JCSUD

Johnson County Special Utility District
CCN# 10081
PWS ID TX1260018

WATER CONSERVATION PLAN

2022

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JCSUD
Johnson County Special Utility District

Water Conservation Plan

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1. INTRODUCTION

1.1 Introduction and Objectives

The TCEQ rules governing development of water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code, which is included in Appendix B. For these rules, a water conservation plan is defined as "A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water."

In 1990, the Johnson County Rural Water Supply Corporation (JCRWS) originally developed a Water Conservation Plan. The plan was submitted to the Texas Water Development Board (TWDB) for approval. Texas Water Development Board approved the plan, and the Board of Directors passed a resolution on July 11, 1990, putting the plan in place. Likewise, in subsequent 5-year increments, a resolution was adopted for accepting each updated plan.

Johnson County Special Utility District (JCSUD) uses its best efforts to implement and maintain an updated Water Conservation Plan to promote the conservation of available water supply, and/or to protect the integrity of the water supply facility, to protect and preserve public health, welfare, and safety.

The objectives of this water conservation plan are as follows:

- To reduce water consumption from the levels that would prevail without conservation efforts.
- To reduce the loss and waste of water.
- To improve efficiency in the use of water.
- Encourage efficient outdoor water use.
- To extend the life of current water supplies by reducing the rate of growth in demand.
- To educate the customers of JCSUD about the need for water conservation and the benefits of conserving our most valued natural resource.

1.2 History of Johnson County Special Utility District

In 1965, the Johnson County Water Supply Corporation organized and chartered under state statutes as a non-profit corporation, much like many others of its kind in Texas during this era. The beginnings of these rural water suppliers arose throughout the country and were funded through loans from the Farmers Home Administration. The system began with 305 users and served a genuine need in supplying drinking water to the rural community. In 1972, the West Prairie Water Supply Corporation in the northern portion of the County was merged into the existing system. The merger of two entities into one was named the Johnson County Rural Water Supply Corporation. In 1977, the Nolan River Water Supply Corporation in the southern portion of the County also merged

with the JCRWS. This public water supplier with such humble beginnings is steadily evolving into much more as time and growth goes in Johnson County.

In 1984, JCRWS had 5,116 rural families being served and the growth trend for the county continued. In 1985, JCRWS, along with a smaller neighboring water system, Johnson County Fresh Water District, recognized that the supply of well water would not continue to sustain the growth in Johnson County. Consequently, the Brazos River Authority was asked to do a feasibility study on transporting surface water from Lake Granbury to the two systems in Johnson County, some 24 miles away. The need for surface water as a more reliable source was becoming increasingly urgent, as ground water levels in the northwest part of the country were experiencing serious decline.

By 1989, JCRWS was receiving treated water from Lake Granbury. The Brazos River Authority had issued public bonds to fund the construction of the Surface Water and Treatment System (SWATS) that eventually would treat and serve 3.5 MGD Johnson County Rural Water Supply Corporation, Johnson County Fresh Water District, Acton Municipal Utility District, and the City of Granbury. The SWATS plant was fitted with a desalinization unit to remove excessive chloride and sulfate by a process known as Electro-Dialysis Reversal by the IONICS Corporation. In 1999, the SWATS plant capacity was increased to 5 MGD. Soon after, the SWATS participants agreed to consider expanding the plant to 15 MGD.

In 1992, the Texas Natural Resource Conservation Commission (now Texas Commission on Environmental Quality) granted JCRWS an alternate capacity requirement (ACR) rating of .5 gpm per connection. Two years after receiving the ACR, JCRWS was supplying about 7000 connections with only 1.625 MGD of surface water capacity from the SWATS treatment plant (Surface Water and Treatment System) on Lake Granbury operated by the Brazos River Authority. The annual audit in 1994 reported the asset value for the distribution system at $13.6 million.

In 2000, JCRWS was serving 10,200 connections. The Board of Directors voted to convert Johnson County Rural Water Supply Corporation to a special utility district (SUD). Converting to a SUD allows water supply corporations to become a political subdivision. Benefits include being sales tax-exempt and eligible to participate in the state-sponsored insurance risk pool (TML) rather than paying higher private-sector liability insurance premiums. The largest cost-savings comes for governmental entities issuing tax-exempt bonds to fund capital projects. Finally in 2004, the Texas legislature approved the conversion, and the organization began operating as the Johnson County Special Utility District.

Today, JCSUD is one of the largest Special Utility District in Texas yielding some 19,830 connections, or service provided to a population of 56,912. The management and employees at JCSUD have honed and polished their skills to maintain a level of efficiency that is exemplary among rural water systems in Texas. Likewise, the Board of Directors is committed to provide direction and support that affords the best possible service within the financial means to continue with the spirit of “people helping people.”

2. UTILITY PROFILE

2.1 Existing Water Supplies

The service area of the JCSUD consists of approximately 320 square miles in Johnson, Tarrant, Hill, and Ellis Counties, Texas. JCSUD covers about three-fourths of unincorporated Johnson County. About 95% of the customers are in Johnson County. The service area has a Certificate of Convenience and Necessity originally issued in November 1979. This document is a franchise authorization, which allows only JCSUD to provide water service within this area. Currently the system provides about 30% ground water from existing wells and 70% from surface water. 85% of the surface water comes from City of Mansfield and 15% comes from Lake Granbury in Hood County. JCSUD has maintained a long-term raw water contract for 9,210 acre-feet of water from Lake Granbury with Brazos River Authority.

The water supply for JCSUD is provided from three (3) sources. The water supply assessment is based on a maximum day condition. For over 95% of the time, because of fluctuations in water usage, the capacity will not be fully utilized. In general, a maximum day or a condition approximating maximum day occurs three (3) to five (5) times per year and then in only drought years. The water supply sources are a series of long-term contracts with the Brazos River Authority (BRA), water wells owned by JCSUD, and water purchase agreements with the City of Mansfield and Grand Prairie.

Table 1 shows the current water supply capabilities.

TABLE 1
JCSUD WATER SUPPLY

Current Water Supply Source	Capacity MGD	Capacity GPM	Connections at 0.42 GPM	Connections at 0.6 GPM
BRPUA SWATS Plan	7.19	4,993	11,888	8,322
Wells	3.22	2,236	5,324	3,727
Mansfield Contract	9.00	6,250	14,881	10,417
Grand Prairie	6.00	4,167	9,921	6,945
Totals	**25.41**	**17,646**	**42,014**	**29,411**

2.2 Wholesale Customers

JCSUD provides wholesale water on an as-needed basis to the following customers that have contracts with JCSUD: the City of Alvarado, Monarch Utilities (County Road 913 Sundance, Metroplex Homestead, 4044 Running BRK Joshua), Bethany SUD, Undine Texas LLC (1109 CR 701 Cleburne, 3503 County Road 920 Crowley), and the City of Keene. For alternative capacity requirement calculations, the water supply provided to these wholesale water customers was subtracted from JCSUD's daily production values. The number of active JCSUD connections does not include connections within the wholesale water customer systems for the City of Alvarado, Monarch Utilities, Bethany SUD and Undine Texas LLC. JCSUD also provides water supplies for temporary and unusual water demands for fire protection, oil and gas drilling operations and road construction. The District's Long Range Water Supply Plan includes supplying the growing demand of its wholesale customers just like caring for the retail customer demand. Table 1 shows the maximum water capacity of 25.41 MGD.

2.3 Water Distribution System

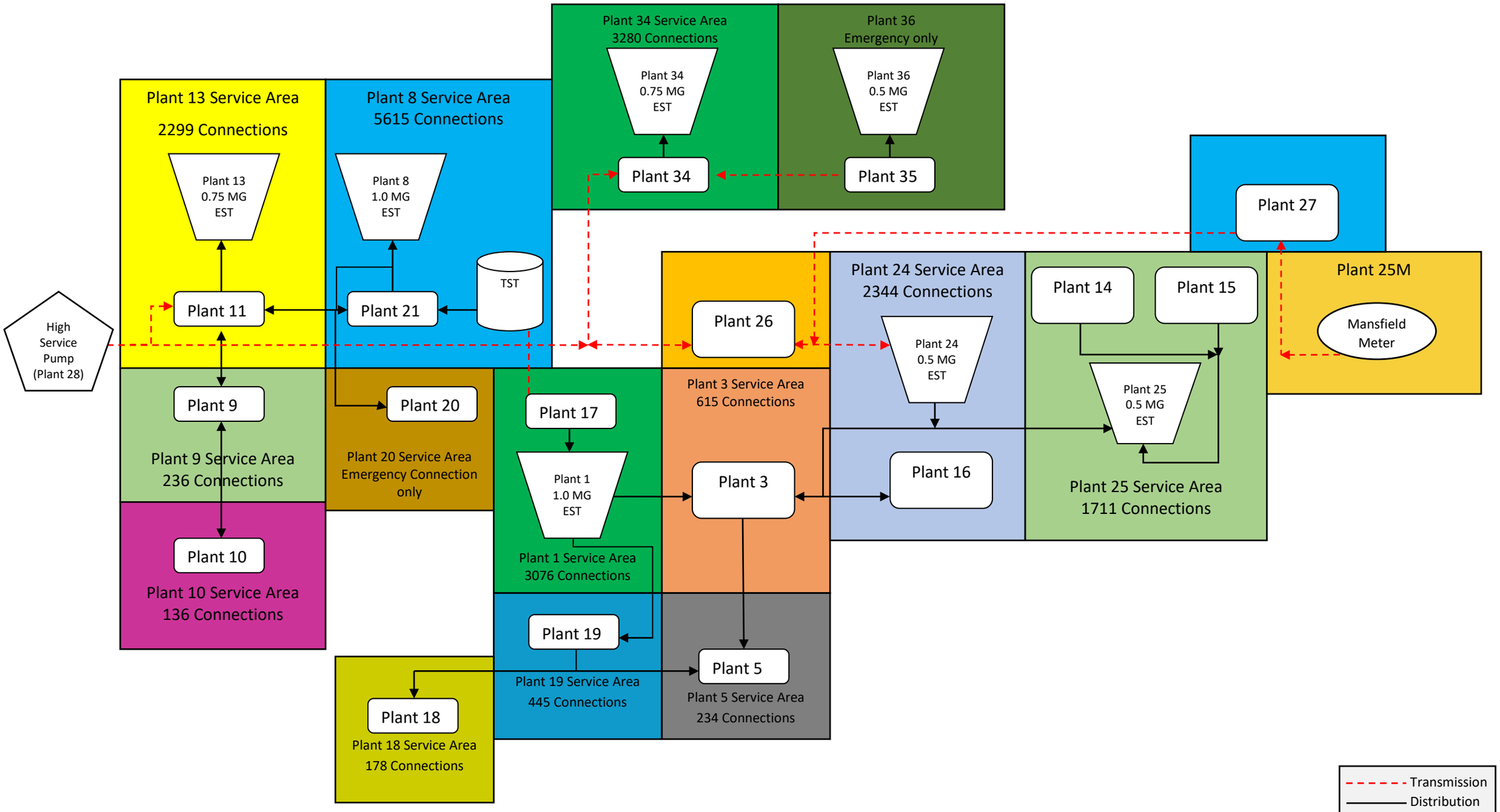
The JCSUD water distribution system is complex as detailed in the System Diagram (page 5a). The system started initially as a rural water supply system. However, as the water supply demands increased, the nature of the water distribution system has started to change to a suburban system with some commercial requirements. The system consists of approximately 896.7 miles of water pipe ranging in sizes from twenty-four (24) inch diameter pipe down to one (1) inch diameter pipe.

The water distribution system consists of four (4) principal components, water supply, water storage tanks, pump stations, and distribution piping. The system started initially as a rural water supply system. It has been built by the mergers of at least five (5) separate entities into the current system. In addition, at least three (3) investors owned, or neighborhood water associations have also been absorbed into the JCSUD system.

The system is divided into pressure planes for best management of the system. The pressure planes are geographic sub-areas of the entire water system. The purpose of a pressure plane is to control the minimum and maximum water pressure within an area. The system is split into fifteen (15) pressure planes. Pressure Planes 1, 8, 13, 24, 25 and 34 have elevated storage tanks to meet peak hourly conditions. Pressure Planes 3, 5, 9, 10, 18, 19 have ground storage and pressure tanks to meet peak hourly conditions.

Johnson County Special Utility District

2022 Public Water System Diagram



2.4 Water Storage Tanks and Pump Stations:

Water Storage Tanks - JCSUD has several water storage facilities, both elevated tanks and ground tanks. The required capacity for water storage is regulated by TCEQ. The capacity requirement is 200 gallons per connection. If a pressure plane has more than 2,500 connections, at least 100 gallons per connection must be elevated storage. JCSUD owns a 3 MG elevated, ground storage standpipe, better known as the TST (Transmission Storage Tank) located on Brushy Nob, just west of Joshua. JCSUD has over 9 MG of ground storage including the TST, and 4.5 MG of elevated storage.

Table 3 below shows the current JCSUD water storage availability.

Table 3
JCSUD Water Storage

Pressure Plane	Plants	Capacity All Ground Tank(s) Gal.	Capacity Elevated Tank Gal.	Total Capacity Storage Tank(s) Gal.
1	1		1MG	1MG
	17	500K		500K
13	13		750K	750K
	11	270K		270K
8	8		1MG	1MG
	21	3.5MG		3.5MG
24	24		500K	500K
	16	200K		200K
25	25		500K	500K
	14	100K		100K
	15	100K		100K
3	3	500K		500K
5	5	200K		200K
9	9	100K		100K
10	10	100K		100K
18	18	100K		100K
19	19	500K		500K
20*	20*	500K		500K
25M	25M			
26	27	1MG		1MG
26	26	1MG		1MG
34	34	200K	750K	950K
	35	150K		150K
Totals		9.02 MG	4.5 MG	13.52 MG

*Emergency Use Only

Pump Stations - Each pressure plane has at least one (1) pump station associated with it. Two (2) of the pump stations (Plants 11 and 21) have vertical turbine pumps. Two (2) of the plants have split case pumps (Plants 17 and 35). All the others have end suction centrifugal pumps.

Table 4 shows the existing pumping capacity at each plant.

Table 4
JCSUD Pump Stations

Pressure Plane	Plants	Capacity Booster Pumps gpm
1	1	
	17	3,600
13	13	
	11	2,200
8	8	
	21	4,440
24	24	
	16	600
25	25	
	14	1,300
	15	980
3	3	1,600
5	5	1,080
9	9	800
10	10	440
18	18	600
19	19	1,850
20*	20*	1,200
25M	25M	
34	34	1,630
	35	1,500
Total		**23,820**

*Emergency Use Only

The principal criteria used to establish the water system requirements are derived from the Texas Commission on Environmental Quality (TCEQ) which established water system regulations in Chapter 290. These criteria define water supply requirements and water distribution system requirements including facility sizes. These were used in developing the Master Plan. Currently JCSUD has an exemption for the water supply requirements of 0.6 gpm per connection to 0.42 gpm per connection. TCEQ has asked JCSUD to provide more data to maintain the exemption. The maximum day criteria govern the size of the water supply requirements.

2.5 Wastewater System

A. Wastewater System Data

1. Design capacity of wastewater treatment plant(s): 0.950 MGD

2. Is treated effluent used for irrigation on-site? *Yes;* off-site? *No*
   plant wash-down? *Yes*, or chlorination/dichlorination? *Yes,*
   If yes, approximately *100,000* gallons per month.

3. Brief Description of the Wastewater System:

Johnson County Special Utility District (JCSUD) owns and operates its collection system and wastewater treatment plant under TCEQ permit number WQ0014350001. The collection system serves the city limits of Joshua and part of Burleson. The system has eight lift stations and approximately 50 miles of sewer main. The JCSUD wastewater treatment facility operates in extended aeration mode, and it is permitted with TCEQ to treat 0.79 MGD. The treatment facility has influent screens, two aeration basins, four circular clarifiers, a head lift station, two RAS lift stations and a chlorine contact chamber. Effluent from the treatment facility is discharged into Village Creek and finally ends up in Lake Arlington.

B. Wastewater Data for Service Area

1. Percent of water service area served by wastewater system: *7%*

2. Monthly volume treated for previous three years (in gallons):

	Year 2019	Year 2020	Year 2021
January	19,576,000	13,398,000	12,629,000
February	14,343,000	14,410,000	11,666,000
March	15,420,000	21,460,000	14,393,000
April	17,826,000	15,667,000	14,829,000
May	22,647,000	16,767,000	23,550,000
June	15,084,000	14,297,000	19,841,000
July	13,473,000	14,349,000	14,409,000
August	13,061,000	12,330,000	14,014,000
September	12,141,000	13,018,000	12,291,000
October	11,840,000	12,452,000	12,964,000
November	11,146,000	11,637,000	11,124,000
December	11,548,000	11,647,000	11,479,000
Total	178,105,000	171,432,000	173,189,000

2.6 Lake Granbury Surface Water and Treatment System

The Brazos Regional Public Utility Agency (BRPUA) owns and operates the Lake Granbury Surface Water and Treatment System (SWATS) which provides water to retail customers in Johnson and Hood Counties. The SWATS project is classified as a wholesale public water supplier and serves two retail water customers that are JCSUD and Acton Municipal Utility District (AMUD). These customers of the SWATS project entered a 50-year contract with the BRA to obtain treated water for the contract amount. Each retail water supplier already has in place its own water conservation plan. The BRA has implemented a Water Conservation Plan/Drought Contingency Plan to promote the conservation of available water supply, and/or to protect the integrity of the water supply facility, and to protect and preserve public health.

3. HISTORICAL & GROWTH PROJECTED WATER USE

Population and Service Data

Current population served, **Water**:	56,912
Current population served, **Wastewater**:	8,690

Historical and projected population served by water utility:

Year	*Population
2017	43,435
2018	45,197
2019	46,538
2020	48,819
2021	56,912
2022	58,619
2023	60,378
2024	62,189
2025	64,055
2026	65,977
2027	67,956
2035	84,265
2045	109,545
2055	142,408
2065	185,131

* Current population taken from existing connections x 2.87 persons per connection
* Projected population uses historical growth data for "best fit" trend.

Historical Connections

	2017	2018	2019	2020	2021
Residential, Single Family	16,658	14,903	15,320	16,063	16,859
Residential, Multi Family	1,387	1,609	1,766	1,806	1,846
Commercial/Industrial	616	835	923	1,014	1,093
Other	38	27	29	31	32
Total Connections:	18,699	17,374	18,038	18,914	19,830

Usage Data

Five Year Monthly History of Water Sold In MG

	2017	2018	2019	2020	2021
Jan	99.80	101.76	99.81	97.72	121.64
Feb	80.83	97.06	92.33	88.99	107.79
Mar	81.91	86.06	92.05	91.22	134.07
Apr	95.70	94.35	96.33	97.05	126.88
May	109.13	99.27	105.65	111.48	135.55
Jun	125.41	147.12	107.39	151.15	135.30
Jul	130.13	208.25	141.44	184.95	162.08
Aug	156.40	240.67	178.87	197.07	189.35
Sep	142.12	183.57	200.48	223.19	224.81
Oct	138.87	128.88	185.92	161.09	158.43
Nov	106.36	109.06	141.95	153.19	139.35
Dec	105.11	100.04	111.65	125.54	139.36
Total:	1,371.77	1,596.09	1,553.87	1,682.64	1,774.61

Five Year Account Type Usage History

Gallons in (000) Thousands

Year	Residential	Commercial/ Industrial	Other	Total
2017	1,173,020	104,827	13,165	1,291,012
2018	1,302,005	133,132	17,053	1,452,190
2019	1,264,447	125,634	16,201	1,406,282
2020	1,427,363	103,377	14,288	1,545,028
2021	1,470,493	114,048	12,718	1,597,259

Five Year Water Loss History

Year	Loss, %
2017	14.7%
2018	16.8%
2019	18.7%
2020	20.0%
2021	16.1%

Five Year and Ten Year Water Loss Goals

Description	Units	2021	2026	2031
Water Loss GPCD	GPCD	14	13	11
Water Loss / Mile	Gallons/mile/day	776.1	738	702
Water Loss / Connection	Gallons/connection per day	40.82	40	38
Real Losses	I.L.I	1.11	<2	<2

Project Demands

Year	Population	Demand
2022	58,619	2.182 MG
2023	60,378	2.248 MG
2024	62,189	2.316 MG
2025	64,055	2.385 MG
2026	65,977	2.456 MG
2027	67,956	2.530 MG
2028	69,994	2.606 MG
2029	72,094	2.684 MG
2030	74,258	2.764 MG
2031	76,486	2.848 MG

* Projected water demands calculated by taking population x five year historical GPCD x 365

Five-Year and Ten-Year Goals for Water Savings

Description	Historic 5 yr. Average	5-Year Target 2026	10-Year Target 2031
Total GPCD[1]	102	98	95
Residential GPCD[2]	72	70	68
Water Loss (GPCD) [3]	16	16	15
Water Loss (Percentage)[4]	16%	14%	13%

Notes: gallons per capita day (GPCD)

1. Total GPCD = (system input / permanent population) / 365
2. Residential GPCD = (gallons used for residential use / residential population) / 365
3. Water Loss GPCD = (total water loss / permanent population) / 365
4. Water Loss Percentage = (water loss / total GPCD) x 100

4. CONSERVATION GOALS

4.1 Specification of Water Conservation Goals

Current TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. As part of plan adoption, each water supplier is asked to develop 5-year and 10-year goals for per capita municipal use.

The goals for the Johnson County Special Utility District water conservation plan include the following:

- Keep the per capita municipal water use below 98 gallons per capita per day by 2026 (5-year goal).
- Keep the per capita municipal water use below 95 gallons per capita per day by 2031 (10-year goal).
- Reduce gallons lost per mile per day by 24 gallons annually by 2027.
- Maintain our existing program of universal metering and meter replacement and repair.
- Increase efficient water usage and decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program.

4.2 Metering, Records, Nonrevenue Water, Leaks, & Monitoring

One of the key elements in water conservation is careful tracking of water use and control of losses. Careful metering of water deliveries and water use, prompt detection and repair of leaks in the distribution system, and regular monitoring of unaccounted water are important in controlling losses.

Accurate Metering of Treated Water Deliveries

The metering devices that measure treated water delivered to Johnson County Special Utility District will be maintained within an accuracy range of ± 2% accuracy. These meters are tested annually.

Customer Meter Testing, Repair, and Replacement

All connections to the water system are metered connections. All meters will be maintained within an acceptable operating accuracy range in accordance with AWWA standards for meter accuracy. Dead meters and meters that indicate reduced usage will be flagged during the computerized billing process. These meters will be checked and tested, as needed, and replaced when found to be out of compliance with AWWA Standards.

Records Management

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), the record management system allows for the separation of water -- sales and uses -- into residential, commercial, public/institutional, and industrial categories. This information will be included in an annual water conservation report.

The Johnson County Special Utility District will continue to maintain a record management system which accounts for the treated water received, drinking water pumped, water delivered, water sold, and water system loss. This record management system will continue to account for monthly usage in customer categories: residential domestic, commercial, and industrial usage.

The District has implemented a meter change out program that provides for the annual replacement of meters in the system that do not register the correct amount of water flowing through them. This program has successfully replaced about 8,000 meters in the past 5 years.

Determination and Control of Water Loss

Water Loss is the difference between the water pumped and the measured water used. Water Loss can consist of two main categories: Apparent and Real Loss, which are then broken down into subcategories:

Apparent Losses

- Meter Inaccuracy (Meters tend to under-report actual use with age).
- Systematic Data Handling Errors – this would include a margin of error set which could take place through the process to read, transmit, archive, and report customer consumption totals as derived from the meter population.
- Unauthorized Consumption (Illegal Connections and Theft).

Real Losses

- Main Breaks and Leaks
- Nonrevenue Water – this is the water loss throughout the distribution system that cannot be measured or identified. Firefighting, flushing, street cleaning, irrigation in

public areas, and construction sites are all unbilled unmetered and fall in this category.

JCSUD will implement all the following programs to help in the reduction of water loss in the distribution system: metering; billing exception review; leak detection and repair; water efficiency/conservation (reduces apparent loss); meter alert monitoring; valve maintenance; pressure management including surge suppression; infrastructure renewal; conservation-oriented pricing (reduces apparent loss); speed and quality of repairs; design standards for construction methods and pipe material; nighttime flow analysis (reduces apparent loss). and fully complete the installation of the 2019 AMI System Capital Project. The District applying these strategies and activities will benefit through reduced water loss and reduced costs to JCSUD. The importance of prioritizing active leak control practices and procedures in identifying water loss and the corresponding strategies to reduce leakage cannot be understated. JCSUD will increase revenues and benefit by the extension of sustainable water supplies, reduced operating costs, improved system hydraulics and District efficiency, and improved environmental stewardship.

Leak Detection and Repair

The Johnson County Special Utility District will continue to vigilantly monitor the water distribution system and customer service connections for water leaks while addressing the repair thereof in a manner that expeditiously stops water loss. All leaks are isolated and repaired as soon as possible.

The District plans on implementing a District Metered Area (DMA) program which is part of current Best Management Practice leak control zones. A DMA is a small zone of the distribution system, typically encompassing between 1,000 and 3,000 customer service connections, with measured supply input flow of sufficiently small volume that individual leakage events can be quantified, thereby guiding leak detection deployment decisions.

Monitoring - Annual Water Conservation Report

A modified water utility profile form that will be used in the development of an annual water conservation report for the Johnson County Special Utility District. This form will be completed by May 1 of each year to monitor the effectiveness and efficiency of the water conservation program. The form records the water use by category, per capita municipal use, and nonrevenue water for the current year and compares them to historical values. The modified water utility profile and annual water conservation report will also be sent to TRWD, which will monitor regional water conservation trends.

4.3 Continuing Education and Information Campaign

The Johnson County Special Utility District will continue to promote conservation through public education by:

- Participating in useful conservation programs.
- Promoting a consistent, regional message of conservation awareness.
- Making conservation information available on the Johnson County Special Utility District website and via monitor at the administrative office in the lobby.
- Including a conservation message in The Johnson County Special Utility District's Newsletter.
- Ensuring that the annual Consumer Confidence Report will continue to contain a conservation message for the entire service area.
- Encouraging local media coverage of water conservation issues and the importance of water conservation.
- Making water conservation brochures and other water conservation materials available to the public at Johnson County Special Utility District's administrative office.

4.4 Non-Promotional Water Rate Structure

With the intent of encouraging water conservation, the Johnson County Special Utility District has adopted an increasing block rate structure. The unit price for water increases with increasing water usage. Current water rates are shown in Table 7.1 and Table 7.2

Table 7.1: Monthly Minimum Meter Charges

Size	5/8"	3/4"	1"	2"	3"	4"	6"
Monthly	$ 33.00	$ 42.90	$ 72.60	$ 330.00	$ 660.00	$ 1,320.00	$ 2,112.00

Table 7.2: Charges by Volumetric Usage

Monthly Gallons Used				Charge per thousand gallons
0	to	5,000	gallons	$4.75
5,001	to	15,000	gallons	$6.32
15,001	to	40,000	gallons	$8.40
40,001	and	greater	gallons	$8.40

4.5 Other Water Conservation Measures

Reservoir System Operation Plan

The TRWD and Brazos River Authority are responsible for all reservoir operation.

Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures

The State of Texas has required water-conserving fixtures in new construction and renovations since 1992. The state standards call for flows of no more than 2.5 gallons per minute (gpm) for faucets, 3.0 gpm for showerheads, and 1.6 gallons per flush for toilets. Similar standards are now required nationally under federal law. These state and federal standards assure that all new construction and renovations will use water-conserving fixtures.

Prohibit Water Waste

The Johnson County Special Utility District is contemplating the adoption of conservation measures regarding outdoor watering and landscape irrigation. Yet at this time, no resolution has been determined suitable for the District's vast area which covers both Rural and Urban customers. Being considered in this contemplation are:

- No outdoor watering with sprinklers from 10:00 a.m. to 6:00 p.m. every day, year-round. Watering with hand-held hoses (provided that they are equipped with positive shut-off devices), soaker hoses, or hand-held dispensers are allowed.
- All irrigation systems should be in compliance with current state design and installation regulations (Texas Administrative Code Title 30, Part 1, Chapter 344).
- Sprinkler Systems of designs and installations should not spray directly onto impervious surfaces such as sidewalks and roads or onto other non-irrigated areas.
- Sprinkler systems should be properly maintained to avoid waste water.
- No outdoor watering during any form of precipitation.
- No outdoor watering during a freeze or when the temperature has the potential of reaching 32° F.

Requests for Variance

The General Manager of the Johnson County Special Utility District, or his or her designee, may grant temporary variance for water use prohibited by this plan if it is determined that an emergency condition resulting in an adverse effect to health, sanitation, or fire protection of a customer, person, or entity would result if a variance is not granted. Temporary variance may also be granted if it is determined that a customer, person, or entity is caused undue hardship or financial burden if a variance is not granted.

Outdoor watering at a service address with large multi-station irrigation systems may take place in accordance with a variance granted by the General Manager (or his or her designee) if it is determined that the property cannot be adequately irrigated in a single day.

Variances shall be granted or denied at the discretion of the General Manager or official designee. All petitions for variances should be in writing and should include the following information:

- Name and address of the petitioner(s)
- Purpose of water use
- Specific provisions from which relief is requested
- Detailed statement of the adverse effect of the provision from which relief is requested
- Description of the relief requested
- Period of time for which the variance is sought
- Alternative measures that will be taken to reduce water use
- Other pertinent information.

4.6 Implementation and Enforcement of the Water Conservation Plan

Mandatory water conservation measures will be enforced by warnings and penalties as follows:

- On the first violation, customers will be given a verbal warning that they have violated the mandatory water conservation measures. Johnson County Special Utility District

staff will provide the customer with the information and educational materials needed to comply with the plan.

- On the second violation, a violation notice, and warning will be issued to the customer explaining the risk of disconnect associated with non-compliance.
- On the third and subsequent violations, the customer meter is subject to being disconnected.
- Restoring water service, the customer must sign a statement of intent to comply with all applicable water conservation measures and pay the standard "Trip" fee to re-connect service.

The General Manager (or his or her designee) may assess an administrative fee associated with a violation of this plan. Administrative fees will not be assessed for verbal or written warnings. The administrative fee shall be assessed on the third and subsequent violations, or theft of water, in order to recover costs associated with enforcement. Each day that a violation occurs shall constitute a separate violation.

5. ANALYSIS OF BEST MANAGEMENT PRACTICES

Best Management Practices have been developed for utilities to both improve water use efficiency of their own operations and for programs to improve the efficiency of their customers. The District has evaluated the best management practices outlined in the Water Conservation Best Management Practices Guide and have chosen some of these practices to aid in the effectiveness of water efficiency and water conservations among the District and its customers. Below is a list of Best Management Practices the District feels would be the most beneficial to implement for this planning cycle or that has already been implemented:

- Conservation Coordinator – In this plan update cycle, the District expands the job responsibilities of a conservation coordinator among a few members of the work force to oversee the implementing and maintaining of the conservation program.

- Water Conservation Pricing – The District uses a rate structure that discourages the inefficient use or waste of water by increasing unit prices with increased consumption.

- Metering of All New Connections and Retrofit of Existing Connections – All connections in the district are metered.

- System Water Audit and Water Loss – The District conducts a water audit yearly and uses the information to improve meter testing and repair practices, reduce unauthorized water use, improve accounting for unbilled water, and implement effective water loss management strategies.

- Public Information – The District will promote a consistent, regional message of conservation awareness and keep conservation information on the Johnson County Special Utility District Website. Also, the District will include a conservation message in the District's Consumer Confidence Report and make water conservation brochures available to the public at the District's administrative office.

- Prohibit Wasting Water – The District will discourage from outdoor water with sprinklers from 10:00 a.m. to 6:00 p.m. every day, year-round and will not allow

water waste through watering imperious surfaces and during any form of precipitation.

- Wholesale Agency Assistance Programs – The District would be willing to provide technical assistance to wholesale customers for conservation.

- School Education - The District would be willing to offer presentations, plant tours, etc. to school groups within the service area.

- Partnership with Nonprofit Organizations – The District would be willing to partner with local non-profit organizations to help provide additional conservation outreach to customers.