Celsius) × 1.8 + 32 = Degrees Fahrenheit

Glossary & Definitions **Also See Guidelines Section*

A

Alkalinity | Buffering capacity to maintain pH. Desired effluent range is 60 mg/L or more.

AML | Abandoned Mining Land

Anaerobic Lagoon | Operates without oxygen, relying on bacteria that thrive in low-oxygen conditions.

ARPA | American Rescue Plan Act

B

BIA | Bureau of Indian Affairs

BOD5 | 5-day Biochemical Oxygen Demand *

BOR | Bureau of Reclamation – Agency of the U.S. Dept. Of Interior. Responsible for the development of dams, canals, and multiple infrastructure projects. Funding opportunities include the Water Smart Program, energy efficiency grants and applied science grants.

C

CBOD5 | 5-day Carbonaceous Biochemical Oxygen Demand *

CDBG | Community Development Block Grant

CFE | Combined Filter Effluent (turbidity) *

COD | Chemical Oxygen Demand *

CO | Consent Order

CWSRF | Clean Water State Revolving Fund

D

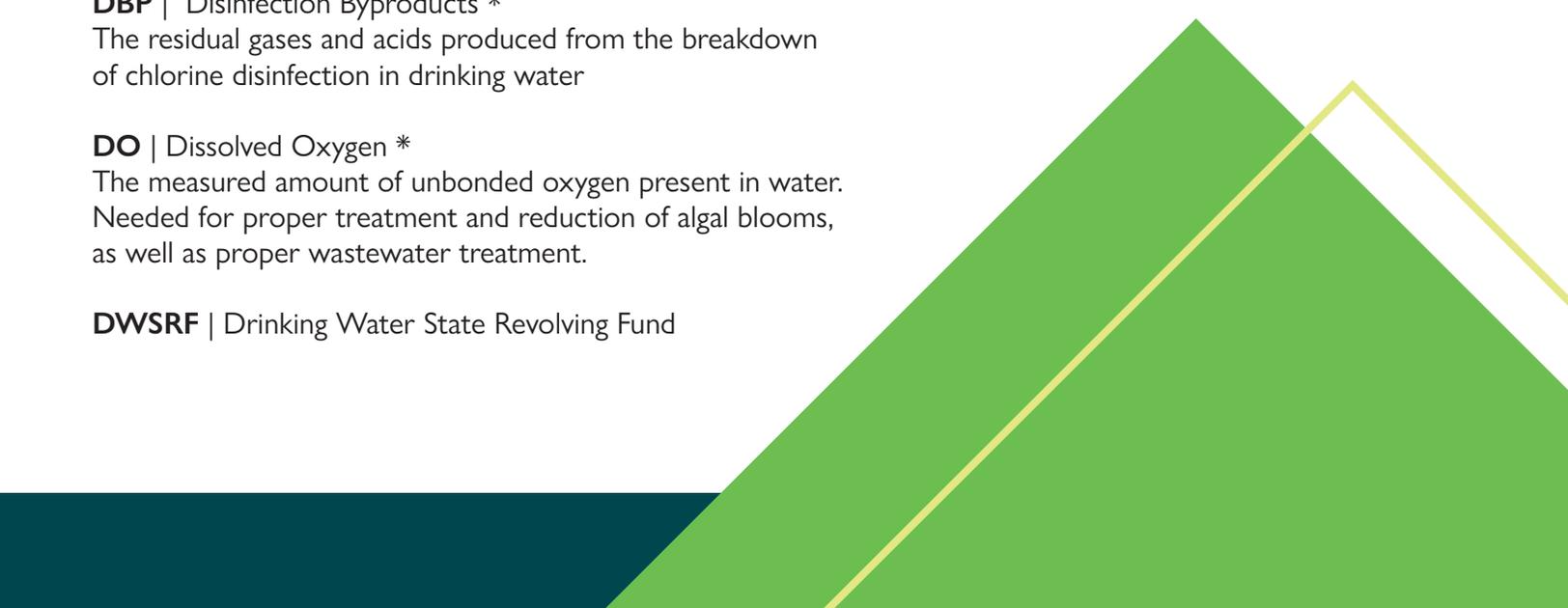
DBP | Disinfection Byproducts *

The residual gases and acids produced from the breakdown of chlorine disinfection in drinking water

DO | Dissolved Oxygen *

The measured amount of unbonded oxygen present in water. Needed for proper treatment and reduction of algal blooms, as well as proper wastewater treatment.

DWSRF | Drinking Water State Revolving Fund



F

F/M ratio | Food to Microorganisms Ratio *

Facultative Lagoon | Contains both aerobic and anaerobic zones, supporting a diverse range of microorganisms.

Flow | The movement of water through the system.

G

gpd | Gallons per Day

gpm | Gallons per Minute

H

HAA5 | Halo acetic Acids - The 5 residual gases produced by the breakdown of chlorine gas in drinking water. Maximum Contaminant Level 60 ppb

hp | Horsepower

HUC | Hydrologic Unit Code – USGS number system that identifies nested watersheds in the US. The higher the number, the more detailed and localized the area.

I

IFE | Individual Filter Effluent (turbidity) *

The measured turbidity of any given filter in a treatment process.

ODEQ standard acceptable levels range from 0 – 0.500 NTU

IHS | Indian Health Services – Division of the Choctaw Nation that manages grants and or funding related to existing construction projects that contribute to the health and well-being of Choctaw Tribal members.

L

LRAA | Locational Running Annual Average *

Metric of the Disinfection By products rule representing a single chemical average reading at a single location.

The average is based on four calendar quarters to ensure proper removal of contaminants in drinking water

lbs. | Pounds

M

mg/L | Milligrams per Liter

mL | Milliliter

MLSS | Mixed Liquor Suspended Solids *

MLVSS | Mixed Liquor Volatile Suspended Solids *

N

NOD | Notice of Deficiency – Assigned by DEQ to water systems, this is a designation given when there is a permit application, report, or program violation that requires immediate resolution including but not limited public notice and response plan.

NON | Notice of Noncompliance – The violation of state permits or regulations that require specific deadlines to recollect an issue under risk of fines or legal action. Proceeds notice of violation.

NOV | Notice of Violation - Initial Correspondence from DEQ regarding a violation of environmental law, permit or regulation.

NPDES | National Pollutant Discharge Elimination System

NTU | Nephelometric Turbidity Unit *

Standard Unit of measurement for particulates in water. Drinking water standards run from 0-10.0 NTU.

Nutrients | Essential elements (such as nitrogen and phosphorus) that are required for microbial growth.

O

ODEQ | Oklahoma Department of Environmental Quality – Primary governing and regulatory agency for drinking and wastewater systems in the state. Monitors reporting, permitting, regulation and enforcement.

OEH | Office of Environmental Health

OEL | Operational Evaluation Level

ORWA | Oklahoma Rural Water Association

ORWP | Oklahomans for Responsible Water Policy

OWRB | Oklahoma Water Resources Board

P

PER | Preliminary Engineering Report – The first step in proposed expansion or upgrade projects to be submitted to DEQ for review and permitting.

PPM | Parts per Million – Standard of measurement for many water treatment chemical feed rates. Also referred to as milligrams per liter (mg/L)

PWA | Public Works Authority

PWS | Public Water System

pH | A measure of acidity or alkalinity in water. Best treatment results occur in a pH range of 6.5-8.5, although permit requirements may vary depending on regulatory standards.

R
RAS | Return Activated Sludge

REAP | Rural Economic Action Plan (Grant) - Grant funded through Oklahoma Water Resource Board

RIG | Rural Infrastructure Grant – Grant fuded through Oklahoma Rural Water Association.

RWD | Rural Water District – Water System that provides water to remote or rural areas not in the service area of municipalities or in areas with insufficient ground water to self-sustain. Usually a membership-based system in which the customers in the service area pay a fee to have service to their property.

S
SDWA | Safe Drinking Water Act – Legislation passed in 1974 making it federal law that drinking water has to be provided in a safe and regulated manner.

SDWIS | Safe Drinking Water Information System – ODEQ resource page to view service providers and basic sampling schedules, samples and results for individual water systems.

SOC | Synthetic Organic Chemical *
Chemicals or compounds tested in source water, specifically source waters where agricultural operations take place.

SS | Settleable Solids *

SSV30 | Settled Sludge Volume 30 min

SW | Surface Water

SVI | Sludge Volume Index

T
TCR | Total Coliform Rule – standards for coliform bacteria in public drinking water, aiming to ensure system integrity and detect potential contamination by requiring monitoring, assessments, and corrective actions when bacteria are found

TOC | Total Organic Carbon - Presence of organic content in drinking water, particularly surface water, that can react with disinfectants to produce disinfection by-products.

TSS | Total Suspended Solids *

TTHM | Total Trihalomethanes *

U

USACE | United States Army Corps of Engineers – Division of the federal government that regulates bodies of water established by the federal government. This agency regulates storage contracts, land easements, land access, and manages the nation's water resources through the construction and maintenance of dams, canals, and flood protection systems.

V

VS | Volatile Solids *

W

WAS | Waste Activated Sludge

WTP | Wastewater Treatment Plant

Environmental Factors

Ambient Temperature | Can cause disruptions in bacterial growth within the treatment process.

Weather Conditions | Rainy conditions (I & I) can cause noncompliance of most reportable parameters.

Seasonal Changes | Spring and Winter seasons may cause nitrification/denitrification of the treatment process.

Stormwater Inflow and Infiltration | I & I can overflow the Collection System and will increase costs to correct.

Naturally occurring nutrients | Waste Load Allocation (WLA) depends on the nutrient levels of the receiving waters. Excess nutrients will affect discharge limits when renewing a permit.

Animal activity | Increased animal and bird activity will increase the nutrient levels within a treatment facility.

Common formulas

$$\text{Pounds per day (lbs./day)} = (\text{Flow, MGD}) * (\text{Concentration, mg/L}) * (8.34)$$

$$\text{Concentration (mg/L)} = (\text{lbs/day}) / (\text{Flow, MGD}) * (8.34)$$

$$\text{Biochemical Oxygen Demand (BOD5)} = \frac{(\text{Initial DO} - \text{Final DO, mg/L}) * (\text{Total Volume, mL})}{\text{Sample Volume, mL}}$$

$$\text{Percentage Removal} = \frac{(\text{Influent BOD} - \text{Effluent BOD}) * (100\%)}{\text{Influent BOD}}$$

$$\text{Detention Time (days)} = \frac{\text{Volume (gallons)}}{\text{Flow Rate (gpd)}}$$

Chlorine

- o Residual (mg/L) = Dosage (mg/L) – Demand (mg/L)
- o Demand (mg/L) = Dosage (mg/L) – Residual (mg/L)
- o Dosage (mg/L) = Demand (mg/L) + Residual (mg/L)



Water Quality Guidelines

Chlorine

- **Point of Entry (POE)** | Minimum 1.0 mg/L, but can be 0.2 mg/L if inactivation requirements are met.
- **Most Distant Points** | Minimum 0.2 mg/L.
- **Maximum Limit (MRDL)** | 4.0 mg/L (Maximum Residual Disinfectant Level)

Turbidity

Classes of Waters

- **Class I & II (e.g., streams)** | Generally, no more than **5 NTU** above background (**if background < 50 NTU**) or a 10% increase (**if background > 50 NTU**).
- **Class III & IV (e.g., lakes/streams)** | Up to **10 NTU** above background (if background < 50 NTU) or a 20% increase (if background > 50 NTU).
- **Lakes** | No more than **5 NTU** over natural conditions.
- **Drinking Water (Filtered)** | Under federal rules (40 CFR 141.73), filtered public water must be ≤ 0.5 NTU (conventional) or ≤ 1 NTU (slow sand) in 95% of samples, with stricter federal limits for filtered systems often aiming for < 0.3 NTU in 95% of measurements.

Total Organic Carbon (TOC)

Source-water TOC, mg/L	Source-water alkalinity, mg/L as CaCO ₃		
	0 - 60	>60 - 120	>120
>2.0 - 4.0	35.0%	25.0%	15.0%
>4.0 - 8.0	45.0%	35.0%	25.0%
>8.0	50.0%	40.0%	30.0%

Disinfection Byproducts

Total Trihalomethanes (TTHM) ≤ 80 ppb, or $\mu\text{g/L}$

Halo acetic acids (HAA5) ≤ 60 ppb, or $\mu\text{g/L}$



Distribution System Guidelines

Pressures

Basic service lines | 20psi – 80psi

Commercial lines | 75-100 psi

*- It is recommended that service lines that carry pressures >80 psi be fitted with a pressure relief valve (PRV) but is also recommended be monitored by continuously monitoring equipment (Sensors, smart meters, SCADA systems, etc.).

Flushing & Residuals

Chlorine Residuals | Minimum 20 minutes per site, longer if needed to achieve proper free chlorine residual.

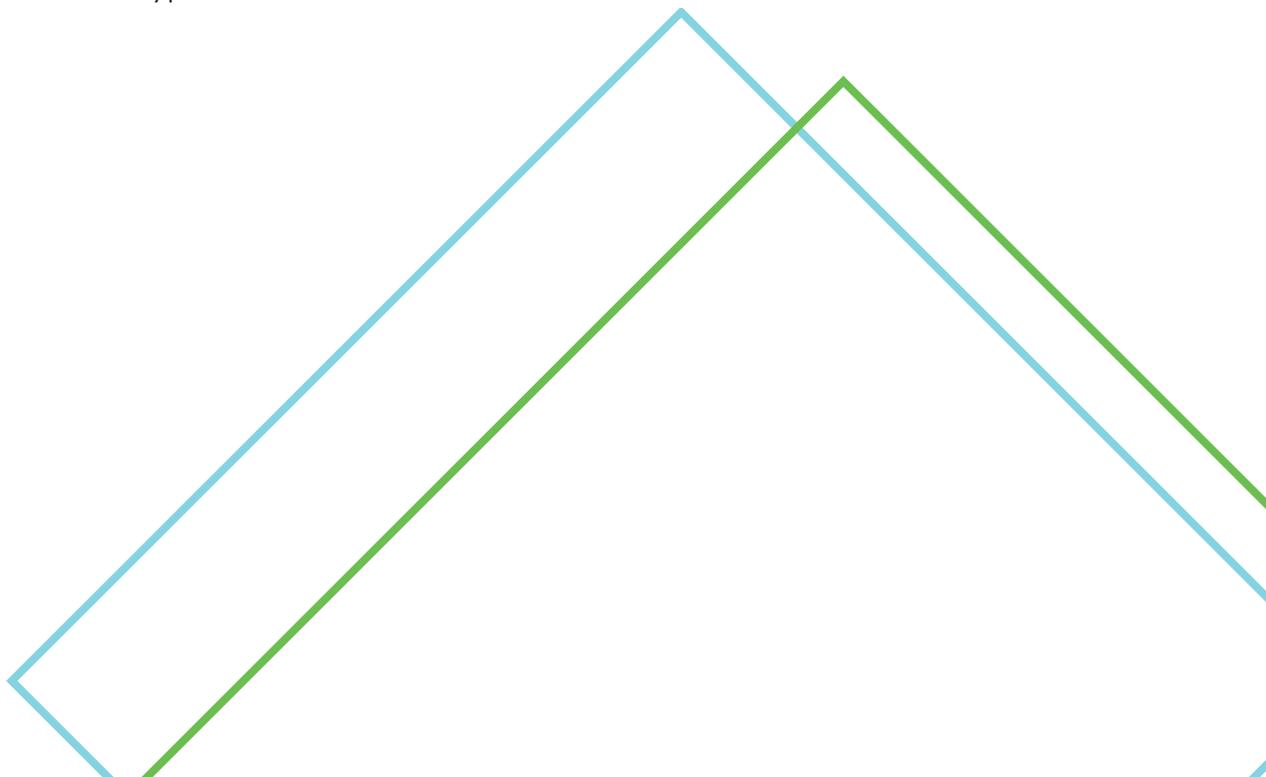
Line Repair: Isolated flushing required after repair, particularly line break in which sediment is deposited into the service line. Flush until clear.

Line Repair | Isolated flushing required after repair, particularly line break in which sediment is deposited into the service line. Flush until clear.

New line installation | During new line installation for development or upgrade. Usually extended flush accompanied by disinfection and Bacteriological sampling.

DBP Sampling | Flushed at the furthest dead-end lines close to sample points. Extended flush to move fresh and properly chlorinated water to remote point to reduce the amount of disinfection byproducts created.

Full System Flush | Preventative program for systems with excessive dead-end lines or linear in orientation. Daily program that begins at the source or primary connection and flushes outward to the furthest points by incorporating daily chlorine residual flushes (20-minute flushes). Extremely useful in disinfection byproduct reduction.



Calculation Examples

TOC Calculation Removal Ratio Example

Source Water TOC | 9.0 mg/L

Treated Water TOC | 4.0 mg/L

TOC Removed | $9.0 \text{ mg/L} - 4.0 \text{ mg/L} = 5.0 \text{ mg/L}$

Actual Removal Percentage | $(5.0 \text{ mg/L} / 9.0 \text{ mg/L}) * 100 = 55.6\%$

Required Removal Percentage | 40.0% (This is the regulatory target)

Monthly Removal Ratio | $55.6\% / 40.0\% = 1.39$

OEL Calculation Example

Current Quarter (CQ) | 75 $\mu\text{g/L}$ TTHM

Previous Quarter (PQ2) | 70 $\mu\text{g/L}$ TTHM

Previous Two Quarters (PQ1) | 60 $\mu\text{g/L}$ TTHM

$$\text{OEL} = (60 + 70 + 2 \times 75) / 4$$

$$\text{OEL} = (60 + 70 + 150) / 4$$

$$\text{OEL} = 280 / 4 = 70 \text{ } \mu\text{g/L TTHM}$$

Chlorine

- o Residual (mg/L) = Dosage (mg/L) – Demand (mg/L)
- o Demand (mg/L) = Dosage (mg/L) – Residual (mg/L)
- o Dosage (mg/L) = Demand (mg/L) + Residual (mg/L)

$$\text{Detention Time} = \frac{\text{Volume (gallons)}}{\text{Flow Rate (gpd)}}$$

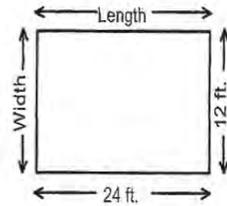
Tank Volumes & Capacities

Surface Area (ft²) (Squares & Rectangles)

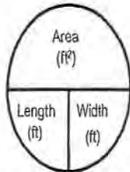
Surface Area refers to the Square Units in a two dimensional plane, i.e., Square Feet (ft²).

To find the Surface Area of a Square or Rectangle, use this formula;

$$\text{Length} \times \text{Width} = \text{Area}$$



Example;
What would be the Surface Area of the top of a rectangular tank measuring 24 ft. long by 12 ft. wide?
 $24 \times 12 = \underline{288} \text{ ft}^2$



Surface Area (ft²) (Circles and Ellipses)

Typically, for calculating the Surface Area of a circle we use this formula;

$$\pi R^2 \text{ (3.14} \times R \times R) = \text{Area}$$

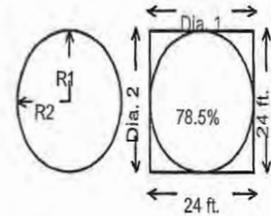
$$\pi R^2 = (3.14 \times R1 \times R2)$$

Using the formula this way we can also calculate the area of an ellipse.

We can also use this formula;

$$D1 \times D2 \times 0.785 = \text{Area}$$

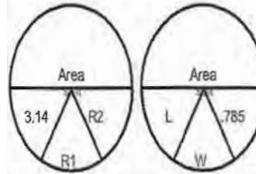
The area of a circle or ellipse is equal to 78.5% of the area of a square or rectangle with the same dimensions



Example;
Calculate the Area of a 24 ft. diameter circle.

$$12 \times 12 \times 3.14 = \underline{\hspace{2cm}} \text{ ft}^2$$

$$24 \times 24 \times 0.785 = \underline{\hspace{2cm}} \text{ ft}^2$$



Capacity (gals/ft) (Round Pipes and Tanks)

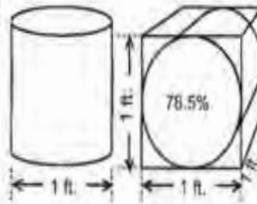
A quick and easy way to calculate the capacity in one foot of a round tank or pipe is to use these formulas where part of the math is already done:

$$D \text{ (ft)} \times D \text{ (ft)} \times 5.875 = \text{gals/foot}$$

$$78.5\% \text{ of } 7.48 \text{ (1 cu.ft.)} = 5.875$$

$$d \text{ (in)} \times d \text{ (in)} \times 0.0408 = \text{gals/foot}$$

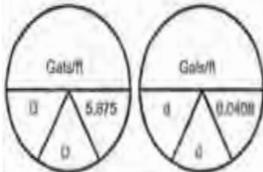
$$5.875 = 144 \text{ (sq.in./sq.ft.)} = 0.0408$$



Example;
How many gallons per foot will a 12 in. pipe hold?

$$1 \times 1 \times 5.875 = \underline{\hspace{2cm}} \text{ gals/ft}$$

$$12 \times 12 \times 0.0408 = \underline{\hspace{2cm}} \text{ gals/ft}$$

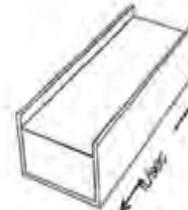


Velocity (ft/sec)

Velocity refers to how fast water travels through a conduit, such as a pipe or channel.

To calculate the Velocity, use this formula;

$$\frac{\text{GPM}}{60 \text{ (sec)} \times \text{Gals per ft.}} = \text{ft/sec}$$

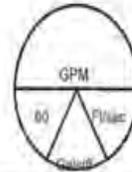


Example;
3.1 MGD flowing 1.5 ft. deep through a 2 ft. wide grit chamber would have a velocity of?

$$\text{GPM} = \underline{\hspace{2cm}}$$

$$\text{Gals/ft.} = \underline{\hspace{2cm}}$$

$$2152.78 \div 60 \div 22.44 = \underline{\hspace{2cm}} \text{ ft/sec}$$

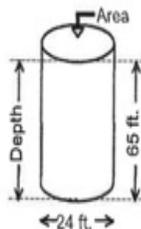


Volumes (ft³)

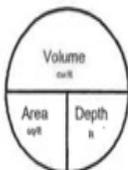
Volume refers to the Cubic Units in a three dimensional object, i.e., Cubic Feet (ft³)

To find the Volume of a tank or pipe, use this formula;

$$\text{Area} \times \text{Depth} = \text{Volume}$$



Example;
What is the Volume of a circular tank with a 24 ft. diameter and a height of 65 ft.
 $(24 \times 24 \times .785) \times 65 = \underline{29,390} \text{ ft}^3$

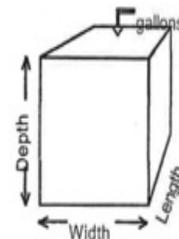


Capacity (gals)

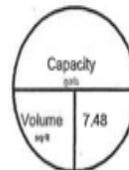
Capacity refers to how many gallons a tank will hold.

To find the Capacity of a tank, we typically use this formula;

$$\text{Volume} \times 7.48 = \text{Capacity}$$



Example;
What is the Capacity of a rectangular tank that measures 24 ft. long, 12 ft. wide and 15 ft. deep?
 $(24 \times 12 \times 15) \times 7.48 = \underline{32,313} \text{ gals}$



Spill Calculation

Volume (length x width x depth) x 7.48 = total gallons

Store Water Loss

Pipe Capacity

Volume (D x D x 0.785 x ft.) x 5.785 = total gallons

Tank Capacity

Volume (L x W x H) x 7.48 = Total Gallons

$$\frac{\text{Capacity/gal}}{\text{ft}} = \text{gal/ft}$$

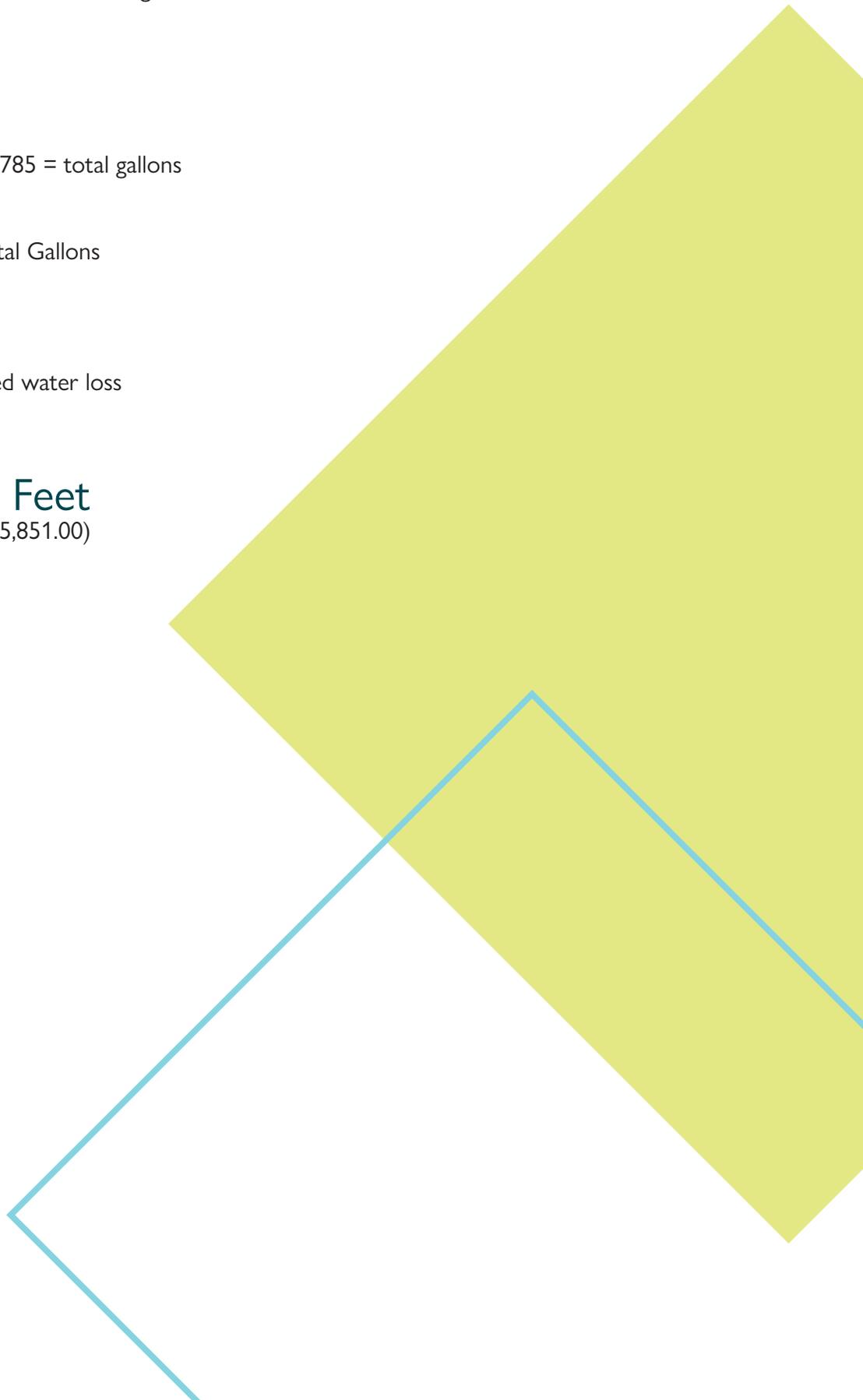
Elevation Change x gal/ft= Stored water loss

Total Leak in Acre Feet

Total gallons lost ÷ Acre Feet (325,851.00)

Tank Elevation

Psi x 2.31 = ft. elevation



General Guidelines

Operator licensing requirements are determined by the complication of the treatment process and population size.

Facility Classification	Population Size
Class "D" Total Retention Lagoons	1,500 or less
Class "C"	>1,500 - <15,000
Class "B"	>15,000 - <50,000
Class "A"	>50,000

Renewal Certification

June 30th of every year with renewal hours certified. Hours determined by class of license as follows:

Class A | 16 hours/year (4 must be in class)

Class B | 12 hours/year (4 must be in class)

Class C | 8 hours/year (4 must be in class)

Class D | 4 hours/year (4 must be in class)

Monthly Reporting

DEQ

Monthly Operational Reports (MOR) | 10th of every following month (Filed by mail or electronically)

Discharge Monitoring Reports (DMR) | 15th of every following month (Filed electronically)

Consumer Confidence Report (CCR)

April 1st | Wholesalers must provide data to buying systems.

July 1st (Annual) | Distribute the main CCR to customers and the state.

October 1st (Annual) | Submit certification of distribution to the state.

OWRB

Water Usage Report (OWRB) | Forms sent to permit holders in January

Due Date | March 15th of every year

Final Due Date | April 15th with penalties





Routine Maintenance Steps

- a. **Asset Management and Capital Improvement Planning** | Public water systems can significantly improve long-term planning by implementing Asset Management Plans and Capital Improvement Plans. These plans track the condition, usefulness, and replacement costs of essential assets, such as equipment or materials valued at \$5,000 or more. By using these planning tools, systems can allocate budgets more effectively, supporting long-term sustainability and self-reliance.
- b. **Daily, Weekly, and Monthly Checks for Water Systems** | These checks should be performed on pump stations, master meters, towers, etc. These checks should involve visual inspections, meter readings, security, and any conditions that might prove beneficial or useful for the proper operations.
- c. **Preventative Maintenance Schedules for Pumps, Valves, and Weather** | Maintenance programs are extremely beneficial for the smooth running of daily operations of public water systems. These structured and date driven programs can be as easy as setting calendar dates on an online calendar, and as complex as a purchased online preventative maintenance program. These records can be kept electronically as well as on file and should be kept for the lifespan of the equipment that is being maintained.

Sample Forms and Logs

- a. **Daily Logs** | Daily logs for plant operations and lab procedures are required by ODEQ for proper record keeping and compliance. These logs should be bound, not perforated, without missing dates or pages. The logbooks should be separate from each other for proper record keeping.
- b. **Job Descriptions** | Job descriptions ensure that each operator is aware of the basic daily duties that each operator is responsible for. This also helps to establish a succession plan in the event of staffing shortages or employee turnover.
- c. **Maintenance Records** | These records are the basis for sustainability and asset management. They can be utilized to streamline basic operations, maintenance, reference material, and in conjunction with the preventative maintenance program.



Sample forms, logs, and planning documents can be found by scanning the QR code or visiting chocta.ws/sustainable-communities

Record Keeping & Storage

Public Water Systems must maintain accurate and complete records of operations, correspondence, and required forms and readings in accordance with EPA and ODEQ regulations. Certain records are mandatory for state and federal compliance and enforcement, while others are recommended to improve accessibility, operational efficiency, and institutional knowledge. Proper recordkeeping also supports eligibility for funding and contributes to long-term system sustainability. The following examples and guidance are provided to help systems meet regulatory requirements and ensure continuity for future operators and management. Systems should follow the “10-year rule”. This means any documentation related to monthly reporting or regulatory compliance must be organized by calendar year and retained for a minimum of ten years.

*- Required Statutes

MOR | 3 yrs*

Turbidity and Microbiological | 5 yrs min. *

Lab Sheets | 10 yrs*

Lead & Copper Rule results/records | 12 yrs*

O&M Log books | 3 yrs.*

Maintenance Program sheets | Life span of equipment

Monitoring plans | (TCR, Stage 2 DBP, etc.) 10 yrs. *

Consumer Confidence Report | 3 years from issuance *

Public Notices | 3 yrs from issuance *

Enforcement and Corrective Actions | 3yrs. From last action or correspondence*

Records of Exemptions and Variances | 5 yrs. *

Sample Sheets | 10 yrs *

Sanitary Surveys | 10 yrs *

Engineering Documents | Lifetime of facility

Project drawings | Lifetime of facility

Water Rate Study | Lifetime of facility, updated every 2-3 yrs.

Condition Reviews | Lifetime of facility

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Choctaw Nation

Water Resource
Management