ROUND ROCK TEXAS
UTILITIES AND ENVIRONMENTAL SERVICES

City of Round Rock

Utility Profile and Water Conservation Plan

June 13, 2024

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CITY OF ROUND ROCK
UTILITY PROFILE & WATER CONSERVATION PLAN

Round Rock prepared this Utility Profile and Water Conservation Plan to comply with Texas Water Code Section 11.1271 and 30 TAC Section 288.2 and 288.5. The utility profile is used to convey information about the City of Round Rock's past five years of water use within the water, wastewater, and reuse water system; as well as our future predictions on how much water we will need over the next fifty years. This report is required to be submitted to the Texas Commission of Environmental Quality (TCEQ) at least once every five years. The city contracted with the engineering firm HDR for an updated Water and Wastewater Master Plan in 2021 and 2023, many of the water use projections come from this report.

The Water Conservation Plan is a strategy or combination of strategies for reducing the consumption of water, reducing the loss or waste of water, improving, or maintaining the efficiency in the use of water, or increasing recycling and reuse of water. The plan that follows provides an overview of Round Rock's current conservation initiatives and future plans for conservation within our water service area. It is required to be reviewed, revised as needed, and submitted to the Texas Water Development Board (TWDB) at least once every five years.

UTILITY PROFILE

Section I Contact Information

Name of Utility: City of Round Rock

Public Water Supply Identification Number (PWS ID): TX2460003

Certificate of Convenience and Necessity (CCN) Number: 11047

Wastewater ID Number: 20421

Surface Water Right ID Number: 2350, 2351, 2356, 2430, 12814

Regional Water Planning Group: G

A. Population Projections and Service Area Data

Round Rock's service area is 34 square miles, along with the majority of its ETJ. Current population, as of first quarter 2024, is estimated at 132,057 residents within the city limits, with direct water connects to the city's service. We have close to 38,000 active water accounts; of these, the majority are residential accounts (currently 92% of our customer base). The city also wholesales water to eleven customers: Tera Vista Municipal Utility District (MUD), Williams County MUD 10 and 11, Paloma Lake MUDs 1 and 2, Vista Oaks, Walsh Ranch, Fern Bluff, Aqua Water, Round Rock Ranch Public Utility District, Aqua Texas, and R & R Mobile. Most of the customers of these wholesale districts are residential properties.

The City water distribution system is supplied primarily from a surface water treatment plant (WTP) that can produce up to 52 million gallons per day (mgd) of treated water. The WTP is situated in the northern part of the City, west of I-35 and south of the Texas Crushed Stone quarry. There is a total of 6.5-million gallons (mg) of water stored in four clearwells located at the WTP, and a high service pump station containing 11 pumps.

The City is also a partner in the Brushy Creek Regional Utility Authority (BCRUA), a joint venture between the City and the Cities of Cedar Park and Leander. The City of Round Rock has a 26.7% interest in the water supply, treatment and transmission assets associated with BCRUA. The City's current share of the treatment capacity is 11.2 mgd, which is supplied into the northwest portion of the City system.

Last, the City operates the Lake Creek WTP. The Lake Creek WTP is fed from groundwater wells and has a treatment capacity of 6.0 mgd. However, in drought conditions the available well supply may be limited.

The Public Utility Commission of Texas (PUC) issues Certificates of Convenience and Necessity (CCN) that authorize utilities and local governments to provide water service to specific areas. Figure 2-1 depicts the existing City of Round Rock CCN (as downloaded from the PUC), the extent of the existing piping system, and the locations of customer accounts that were mapped from the billing system data. Neighboring CCN areas are also shown.

The current service area includes most of the City CCN, and limited areas outside the City CCN. The City service area is essentially locked in by surrounding water providers. The City CCN has also expanded eastward to CR-110 following an agreement with Jonah Water Special Utility District (SUD), which is not reflected in the CCN boundary.

A map of the Round Rock water service area can be found in Appendix A.

The future demand projections described in this report are based on land use projections provided by HDR and were also used for development of the wastewater master plan. The land use projections were derived based on recently published population projections from the Texas Water Development Board. Region G Water Plan and supplemented by HDR with actual recent development proposals in the City. The TWDB plan projected population by utility for each 10-year period through 2070. However, the City is anticipated to reach buildout by about 2050

Table 1. Historical and projected service area population.

Year	Population Served by Retail Water Service	Population Served by Wholesale Water Service	Population Served by Wastewater Service
2023	132,057	36,000	149,383
2022	128,065	36,000	147,658
2021	153,007	36,000	145,934
2020	119,472	36,000	144,209
2019	116,385	36,000	142,484

Table 2. Projected service area population for the following decades:

Year	Projected Population Served by Retail Water Service	Projected Population Served by Wholesale Water Service	Projected Population Served By Wastewater Service
2030	152,917	19,583	178,662
2040	198,417	19,583	236,429
2050	250,417	19,583	301,029
2060	250,417	19,583	301,029

2070	250,417	19,583	301,029

B. System Input

Year	Water Produced (gallons)	Purchased/Imported Water (gallons)	Exported Water (gallons)	Total System Input	Total GPCD
2023	8,335,019,000	1,219,868,000	2,751,188,600	6,803,698,400	141
2022	8,934,105,000	581,469,000	2,414,228,100	7,101,345,900	152
2021	7,754,038,000	107,502,000	1,592,176,300	6,269,363,700	112
2020	7,813,300,000	91,526,000	1,378,652,000	6,526,174,000	150
2019	7,576,418,571	0	1,377,781,227	6,198,647,344	146
Historic Average	8,082,578,114	400,073,000	1,902,805,245	6,579,845,869	140

C. Water Supply System

Water Treatment and Production

The City water distribution system is supplied primarily from a surface water treatment plant (WTP) that can produce up to 52 million gallons per day (mgd) of treated water. The WTP is situated in the northern part of the City, west of I-35 and south of the Texas Crushed Stone quarry. There is a total of 6.5-million gallons (mg) of water stored in four clearwells located at the WTP, and a high service pump station containing 11 pumps.

The City is also a partner in the Brushy Creek Regional Utility Authority (BCRUA), a joint venture between the City and the Cities of Cedar Park and Leander. The City of Round Rock has a 26.7% interest in the water supply, treatment and transmission assets associated with BCRUA. The City's current share of the treatment capacity is 11.2 mgd, which is supplied into the northwest portion of the City system.

Last, the City operates the Lake Creek WTP. The Lake Creek WTP is fed from groundwater wells and has a treatment capacity of 6.0 mgd. However, in drought conditions the available well supply may be limited.

D. Projected Water Demands

This population projection is the total of retail and wholesale customers from our 2023 Water Masterplan. Water demand is based on a per capita demand of 140 gallons per person per day. These water demand estimates include total water demand from Lake Georgetown, Lake Stillhouse Hollow, the Edwards Aquifer, and Lake Travis.

Year	Population	Water Demand (gallons)
2025	161,500	22,610,000
2026	164,900	23,086,000
2027	169,000	23,660,000
2028	170,167	23,823,333
2029	171,333	23,986,667
2030	172,000	24,150,000
2031	173,667	24,313,333
2032	174,833	24,476,667
2033	176,000	24,640,000

2034	177,167	24,803,333

Section II Water System Data

A. Retail Water Supplier Connections

The city is overwhelmingly residential in our water service connections. The utility billing software system was updated and replaced in March 2018. With that change came changes to how some of our customers are categorized. Staff continues to revise how to best categorize accounts, which is leading to data that looks slightly different annually, in terms of how many accounts of each category we have. Unfortunately, accounts that are irrigation only accounts are being reported as agricultural when they are not true agricultural uses. This is an on-going problem that still needs to be corrected.

Water Use Category Type	Total Retails Connections (active & inactive)	Percent of Total Connections
Residential—Single Family	34,899	92.10%
Residential—Multifamily	455	1.20%
Industrial	0	0%
Commercial	1,626	4.29%
Institutional	77	0.20%
Agricultural	837	2.21%
Total	**37,894**	**100%**

B. Accounting Data

The following chart shows the breakdown of how much water was consumed in each major use category. There has been changes to the City's billing software, which changed some of the customer classes as of 2018. Staff is working to ensure that the data is correct among the classes and updates will be made as needed. The agriculture category is not true agricultural use, it is landscape irrigation at commercial and multifamily properties.

Year	Residential Single Family	Residential Multifamily	Industrial	Commercial	Institutional	Agricultural	Total
2023	3,621,092,377	691,713,300	0	1,388,393,100	53,478,800	531,650,000	6,286,327,577
2022	3,615,048,000	559,437,000	0	1,375,426,000	249,171,000	506,888,000	6,305,970,000
2021	3,161,566,511	618,433,600	0	1,142,213,700	48,992,000	450,208,000	5,421,413,811
2020	3,460,848,348	592,422,500	0	1,003,954,600	43,442,200	555,281,600	5,655,949,248
2019	3,622,349,500	548,409,300	0	1,083,832,500	70,069,000	546,300,300	5,870,962,619

C. Residential Water Use

Historically, the city has not broken down residential GPCD into subcategories for single family and multifamily, so we did not have this data to provide. Moving forward, the residential GPCD will be determined to this scale. Currently the residential GPCD includes both single- and multi-family properties.

Year	Total Residential GPCD
2023	89
2022	89
2021	68
2020	93
2019	90
Historic Average	**86**

D. Annual and Seasonal Water Use

1. The following charts show the previous five years' gallons of treated water provided to retail customers. The highlighted months are the summer, seasonal, water use.

	Total Gallons of Treated Water				
Month	**2023**	**2022**	**2021**	**2020**	**2019**
January	523,425,000	463,994,000	464,260,000	444,091,000	404,188,000
February	480,700,000	384,973,000	480,938,000	407,869,000	364,958,000
March	616,894,000	541,946,000	524,716,000	470,855,000	471,407,000
April	595,104,000	603,721,000	485,133,000	499,075,000	541,860,000
May	623,260,000	766,625,000	557,903,000	636,770,000	533,861,000
June	830,208,000	936,085,000	665,037,000	769,381,000	604,975,000
July	1,056,068,000	1,065,746,000	739,070,000	880,803,000	812,170,000
August	1,076,722,000	935,125,000	813,614,000	952,441,000	1,043,616,000
September	844,737,000	797,793,000	797,664,000	682,047,000	959,987,000
October	744,196,000	834,297,000	637,934,000	752,388,000	756,693,000
November	555,534,000	558,947,000	542,884,000	636,583,000	501,810,000
December	514,486,000	540,860,000	508,499,000	497,678,000	456,240,000
Total	8,461,334,000	8,430,112,000	7,217,602,000	7,629,981,000	7,451,765,000

2. Summary of Seasonal and Annual Water Use.

	Summer Retail	**Total Retail**
2023	2,962,998,000	8,461,334,000
2022	2,936,956,000	8,430,112,000
2021	2,217,721,000	7,217,602,000
2020	2,602,625,000	7,629,981,000
2019	2,460,761,000	7,451,765,000
Average in Gallons	**2,636,212,200**	**7,838,158,800**

E. Water Loss

Water loss data for the previous five years.

Year	**Total Water Loss (gallons)**	**Water Loss (GPCD)**	**Water Loss (%)**
2023	485,827,789	10	7.14
2022	226,208,231	5	4.25
2021	817,356,533	15	13.04
2020	505,067,157	12	7.74
2019	3,19,238,303	8	5.15
Average	**410,739,603.2**	**10**	**7.46**

F. Peak Day Use

This chart shows the average daily water use and peak day water use for the previous five years.

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (peak/avg)
2023	23,181,736	32,206,500	1.3893
2022	23,096,197	31,923,434	1.3822
2021	19,774,252	24,105,663	1.2190
2020	20,904,057	28,289,402	1.3533
2019	20,415,794	26,747,402	1.3101

G. Summary of Historic Water Use

Water Use Category	Historic Average	Percent of Connections	Percent of Water Use
Residential Single Family	3,424,980,947	92.10	58.68
Residential Multifamily	602,086,140	1.20	10.32
Industrial	0	0	0
Commercial	1,198,763,980	4.29	20.54
Institutional	93,030,600	0.20	1.59
Agricultural	518,065,580	2.21	8.88

Section III Wastewater System Data

A. Wastewater Collection and Treatment

The City of Round Rock's wastewater collection system is made up of over 450 miles of local collection lines. These lines ultimately discharge at the Brushy Creek Regional Wastewater Treatment Plants (East or West) either directly or through larger diameter regional interceptor lines owned by the Brushy Creek Regional Wastewater Treatment System (BCRWWTS). The wastewater treatment plants, and regional collection lines are operated by the City of Round Rock. The East Wastewater Treatment Plant (WWTP) is located southwest of the intersection of U.S. Highway 79 and Red Bud Lane. The West WWTP is located east of the intersection of Georgetown Avenue and Austin Boulevard, at the termination of Austin Boulevard. The City of Round Rock's wastewater collection system is currently covered under the Wastewater Discharge Permit that is held by the BCRWWTS.

The Brushy Creek East WWTP currently has a treatment capacity of 21.5 million gallons of wastewater per day from the plant's regional customers. In 2023-2024 it is undergoing an expansion, with the final treatment capacity to reach 30 MGD. The regional customers include the cities of Round Rock, Cedar Park, Leander and Austin, and the sub-regional customers include Fern Bluff MUD and Brushy Creek MUD. The West WWTP is rated for a maximum flow of 3 MGD.

Because approximately 60 percent of the city is located over the Edwards Aquifer, the city has a collection system rehabilitation program that includes cleaning and videoing the collection system located in this area every five years. The Edwards Aquifer Protection Program is mandated by the Texas Commission on Environmental Quality (TCEQ). This program also includes inspecting and correcting "problem" areas that require regular maintenance. This program is funded through the self-funded wastewater utility fund.

A map of the wastewater service area can be found in Appendix A.

1. List of active wastewater connections by major water use category. The city does not generally meter individual customer's wastewater lines.

Water Use Category	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal	0	34,799	34,799	94.80

Industrial	1	0	1	0.0
Commercial	1	1,626	1627	4.43
Institutional	0	77	77	0.21
Agricultural	0	205	205	0.56
Total	2	36,707	36,709	100%

2. Gallons of wastewater that were treated in our facilities for the previous five years.

Month	Total Gallons of Treated Water				
	2023	2022	2021	2020	2019
January	776,849,000	677,648,000	532,850,000	533,086,000	634,253,000
February	749,723,000	661,310,000	536,720,000	514,270,000	487,102,000
March	738,023,000	701,269,000	543,020,000	587,500,000	517,840,000
April	765,778,000	662,875,000	565,770,000	565,770,000	535,800,000
May	824,479,000	920,134,000	706,294,000	561,020,000	563,090,000
June	716,452,000	749,661,000	752,687,000	557,370,000	519,680,000
July	709,888,000	739,052,000	704,900,000	557,070,000	488,230,000
August	684,987,000	712,830,000	676,156,000	563,571,000	506,990,000
September	691,030,000	678,330,000	614,690,000	594,380,000	479,010,000
October	742,369,000	736,081,000	681,224,000	551,340,000	491,990,000
November	728,668,000	804,976,000	675,570,000	524,950,000	487,200,000
December	707,570,000	791,860,000	680,627,000	548,630,000	498,980,000
Total	8,835,795,000	8,836,026,000	7,670,508,000	6,658,957,000	6,210,165,000

B. Reuse Data

1. Reuse System description

   The City of Round Rock wastewater reuse treatment facility is located at the East WWTP and can produce up to six million gallons per day. An expansion project is underway durin 2023-2024 to provide additional capacity to produce of up to ten million gallons per day. The City began using Type II wastewater reuse in 1997 with a project that provides irrigation water to Forest Creek Golf Course. As of 2015, Round Rock converted all reuse water to Type I reuse. An elevated storage tank was completed the same year, with a holding capacity of 1.25 MG. It is located in the northeast portion of town, near University Boulevard.

   Treatment, pumping, chlorination, and storage facilities are located at the East WWTP. OSP has been irrigating trees and sports facilities with reuse water since the completion of these facilities in 2012. Additional storage and pumping facilities along with 22,900 linear feet of 8-inch and 16-inch transmission main to the Higher Education Center, Texas State University, Austin Community College, St. David's Hospital, and other parks and schools in the northeast part of the city was completed in November 2014. The largest water customer, Kalahari Waterpark, was added in 2020. Numerous subdivisions irrigating common areas and parks have been added since 2013.

   A map of the reuse water distribution system can be found in Appendix A.

2. The chart below shows data by type of recycling and reuse activities implemented during 2023. The number in the "Industrial" category indicates reuse water that is provided free of charge to commercial or industrial customers for irrigation or construction use through our reuse system. The city has two free reuse water filling stations located in different parts of Old Settlers Park. It is metered and read monthly. Plant wash down water is used at our water treatment plant.

Type of Reuse	Total Annual Volume (gallons)
On-site irrigation	0
Plant wash down	365,000,000
Chlorination/de-chlorination	0
Industrial	556,608,053
Landscape irrigation	554,470,000
Agricultural	0
Discharge to surface water	0
Evaporation pond	0
Other	0
Total	**1,476,078,053**

CITY OF ROUND ROCK
WATER CONSERVATION PLAN

Section 1: General Information

1.1 Declaration of Policy, Purpose, and Intent

Although the city's long-range water supply plan indicates that additional water supplies will not be needed to satisfy the projected water demand once the city is built out, the plan also states that an aggressive water conservation program could substantially reduce the average per capita day consumption, prolonging the life of existing water sources and postponing the need to develop new resources. The purpose of the Water Conservation Plan is to establish long-term consumption goals and develop implementation strategies and processes for achieving these goals.

1.2 Goals

Develop and implement conservation programs that will:

- Reduce seasonal peak demands due to landscape irrigation use;
- Reduce water loss from unmetered water, water waste and water leaks on both the distribution side and the retail (private) side of the meter;
- Decrease per capita consumption;
- Maintain the community's quality of life while continuing to enhance economic growth;
- Establish a heightened public awareness of water use and water conservation measures in Round Rock;
- Audit and retrofit city facilities with water efficient fixtures, native and low water use landscapes and efficient irrigation systems wherever possible.

1.3 Applicability

This plan and Chapter 10, Section 10.800 of the City of Round Rock Code of Ordinances 2018 edition shall apply to all persons, customers and owners of property who use or allow the use of city water, wherever situated.

1.4 Public Involvement

Opportunity for the public to provide input into the continued development of the Plan or any modifications is accepted by attending City Council meetings, held the second and fourth Thursday of each month or contacting City conservation staff.

Emails are occasionally sent out by conservation staff to previous participants in city conservation programs to ask what program they may like to see, or what interests them in terms of conservation programs. Input is welcome by directly contacting the Water Conservation Coordinator as well.

Section 2: Conservation Coordinator

Since 2009, the water conservation program has been managed by a full-time, dedicated conservation coordinator. A full-time conservation technician was added in 2023; summer interns are utilized when available.

These staff are responsible for implementing this Water Conservation Plan and maintaining open communications with the general public in matters pertaining to rebate programs, drought restrictions, educational programs to residents, conducting irrigation system checkups and coordinating with local and regional like-minded groups on conservation and efficiency related activities (such as conferences and workshops).

Conservation staff are continuing to enhance their education and expertise on subjects pertaining to lawn irrigation, landscapes, soils, plants, beneficial insects, pesticides and herbicides, and more. The program coordinator holds a TCEQ Licensed Irrigator license since 2002 and has undergone Texas Master Gardener and Master Naturalist training. The conservation technician has completed the Texas Master

Naturalist and has plans to obtain the Water class D license. Both attend regular meetings regionally and have presented at conferences.

Section 3: 5- and 10-Year Water Goals

Water Savings Targets

Round Rock has experienced high population growth over the last five years. We have had growth in the sheer number of single family and multifamily homes built, along with new businesses opening, and people moving into the area from across the state and from out of state. The water targets have changed to reflect this large growth.

Five-Year Target

- Over the last five years, 2018-2022, Round Rock's total gallons per capita per day (gpcd) have averaged 146 gallons. Our goal is to reduce the total per capita day consumption each year with a target of achieving 139 gpcd. The goal being a 1% reduction in usage each year.

- Over the last five years, 2018-2022, Round Rock's residential gpcd has averaged 88 gallons. Our goal is to maintain, and ideally, reduce the residential gpcd consumption each year with a target of achieving 84 gpcd. The goal here being nearly 1% reduction each year.

- Reduce and maintain the actual water loss over the five-year period so that actual water loss is no more than 10% of the total amount of water treated.

Ten-Year Target

- Maintain the total per capita per day consumption each year until the average per capita day consumption is 136 gpcd or less.

- Reduce and maintain the residential per capita day consumption each year with a target of achieving 79 gpcd.

- Reduce and maintain the actual water loss until it is no more than 9% of the total amount of water treated.

Section 4: Achieving Targets

There is a not a set schedule for implementation of the Water Conservation Plan. It is always in effect. The targeted GPCD is checked annually, while gathering data and submitting the Water Conservation Annual Report to the TWDB.

Section 5: Tracking Targets and Goals

The staff shall track targets and goals by utilizing the following procedures:

1. Logs are maintained by City meter staff for meter calibration, meter testing and meter replacement.

2. Progress made in achieving our water reduction goals are tracked annually, as part of our Water Conservation Annual Report sent to the TWDB. At minimum, staff can see if the GPCD has increased or decreased from each following year. Weather conditions are considered – drought, high rainfall amounts. Increased population is a contributing factor to higher amounts of water being used, however GPCD is remaining relatively steady, meaning not increasing.

3. Annual water audits conducted by internal staff are documented and kept in the Utility and Environmental Services Department files. A consulting firm will be hired to conduct system-wide

water audits every three years. Water loss audits have been requested to be validated by TWDB water loss staff in 2024 or 2025.

4. Records of all distributed rebates are maintained by water conservation and finance account payable staff. These records include the type of rebate, number of participants, and dollar amount distributed by calendar year and fiscal year.
5. Rates are tracked and monitored by the City's Finance Department. A hired consulting firm conducts reviews of the rates every three years. Rates will be adjusted as recommended by the results of the rate study.

6. Logs of the leak detection program are maintained by designated utility staff. These records include inspections and soundings of water main fittings and connections and night flow measurements. A consulting firm is hired to conduct periodic leak detection audits.

7. Rebate programs will be evaluated at least every two years to determine effectiveness for water reductions and participation. Rebate programs are judged for effectiveness and usefulness by participation rates (are people utilizing it?) or plumbing codes and city ordinance. Questions considered include do we already have other rules about this and is this program necessary. Rebate programs are revised or retired as needed.

8. The TWDB's conservation planning tool has been used minorly to determine what area (i.e. a commercial or residential program) may be most effective for a new program to maximize water reductions. We need to make more use of it to plan for new programs.

9. As determined necessary, targeted outreach will be conducted to help reduce the water use of specific demographics. In 2023, we have mailed out postcards to older neighborhoods (homes built before the 1990s) to increase participation in our Better Bathroom rebate program. Replacing older plumbing fixtures with new WaterSense labeled fixtures would help reduce water use daily at these homes. Targeted outreach has also been conducted on irrigation only water accounts seasonally to provide reminders of the water restriction schedule or to ask to turn off during winter months.

Section 6: Metering and Leak Detection

6.1 Metering Devices

Diversion and Production Meters

The Round Rock Water System has six American Water Works Association (AWWA) approved meters. Two ultrasonic strap-on meters are used to measure water diverted from the lake, two venturi meters are used to measure water entering the water treatment plant and the remaining two, one venturi and one insertion magnetic meter, are used to measure treated water leaving the water treatment plant. Per TCEQ requirements, the meters at the water treatment plant are calibrated at least once per year to an accuracy of plus or minus one percent. Records of water diverted and produced are collected continuously via a Supervisory Control and Data Acquisition (SCADA) System and compiled monthly.

Additionally, the City's Lake Travis water source is metered by the Brushy Creek Regional Utility Authority (BCRUA) by two meters. A strap-on ultrasonic meter is at Lake Travis, measuring what is drawn from the lake. The other is a venturi insertion meter, which meters what enters into the City of Round Rock's water system. The testing of these meters is managed by BCRUA.

Delivery Meters

Round Rock meters all water connections per the TWDB BMP for universal metering. This includes retail connections, city non-billed connections, and all known reuse and potable connections. The City of Round Rock's ordinance requires all connections to be metered. All wholesale meters are regularly monitored through monthly meter readings and verified. All new water meters are tested and calibrated to AWWA standards. Most water meters are read via our AMI metering system, with reads taken each hour (there are a few meters within the water system that do not have AMI meters, so remote readings are not

possible). The readings are transmitted to our utility dashboard twice daily. Meter readings are verified by the utility billing office for accuracy annually. Meters are replaced and/or repaired as necessary, per criteria detailed in the next section.

The utility facing water metering portal flags meter registers that indicate low or dead battery every day. These are replaced as soon as able. Service requests are created, and utility meter staff are tasked with replacing batteries or registers as applicable. Meters that do not transmit data due to dead or low battery, are read manually for the monthly billing meter read, until they are replaced.

Residential meters and commercial meters smaller than 1-inch are replaced at a minimum every 2 million gallons metered or every fifteen years, whichever is sooner. Commercial meters that are 1-1/2 inch to 2-inch are replaced at a minimum of 10 million gallons metered or every 10 years, whichever is sooner. Meters 3-inch or larger are repaired or replaced on-site after failure or unusual meter reads. AMR/AMI registers and meter signal boosters are replaced after failure or 15 years.

The city has replaced traditional, manual read meters with Master Meter's Allegro 2-way meters since 2015. Round Rock upgraded from an AMR metering system to an AMI system which has reduced meter read time, increased meter accuracy, reduced water loss, assumed to increase revenues and reduced staff by four persons. By the end of 2023, the city had replaced all residential meters and 52% of all larger meters in the city. In 2023, the city tested 100 of the meters installed in 2015 to ensure they were still reading accurately. All resulted with a 100% accuracy rate, showcasing the program's success. The AMI upgrade has provided a wealth of information for utility conservation and utility billing staff to assist water customers regarding high bill complaints, irrigation system usage, compliance with drought restrictions, and identifying water leaks.

6.2 Leak Detection, Repair and Control of Non-Revenue Water

In 2012, the City of Round Rock had a 9.67% total water loss. The following year, central Texas experienced an extreme drought, and Lake Travis reached its third lowest level in history. Reacting to these extremes, the city developed a comprehensive utility-wide strategy to control and reduce water loss. This approach includes many programs that promote water conservation, four specific programs are highlighted for their significant impact on the City's overall water loss percentage. These innovative programs encompass operations, maintenance, engineering, and public outreach, reflecting a utility-wide strategy to address water loss.

Operations (Flow/Pressure Monitoring and Optimization):
The City's water loss reduction philosophy starts at the water treatment plant. Water treatment operators utilize recently upgraded SCADA software to monitor flows and pressures throughout the plant and distribution system. At the water treatment plant, staff monitor twenty-two onsite flow meters to ensure the most efficient treatment process possible. This follows criteria of the TWDB BMP for a water loss control program.

Operations staff also continually work to improve the water treatment process. In 2023, the city optimized the coagulant chemical dosages, which led to an increase in Unit Filter Run Volume. This change reduced chemical costs, backwash water production, and solids removal through pretreatment, which helped with water loss, pumping costs, and sludge discharge. The plant's total annual average for backwash water recycled is approximately 1.92%, compared to the national yearly average of 2-5%.

In the distribution system, the city recently added eleven stand-alone pressure monitoring points at critical locations. These monitoring points provide rapid detection of water loss and other distribution system issues, including main breaks. By catching water main breaks immediately, the city saves large quantities of water that would otherwise be lost.

Maintenance (Leak Detection)
Utilizing another TWDB BMP, the city has employed an aggressive leak detection program. In 2014, the city initiated a leak detection program to locate leaks in the distribution system that were undetectable from the surface. Leak detection technology and expertise are tools whereby a water system can effectively detect and locate non-evident leaks as well as cost effectively locate those hard-to-locate visible leaks that challenge the best repair crews.

Utilizing experienced contractors, sensitive electronic leak sounding instruments are used to monitor all accessible fire hydrants, selected valves and the water mains between them. Leak detection equipment included use of a microprocessor-based correlator and electro-acoustic leak detector.

In the first year, the program surveyed 103,800 feet of water mains, identifying and repairing 19 previously undetectable leaks, preventing a loss of approximately 18.4 million gallons annually. With an annual budget of $30,000 over the past eight years, the program has evaluated 1,264,515 feet of water mains, detected 157 leaks and averted a potential yearly loss of 164 million gallons.

Engineering (Water Main Replacement Program)
The city enacted an aggressive Water Main Replacement Program to reduce water loss through main breaks. During the 1970's and early 1980's the city installed approximately 100 miles of asbestos/concrete (A/C) waterline pipe in the ground during its growth. This pipe's design lifespan in Round Rock's soil conditions was estimated at 40 to 50 years. The shrinking and expanding clay conditions cause rigid and brittle A/C pipe to crack and leak or rupture. Many main breaks in Round Rock can be attributed to the A/C pipe. Beginning in 2007, the city pursued a yearly project of replacing the A/C pipe by the construction process of pre-chlorinated pipe bursting. The City now budgets and funds an annual $2,000,000 A/C Waterline Replacement Project to help reduce the number of leaks. To date, the city has replaced almost 15 of the 100 miles with high-density polyethylene (HDPE) pipe designed to last 100 years.

Starting in 2006 and ramping up in 2017, the city has set aside $2,000,000 annually to replace aging water mains. To determine where to target pipe replacements, city staff utilizes its asset management program to locate areas with the highest number of main breaks. Each project then consists of approximately 15,000 feet of water main replacement. The program replaces aging water mains through a process called pre-chlorinated pipe bursting. This process pulls a new water main through the existing one, effectively bursting the old main. This minimally invasive trenchless technology allows for installing 300 to 500 feet of water main in one day, minimizing the time citizens are without water.

The city finished its latest water main replacement project in December 2023 and has replaced 23.7 miles of water mains over the life of the program. By targeting problematic areas, the City's Water Main Replacement Program effectively reduces the number of water main breaks and the associated water loss.

Public Outreach (Courtesy Leak Alert Program)
Since 2017, a Courtesy Leak Alert Program has been implemented to enforce the city's Water Waste ordinance. Leveraging the city's advanced metering infrastructure, this program identifies potential water leaks on the customer's side of the water meter by analyzing daily and hourly water usage reports. The AMI system automatically flags water accounts that register continuous flows of over 24 hours. Staff use this list to reach out to customers with the largest continuous water flows, generally 40 gallons per hour or larger. This proactive approach helps identify potential leaks or instances of water left running, often unknowingly. Water Conservation staff utilizes various outreach methods, including email, phone calls, mail, and door hangers, to notify customers of abnormal consumption.

Conservation staff also aid customers in determining their first steps after receiving a notice, by continuing to monitor and follow up, ensuring that additional outreach is provided as needed. In 2023, staff alerted 819 residential and 323 commercial customers of continuous flow issues. The majority of cases involved water leaks, malfunctioning fixtures, and human error, highlighting the program's effectiveness in addressing and resolving water loss within our community.

In November 2023, the city launched a new water consumption feature on the customer payment portal. This feature allows customers to view water usage, monitor consumption, and receive automatic alerts for leaks and usage thresholds. Promotion of the new features on the customer portal continues into 2024, to encourage customers to sign up for these automatic notifications.

The utility-wide strategy resulted in a remarkable transformation, reducing water loss from 9.67% in 2012 to an impressive 3.38% in 2022. With a total production of 8.9 billion gallons of water, the collective impact of these measures saved 562 million gallons of water in 2022 alone, contributing over $1.5 million in revenue from saved water. These tangible water savings result in a myriad of benefits, including lower

water rates for Round Rock citizens, reduced energy usage, and safeguarding Round Rock's raw water sources.

Section 7: Record Management

The City's metering portal receives hourly water meter reads twice a day from all AMI meters within the service area. These are received into our Harmony database. Harmony is used extensively by utility staff to view meter issues (non-reads, dead meters, tampered with meters, leak alerts) and when providing usage information to our customers. The city desegregates water records monthly through our utility billing system, Munis, in the following manner:

- Water diverted from water sources.
- Water pumped into the distribution system.
- Water sales include residential, commercial, public/institutional, bulk water, industrial, irrigation, government, wholesale, and reuse water.
- Non-revenue water.
- Actual water losses.
- Water records are also kept for non-billed water uses, such as firefighting, or water loss due to mainline breaks. Staff across a variety of departments are asked to report that non-billed number each month. This is not kept up with well, many departments do not understand the importance of keeping these records and do not report to us. Staff turnover also hampers the efforts, as we are not told when folks leave, and this small task is usually not reassigned to someone else.

Section 8: Public Education Awareness Programs

Water conservation strategies are implemented using Best Management Practices (BMPs) prepared by the TWDB and other agencies.

8.1 Education and Outreach Methods

Conservation staff works with a variety of outlets and groups to keep the conservation message in the public eye. Typical avenues include:

1. The Communications Department produces an electronic newsletter that is typically sent out twice per month. It may include seasonal irrigation information and relevant program information, such as promoting rebates, rain barrels sales, education classes, and drought updates. This enewsletter must be subscribed to, to receive it.

2. The utility bill contains a newsletter insert at least six times over the course of a year. This newsletter may provide the same information in terms of rebate program information, seasonal irrigation advice, and program promotions, as the enewsletter. This bill insert is sent to every customer.

3. *The Water Spot blog,* published on the city's website, provides more in-depth information on seasonal water conservation information to water customers. It has included information on landscaping (plant selection, soils), water leak detection and next steps after detecting a leak, winter preparations, drought, and home appliance water use. Conservation staff write and produce this blog.

4. Printed material is available to water customers at the Utility Billing office, where a table is set up permanently in the lobby to provide seasonal conservation tips (such as irrigation schedules), leak checklists, or rebate program information. Much of this information is from the EPA WaterSense program or TWDB conservation materials. The table is also kept stocked with useful items to help water customers find leaks at their homes, such as dye tablets to check toilets for leaks, plumbers tape, and easy to read plumbing repair books. We also include rebate program information, and the Austin Watershed Department's Grow Green plant book. Other freebies are

given out throughout the year, such as showerheads, rain gauges, soil moisture meters, hose shut-off nozzles, and other water saving devices.

5. Social media outlets, such as the Facebook, X, Nextdoor, and Instagram are utilized to promote special events, such as rain barrel sales, or Fix-a-Leak Week, or a necessary action, such as turning off irrigation systems during winter months or not to water during the heat of the day in summer. The social media accounts are managed by the City's communications department, who can create and post content.

6. The city website (www.roundrocktexas.gov) has the most comprehensive water conservation information on it. It is updated continuously as program information changes, as well as seasonally. Residents can find tips on purchasing water efficient appliances; a lot of irrigation scheduling and troubleshooting information, all rebate programs and applications. There is also Information about our water sources, drought updates and restriction notices. Videos on leak detections, irrigation controller setting, and how-tos on irrigation troubleshooting.

7. We partner with the Williamson County Master Garden program and their Green Thumbs Up Landscaping classes which occur once per month at the public library, free of charge. Anyone can attend to learn lawn maintenance tips, gardening information, native trees, landscaping, and more! Classes are taught monthly by horticulture experts that are Master Gardeners. We provide a verbal welcome to the event and provide take items to give away to attendees. We recently (in 2024) have started this same relationship with Round Rock Gardens and their Saturday morning classes.

8. When a new water account is opened, conservation program information is provided to the customer, along with rates, and payment information. The customer is also given information on the water customer portal (www.RRTXwater.com) that re-launched in 2022. Customers can view hourly, daily, and monthly water use as displayed in gallons or in dollars. The customer can also compare their own water use annually. The customer portal also allows the customer to sign up to receive a water leak alert by email or text, if continuous water flow is registering on the meter, and set a water budget.

9. Presentations at local service organizations and homeowner associations are conducted as requested, and as staff time allows. Staff are generally booked for one presentation per month.

10. Outreach with other city departments and city events is instrumental in conservation messaging. We work with the Arts and Culture staff to have outreach materials at their Music on Main events and with Parks for Earth Day. Neighborhood Services staff are helpful to get the work out to HOAs about events and Code Enforcement staff assist with water leaks and water restriction messaging.

11. We created a DIY Water Saving Tool Kit that can be checked out from the public library. It contains a guidebook on conservation program information, water source information, information on how to read the water bill and the water meter and plenty of tools to be used around the home to make it more efficient and fix minor leaks (like leaking toilet flappers).

12. Continuous water flow and leak notifications are conducted manually by staff. The customer water portal added a feature to send out automatic notifications of continuous water flow via text or email, but that only started in November 2023. Customers do have to register for that notification, and no large marketing campaign has yet happened to promote the feature. The utility facing water portal automatically generates a list of accounts that have water flowing through the meter for 24-hours without stopping. That list is used to contact the account holder about the flow.

8.2 Rebate programs

We offer multiple rebate programs to all direct city water customers. All property types qualify. They are outlined below.

1. Better Bathroom Rebate - Bathrooms are the highest water using rooms of the house, accounting for half of indoor water use! This rebate is for the purchase and installation of new WaterSense labeled toilets, showerheads, and bath faucets. The rebate is 50% of the cost of the device, up to $600.

2. Smart Irrigation Rebate - Outdoor watering accounts for 60-70% of the City's total water use in the summer! By making irrigation systems more efficient, we can reduce water use, water waste, and improve the health of landscapes. Available to customers with existing irrigation systems, not for new installations or additions. Rebates provided on WaterSense controllers, pressure reducing equipment, converting areas to drip, weather sensors (rain, freeze, or soil), and more. Property must have a working rain sensor at each controller to qualify. Rebates are up to $500 per residential account and $1000 for commercial accounts.

3. Efficient Clothes Washer Rebate - Clothes washers account for 22% of water used inside our homes. New front-loading efficient washers use 15-40% less water, depending on the age of the previous washer. Energy Star labeled washers use 20% less energy, 35% less water, and have larger washtubs, which means fewer loads. This rebate is for new clothes washers that are on the Consortium for Energy Efficiency (CEE) Washer List. The rebate is $100 per washer. ENERGY STAR designation does not mean the new washer will automatically qualify. It must be WATER efficient too.

4. Rain Water Harvesting Rebate - Rainwater can be used for watering plants, trees, filling bird baths and ponds. Rainwater is better for plants than treated potable water, due to higher nitrogen levels. Collecting rainwater also reduces soil erosion and helps conserve our drinking water supply. This rebate is the purchase and installation of water collection materials; this could be rainwater or air conditioner condensate. Purchased barrels or tanks must be designed specifically to collect and store liquid. Rebate is 50 cents per gallon of storage capacity of the tank/barrel. Rebate is also 50% of pad material, pump, and pipes for the collection project. Total rebate is up to $600 per water account.

5. Lawn Aeration and Compost Rebate - Core aeration and a compost layer help in reducing soil compaction, promotes deep root growth, and reduces water runoff. This rebate is for having a lawn core aerated and compost application. Work may be completed by a professional, or DIY. Aeration must be core aeration. Liquid aeration will not qualify. The rebate is up to $150 per residential account and $400 per commercial account.

6. Flow Sensor Rebate - This rebate is for the purchase and installation of an approved water flow sensor. Water flow sensor devices record your water use and identify potential leaks in your system and alert you to unusual usage. The rebate is 50% of the cost and installation of the flow sensor device, up to $200.

8.3 Special Events

1. Rain barrel sales occur twice per year, in the fall and spring. These 50-gallons capacity barrels are manufactured and shipped to us from Rain Water Solutions and are offered at a discounted price as a pre-sale. The city has been offering rain barrels for sale for over ten years now. We have a great relationship with the vendor. They take all payments for the barrels, provide outreach to the customers, give us the lists of purchasers and respond to calls about problems with the customer. They remain very popular, with between 700-800 being distributed each year.

2. Go and Grow plant box sales have been offered four times now in spring. This is a box of 24 pre-selected, native plants that are sold as a set at $80 each. They also come with information about each plant and landscape designs for planting. We have worked with Rooted In on this venture. The plant boxes are extremely popular and sell out quickly.

3. Public seminars or workshops are offered periodically to residents. The last several Julys, conservation staff has held *Irrigation 101* classes for residents, as July is Smart Irrigation Month. We have also held classes in March for Fix a Leak Week and had informational displays at the public library and utility billing offices during these two months as well.

8.4 Ordinance and Codes

1. Mandatory irrigation inspections for non-residential properties was a new ordinance change in 2022. This involves a property having a licensed Irrigation Inspector come to the property and check it for efficiency and providing a record of the inspection to conservation staff. The is required once every three years. This new program was rolled out in 2022, with 2023 being the first year that properties were asked to have the inspections completed. The city has been divided by zip code, with each zip code being assigned a different year to have the inspection completed. If they fail, they are not allowed to operate the system until it has been brought into compliance. The goal is to reduce water waste from systems operating during and after rain events, as well as with broken or misdirected components. Results so far are mixed, with approximately 2/3 of properties complying with the ordinance. Many folks are confused, so these first years are taking time, and effort to mail out information to the non-residential accounts.

2. The Water Waste Ordinance, Section 44-6 of City Code, prohibits the waste of water due to improper irrigation application, leaks, or other malfunctions. Staff routinely enforce this through enforcement of drought restrictions and irrigation usage and leak notifications.

3. The adoption of the 2015 International Plumbing Code, which requires efficient water use fixtures; this also complies with the State of Texas water efficiency requirements.

4. City landscaping and development code encourages use of native trees, turfgrass, and other plants. There are a minimum number of plants that are required at new development sites and that is inspected by a city official. Irrigation systems are not required to be installed at new development.

8.5 Landscape Programs

1. Free irrigation system evaluations, or checkups, are offered to direct city water customers. This involves water conservation staff teaching residents about certain water features, such as: location of water meter; location of homeowner water shut-off; the home irrigation system (sprinklers) components and how to use the irrigation controller; minor landscape issues (type of soil, grass, native plants); and determine how many gallons are used with your current watering schedule; provide a recommended watering schedule; make recommendations if any system upgrades are needed; and potentially more, depending on questions from the resident.

2. New in 2024 is year-round water use standards. This is an outdoor watering schedule for all potable water customers, if they choose to irrigate when a specific drought stage is not in effect. Reuse water users are exempt. This is a no more than two day per week watering schedule for all irrigation types (automatic, hose end, and drip) with irrigation discouraged between 10am – 7pm, except by hand. The two day per week schedule is based on the house number or property address and is shown below.

Year-Round Watering Standards	
Property Address or House Number Ends in	**Water Days**
0 or 3	Monday / Thursday
1, 5, or 9	Wednesday / Saturday
2, 6 or 7	Tuesday / Friday
4 or 8	Sunday / Thursday

3. The Water My Yard (WMY) program is offered free to city residents. The WMY program uses local weather data in sponsored areas to provide free weekly watering advice. This data is collected from an extensive network of weather stations and rain gauges and along with research-based understanding of plant water needs, allow experts to send customized weekly water advice for a specific lawn and irrigation system. The WMY program is managed and

maintained by the Texas A&M AgriLife Extension. LCRA provides sponsorship for Round Rock to participate in this program.

4. Round Rock became a certified Bee City USA in November 2022. This means that the city is actively working to protect pollinators and well as create pollinator gardens and educate residents about the importance of pollinators. Water utility staff are helping this initiative by creating pollinator gardens, or pollinator fields, in stormwater detention ponds that we manage and maintain. Ponds are planted with seed blends called Bee Happy mix and Pollinator Essential mix purchased from Native American Seed Company. Signs are placed in these areas, to designate the area as no mow, pollinator area. We currently have five locations around Round Rock that we're maintaining.

5. The Utilities and Transportation Building's landscape is slowly being transformed from traditional builder grade plants to native beds and wildflower pockets. The grass is mowed regularly, but it is not irrigated. The goal of this slow transformation is to use the property as a demonstration site for native and low water use landscapes. The building is new (built in 2019), and the highly variable weather over the last few years has caused many plants to die. We have replaced 34 trees, which are still being irrigated. There is a 5500 gallon rain water collection tank on the southside of the property, which collects water from a small portion of the roof. This water is used to irrigate one drip zone around a portion of the building. We have also relocated a 500 gallon tank from our old office building to the new one to also collect water, to be used for hand watering beds or pots on the premises, on the north side of the building.

8.6 Future Programs

Plans to continue to enhance the conservation and efficiency message through:

1. Renewed use of a school education program. Prior to COVID-19, the city utilized a 5th grade specific water efficiency school program that we provided at no charge to RRISD schools within the Round Rock water service area. It had stand-alone classroom lessons, as well as a take home kit for each participating student and was a great success. As of spring 2024, we are working with a new school education program, Tinker, to provide similar water education tool kits and curriculum to 5th graders. We hope to offer this program in the upcoming 2024-25 school year.

2. More virtual and in person special events, promotions, workshops, and seminars will be offered as deemed necessary or as able. The city has participated in water promotions over the last several years, such as Fix-A-Leak Week, Drinking Water Week, Imagine a Day Without Water, The Wyland Foundation's Mayor's Conservation Challenge, Water Wise Landscaping seminars, and irrigation education outreach events. While these have been enthusiastically received, they have not been well attended in the past. Staff hope to find better ways to hold these classes and events.

3. Collaboration with like-minded entities, such as the Williamson County Master Gardeners, Good Water Master Naturalists, Native Plant Society of Texas (NPSOT), AgriLife Extension agents, and our neighboring cities in Williamson County is very important. We have worked with all these groups over the last few years and would like to expand upon our collaboration with them. This could mean giving presentations to their members, working an information table at one of their events, jointly hosting a meeting or event.

4. The creation of a specific institutional, commercial and industrial (ICI) water rebate program. This could be for any water saving process at an ICI facility—reductions at a car wash, laundry facility, or restaurant kitchen and much more. Staff have been hesitant to introduce a program like this, as the budget has not allowed a rebate dollar amount to be worth the cost of the ICI retrofit or new processes would cost. An additional, or increased, budget is needed.

5. As drought conditions become more normal each summer and water restrictions are implemented more frequently, the request for landscape conversion rebates is being asked more and more. Staff is hesitant to create a turf-removal program, based on experiences from other cities. There is a high amount of work that goes into these programs to ensure that water savings is achieved,

often with low participation rates. We are unsure we have the manpower to provide all the necessary actions to implement a lawn conversion program – and prove it saves water. Much is known about native plants being overwatered just as much as turf. Currently, staff are focusing more on educating newcomers about what native soils and plants are, what their water needs are, and how to best manage them.

6. Work to potentially amendment the city's current Landscape Development Code is on-going in 2024. Utility and planning staff have been meeting for several months, and continue to meet, to determine what is the best way to achieve our water goals and keep beneficial aesthetics. We do not want to see a lot of rocks and cacti. The city code is written well, we are determining if additional staff are needed to inspect and enforce it, or if other measures are needed.

7. MUD customers continue to apply for our rebate programs and are denied. This is because direct city water customers water bills help pay for the rebate budget. MUD customers do not help pay for the program. There is talk of expanding conservation programs to include MUD water customers, but discussions would need to be held with all the MUDs to determine how they would also help to finance the rebates. Currently, MUD customers are eligible to apply for the LCRA's rebate programs, which is a wonderful perk. This may be enough for now. However, these areas continue to grow and use a lot of water, especially outdoors on landscapes. More education can be done in and for these areas.

8. The purchase of a weather station would be a benefit to enhance our reach of the Water My Yard program that Texas A&M's School of Irrigation and AgriLife Extension offers. The LCRA currently permits City of Round Rock residents to sign up for the program free of charge. The downside is that the watering advice given is based off a weather station in Pflugerville. It would be more beneficial to have a weather station in Round Rock. Rainfall amounts are especially variable.

9. Collaboration has begun in 2024 with NSPOT to find a local nursery vendor for native plant sales. While Rooted In provides a well-received product, they are located too far away from Round Rock for quick and easy communication and assistance.

10. Transformation of the Utilities and Transportation building landscape into a demonstration site is being considered. We would like to remove the current tuft areas and either move to more native plants, turn into prairie turf, have different turf plots, or something else, to promote less irrigation on turf, especially non-functional turf.

Section 9: Non-Promotional Rate Structure

The City of Round Rock implemented a year-round, four-tiered water rate structure in 2018 for residential and irrigation customers to provide incentive to conserve water during peak landscape irrigation season and discourage water waste. Prior to 2018, the tiers were implemented seasonally during summer months (May – September).

Each customer is charged a monthly base rate based on the size of the water meter; then an amount per thousand gallons, based on the meter read. The rate per thousand gallons is determined by property type and the meter size.

Monthly Base Fee		
Meter Size (inches)	Current Rates - Water	Current Rates - Wastewater
5/8	$16.52	$13.27
3/4	$23.00	$17.31
1	$36.32	$24.82
1 1/2	$69.59	$45.26
2	$109.51	$69.79

3	$202.68	$127.01
4	$335.79	$208.75
6	$1,046.86	$615.27
8	$1,829.77	$1073.67
10	$2,873.67	$1684.85
12	$3,526.11	$2066.84

For a typical household sized meter, 5/8", the first tier is at 15,000 gallons; when 15,000 gallons are used, a second-tier amount is 125% of tier one, per thousand gallons. For residential meters larger than 5/8", the volume amount for the lower block is based on the size of the water meter, then using the number of living unit equivalents for that meter times the 15,000-gallon amount. Tiers two and three increases in price by 125%. Tier four is a 150% increase over tier three.

For residential and irrigation accounts, the tiers look like this:

Tier Volumes (gallons)				
Meter Size	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**
5/8″	0 – 15,000	15,001 – 21,000	21,001 – 27,000	27,001 +
3/4″	0 – 22,500	22,501 – 31,500	31,501 – 40,500	44,501 +
1″	0 – 37,500	37,501 – 52,500	52,501 – 67,500	67,501 +
Tiered Volumetric Rate (per 1000 gallons)	$2.56	$3.20	$3.85	$5.77

These rates and tiers are reviewed on a regular basis, typically every three years.

Commercial, industrial, and multifamily customers pay a monthly base fee according to meter size (see above), as well as a volume rate of $2.80 per 1000 gallons. There are no usage tiers. Future action may be to institute usage tiers in this customer category. Prior to 2018, there were four tiers. Those were removed with a rate change we had at that time.

Reuse water rate structure is a flat rate of 75% of the potable water rate; currently $1.92 per 1000 gallons. There are no usage tiers.

Section 10: Means of Implementation and Enforcement

1. The City of Round Rock will enforce necessary portions of this plan through ordinances and signed contracts.
2. The City's water conservation staff, code enforcement officers and other designated personnel will ensure compliance with the water conservation and drought contingency regulations.
3. Violations will be handled according to the 2018 City Code of Ordinances, Sec. 44-240.
4. The plan will be implemented immediately upon adoption by City Council.

Section 11: Coordination with Regional Water Planning Groups

The service area of the City of Round Rock is located within Brazos G Regional Water Planning Group (RWPG). The City of Round Rock will provide a copy of this Plan to the RWPG, the TWDB and TECQ once it has been approved, as required.

The approved Plan will also be sent to the City's water providers, BRA and LCRA, to keep them apprised of our conservation goals and intentions.

Section 12: Wholesale Customer Conservation Requirements

All wholesale water contracts require compliance with the city's Drought Contingency and Water Conservation Plans. Each contract specifies that the water supplied to the wholesale customer may be reasonably limited by the city on the same basis and to the same extent as the supply of water to any other customers within the city.

All wholesale contracts entered, renewed, or extended after the adoption of this plan will include provisions for distributing water to the wholesale customers in accordance with the Texas Water Code Section 11.039. Customer entities that intend to resell water provided by the City of Round Rock shall require that all successive customers implement conservation measures in accordance with the provisions stated in Title 30, Texas Administrative Code, Chapter 288.

Section 13: Plan Review and Update

The City of Round Rock will review and update the Water Conservation Plan as appropriate based on an assessment of the five- and ten-year goals. At a minimum, the Water Conservation Plan will be updated and adopted no later than May 1, 2029, and every five years thereafter, per TCEQ requirements in Title 30 TAC, Chapter 288.30.

The Water Conservation plan and annual Utility Profile will be maintained and submitted by the City of Round Rock Water Conservation Coordinator.

Appendix A

Figure 1—Water Service Area

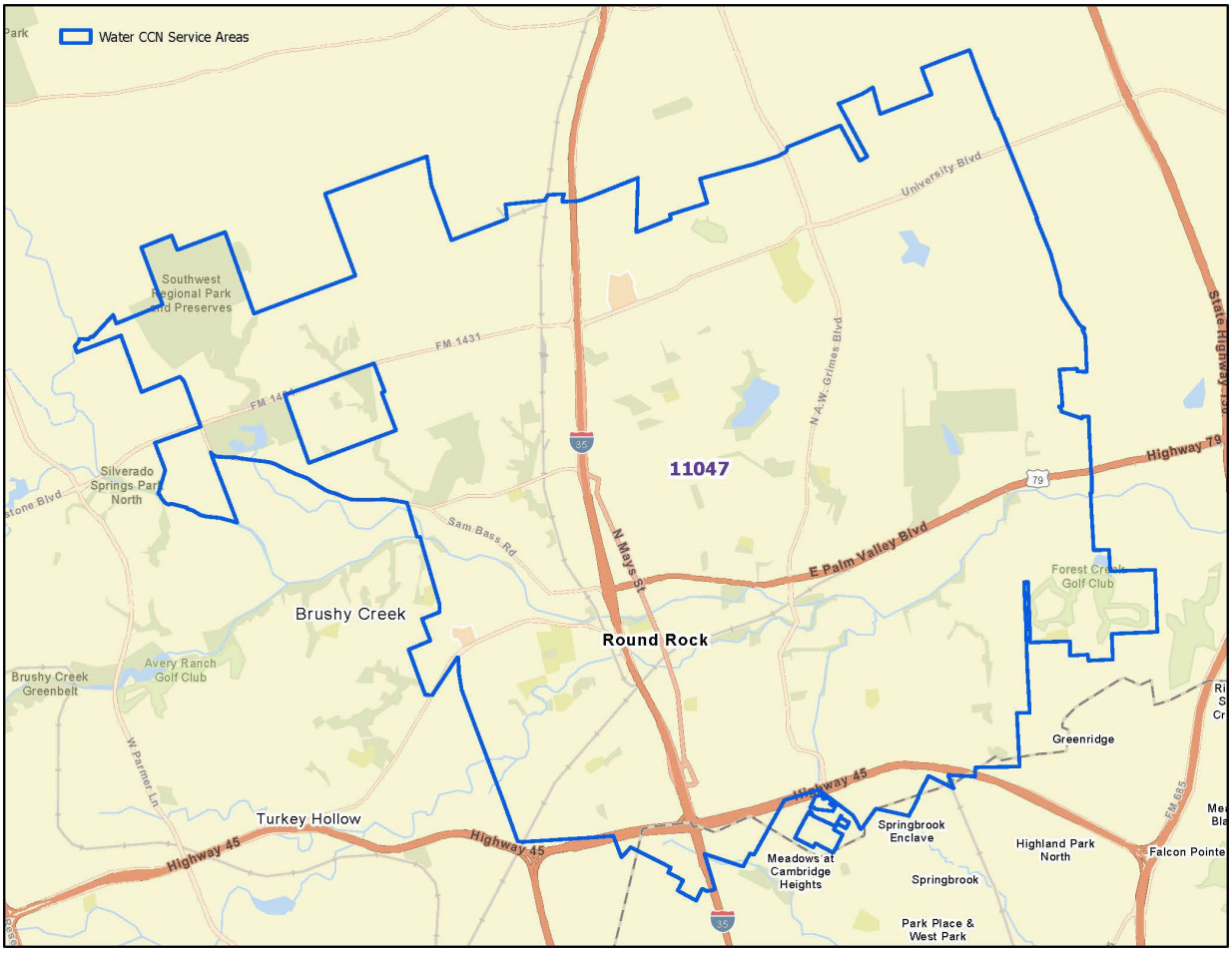

Figure 2—Wastewater Service Area

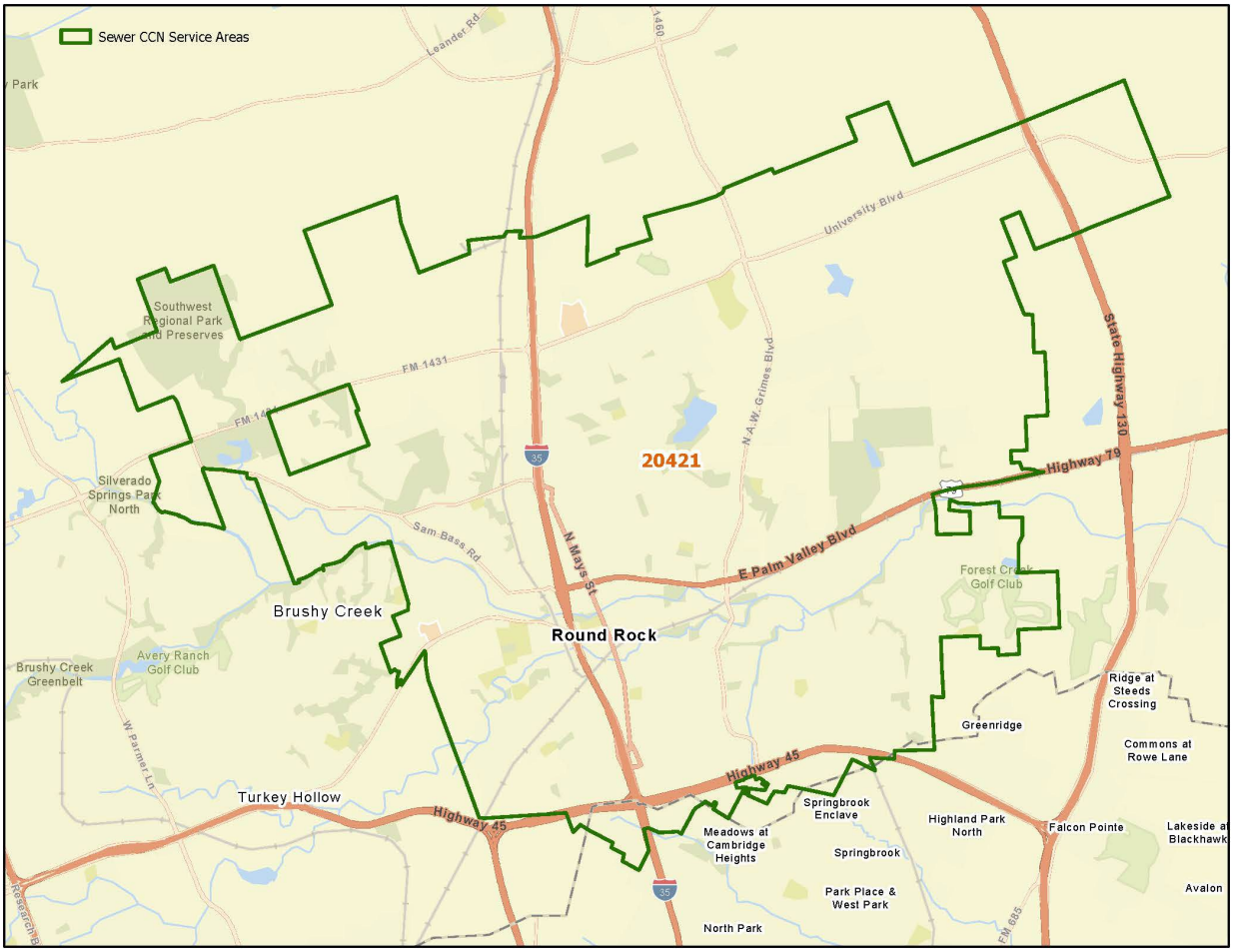

Figure 3—Reuse Water Distribution area