

**WATER CONSERVATION PLAN
FOR THE
City of Round Rock**

**Section 1.0
General Information**

1.1 Declaration of Policy, Purpose and Intent

Recent updates to the city's long-range water supply plan indicate that additional water supplies will be needed to satisfy the projected water demand. 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 short and long-term consumption goals and develop implementation strategies and processes for achieving these goals.

1.2 Utility Profile

Water Supply

The City of Round Rock obtains its raw water supply from two sources: the Edwards Aquifer and Lake Georgetown/Lake Stillhouse Hollow. Current projections indicate that these two supplies will not meet the City's projected demand by 2014. Therefore, Round Rock has created a partnership with the cities of Cedar Park and Leander known as the Brushy Creek Regional Utility Authority. This authority is tasked with building a regional water treatment and delivery system to deliver water from a third supply, Lake Travis. This supply will provide water for our communities for many years to come. Not only does this partnership meet Round Rock's long-term needs to the anticipated build-out population in the year 2050, water from several supplies will increase the City's drought tolerance and improve reliability in the event of a catastrophe.

Service Area

The service area is the City of Round Rock, along with the majority of its ETJ. Round Rock's current population is estimated close to 96,000 residents. The City has 30,053 active water accounts; of these, 26,845 are residential accounts.

Water Treatment and Production

The City of Round Rock owns and operates one water treatment plant located west of Interstate 35 off of Westinghouse Road. The City's average daily production is 16.82 million gallons per day (MGD), combined for surface and ground water production.

Wastewater Collection and Treatment

The City of Round Rock's wastewater collection system is made up of over 500 miles of collection lines. These lines ultimately discharge at the Brushy Creek Regional Wastewater Treatment Plant (BCRWWTP) either directly or through larger diameter regional interceptor lines owned by the Lower Colorado River Authority (LCRA). Wastewater treatment for the City of Round Rock takes place at the facilities owned by the LCRA, and operated by the Brazos River Authority (BRA) primarily at the BCRWWTP. The BCRWWTP is located southwest of the intersection of U.S. Highway 79 and Red Bud Lane. The City of Round Rock's wastewater collection system is currently covered under the Wastewater Discharge Permit that is held by LCRA for the BCRWWTP. This facility has undergone an expansion which will enable the treatment of over 21 million gallons of wastewater per day from the plant's regional customers. The regional customers include the cities of Round Rock, Cedar Park, Leander and Austin, and the sub-regional customers include Fern Bluff Municipal Utility District and Brushy Creek Municipal Utility District.

The City has a collection system rehabilitation program that includes cleaning and videoing the

collection system because approximately 60% of the City is located over the Edwards Aquifer. The Edwards Aquifer Protection Program is mandated by the Texas Commission on Environmental Quality. This program also includes inspecting and correcting "problem" areas that require regular maintenance. This program is funded through water and wastewater utility funds.

Water Reuse

The City of Round Rock began wastewater reuse in 1997 with a project that provides irrigation water to Forest Creek Golf Course. Approximately 45 million gallons is diverted per year, and up to 600,000 gallons per day for irrigation of the city's golf course. Round Rock is currently designing a project that will ultimately use up to an additional 10 million gallons of reuse water per day to irrigate various properties on the northeast side of the city including developments such as the Higher Education Center and Austin Community College campuses, and the 500-acre Old Settlers Park and Dell Diamond baseball facility. The first phase of this project including irrigation of the park and Dell Diamond is planned to be completed by the end of 2010.

1.3 Goals

- Develop and implement conservation programs that will:
 - Reduce seasonal peak demands
 - Reduce water loss and water waste
 - Decrease per capita day consumption
 - Reduce unaccounted water
 - Maintain the community's quality of life while continuing to enhance economic growth
 - Prevent the pollution of ground and surface water sources
- Establish a heightened public awareness of water conservation in Round Rock.
- Audit and retrofit city facilities with water efficient fixtures, landscapes and irrigation systems wherever possible.
- Facilitate the conservation efforts of the city's wholesale customers.
- Establish a target of one percent per year reduction in per capita day consumption for the next five years.
- Monitor conservation strategies for future goal setting purposes.

1.4 Applicability

This plan and Chapter 10, Section 10.800 of the City of Round Rock Code of Ordinances 1995 edition shall apply to all persons, customers and owners of property who use or allow the use of city water, wherever situated.

1.5 Public Involvement

Opportunity for the public to provide input into the continued development of the Plan or any modifications has been provided by the City by means of scheduling and providing public notice of a public meeting to accept input on the Plan. Further, the public is always invited to attend city council meetings, held the second and fourth Thursday of each month.

Section 2.0 Conservation Goals, Metering and Leak Detection

2.1 Water Savings Targets

Five-Year Target

- Reduce the per capita day consumption by one percent each year with a target of achieving 200 gallons per capita day (gpcd).

- Reduce the actual water loss by two percent over the five year period so that actual water loss is no more than ten percent of the total amount of water delivered or 20 gpcd.

Ten-Year Target

- Reduce the per capita day consumption by one percent each year until the average per capita day consumption is 186 gallons per capita day (gpcd).
- Reduce the actual water loss until it is no more than ten percent of the total amount of water delivered or 19 gpcd.

2.2 Metering Devices

Diversion and Production Meters

The Round Rock Water System has six large, American Water Works Association (AWWA) approved, venturi meters. Two meters are used to measure water diverted from the lake, two are used to measure water entering the treatment plant and the remaining two are used to measure treated water leaving the water treatment plant. These meters are calibrated at least once per six months to an accuracy of plus or minus five percent. Records of water diverted and produced are collected continuously via a Supervisory Control and Data Acquisition (SCADA) System and compiled monthly.

Delivery Meters

The City of Round Rock's current ordinance requires all connections to be metered. All wholesale meters are regularly monitored and verified. All water meters are tested and calibrated to AWWA standards. All water meters are read regularly and the readings are verified for accuracy annually. Meters are replaced and/or repaired as necessary. Residential meters and commercial meters smaller than 1-1/2" are replaced at a minimum every 1,500,000 gallons metered or every fifteen years, whichever is sooner. Commercial meters that are 1-1/2" or larger are replaced at a minimum of 8,000,000 gallons metered or every 8 years, whichever is sooner.

2.3 Leak Detection, Repair and Control of Unaccounted-for Water

A substantial portion of the Round Rock Water and Wastewater Utilities is spent on personnel and equipment for the maintenance of the city's water distribution system. The city operates 10 three-person crews used for leak repair and 1 three-person crew for leak detection. Most leaks, illegal connections or abandoned services are detected by field crews or reported by the public. The city visually inspects its large water mains and raw water lines once per year.

The Round Rock Water and Wastewater Utility conducts a water audit each year to identify real water losses and correct applicable reports. Real water losses are minimized by replacing deteriorated water mains and customer service lines. These replacement programs are ongoing.

Section 3.0

Public Education and Awareness

The City of Round Rock periodically provides the public with information about the Water Conservation Plan, including information about proposed rate changes, rebate programs, water conservation measures and water availability conditions.

3.1 Water Conservation and Drought Contingency information is currently provided through:

- *public meetings*
- *press releases*
- *utility bill inserts and printed material*
- *City cable television channel 10*

- City website: www.roundrocktexas.gov

3.2 The city plans to enhance its public education and awareness component for the next five year planning period through:

- Public school education programs
- Presentations at local service organizations and homeowner associations
- Special events and promotions
- Publications at the Round Rock Express games
- Public service announcements
- Offer free landscape irrigation audits

Section 4.0 Non-Promotional Rate Structure

The City of Round Rock has implemented a multi-tiered rate structure to provide incentive to conserve water during peak landscape irrigation season. The increasing block water rates are implemented each May 1 through September 30. Each customer is charged a monthly base rate, based on the size of the water meter; then an amount per thousand gallons up to 18,000 for residential customers with a 5/8" meter. When 18,000 gallons are used, a second tier amount is charged \$2.80 per thousand gallons. For 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 18,000 gallon amount. These rates are reviewed on a regular basis.

Section 5.0 Reservoir Systems Operations Plan

The City of Round Rock contracts for raw water in Lake Georgetown, Lake Stillhouse Hollow and Lake Travis from the Brazos River Authority and Lower Colorado River Authority. Round Rock is not responsible for the management of these reservoirs.

Section 6.0 Means of Implementation and Enforcement

- 6.1 The City of Round Rock will enforce necessary portions of this plan through ordinances and signed contracts.
- 6.2 The City's sworn police officers, code enforcement officers and other designated personnel will ensure compliance with the water conservation and drought contingency regulations.
- 6.3 Violations
 - First violation - The customer will be notified by written notice of their specific violation.
 - Subsequent violations:
 - After written notice, the utility may install a flow restricting device in the line to limit the amount of water which will pass through the meter in a 24 hour period. The utility may charge the customer for the actual cost of installing and removing the flow-restricting device, not to exceed \$50.00.
 - After written notice, the utility may discontinue service at the meter for a period of seven (7) days, or until the end of the calendar month, whichever is less. The normal reconnect fee of the utility will apply for restoration of service.

Section 7.0 Tracking Targets and Goals

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

- 7.1 Logs will be maintained for meter calibration, meter testing and meter replacement.
- 7.2 Annual water audits shall be documented and kept in the Water & Wastewater Utility Department files. An outside consulting firm will conduct periodic audits.
- 7.3 Records of all public education shall be maintained. These records must include type, number, and location distributed.
- 7.4 Rates are tracked and monitored by the city's Finance Department. An outside consulting firm will conduct periodic reviews of the rates.
- 7.5 Logs of the city's Leak Detection Program will be maintained. These records will include inspections and soundings of water main fittings and connections and night flow measurements. An outside consulting firm will conduct periodic leak detection audits.

Section 8.0 Coordination with Regional Water Planning Groups

The service area of the City of Round Rock is located within Brazos G Regional Water Planning Group. The City of Round Rock has mailed a copy of this Plan to the RWPG.

Section 9.0 Record Management

The city desegregates water records on a monthly basis in the following manner:

- 9.1 Water diverted from water sources.
- 9.2 Water pumped into the distribution system.
- 9.3 Water sales including: residential, commercial, public/institutional, bulk water, industrial, parks irrigation, government and wholesale.
- 9.4 Un-metered water.
- 9.5 Actual water losses.

Section 10.0 Wholesale Customer Conservation Requirements

All wholesale water contracts require compliance with the city's drought contingency and water conservation programs. 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 into, 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 11.0 Additional Conservation Strategies

- 11.1 The City of Round Rock adopted a plumbing code effective March 31, 1992, based on the 1991 Edition of the Uniform Building Code requiring low water use fixtures, which complies with the State of Texas requirements.
- 11.2 The City of Round Rock recycles approximately 98% of the filter backwash water at the water treatment plant.
- 11.3 The City of Round Rock has several regulations in place to help prevent water waste as a result of improper irrigation. City ordinances address the following:

- Voluntary irrigation conservation twice per week schedule is encouraged from May 1 through September 30. Residents are encouraged to limit outdoor irrigation between the hours of 10:00 AM and 7:00 PM and outdoor water is encouraged to take place only on the designated watering day(s). The schedule is as follows:
 - Industrial/Commercial/Intuitional/Multifamily properties on Tuesday and/or Friday.
 - Residential properties with Odd Addresses on Wednesday and/or Saturday.
 - Residential properties with Even Addresses on Thursday and/or Sunday.
 - During irrigation, water is not allowed to pool or puddle on any impervious area.
 - New automatic irrigation systems are required to have timers, freeze sensing and rain sensing devices such that irrigation is not operated during or after rainfall.
 - Irrigation systems are not allowed to operate if malfunctioning.
- 11.4 The City of Round Rock operates a permanent household hazardous waste collection program available free of charge to direct City of Round Rock customers. It is open on the first Wednesday of each month and a few other designated Saturday collections. The city intends to offer these collection services to wholesale customers in the near future.

Section 12.0

Water Conservation Strategies

Candidate conservation strategies are being compiled using documents prepared by the Texas Water Development Board and other agencies. The City intends to evaluate the proposed strategies using the following criteria: applicability, potential for saving water, practicality, public acceptance and cost effectiveness. There is currently one water conservation specialist on staff that is conducting irrigation system evaluations, water audits, promoting seasonal watering schedule changes and conducts public education talks, as requested. As the program continues to grow, there is anticipation of increasing water conservation incentives to possibly include:

- Showerhead and Faucet Aerator Giveaways
- Residential Toilet Replacement Program
- Water Wise Landscape Irrigation and Design Incentives
- Rainwater Harvesting Programs
- Residential Clothes Washer Incentive Program
- Irrigation System Upgrade Rebates

Section 13.0

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 no later than May 1, 2014 and every five years thereafter.

Section 14.0

Exemptions or Variances

The utility may grant any customer an exemption or variance from the water conservation or drought contingency plan for good cause upon written request. A customer who is refused an exemption or variance may appeal such action of the utility in writing to the Texas Commission on Environmental Quality. The utility will treat all customers equally concerning exemptions and variances, and shall not discriminate in granting exemptions and variances. No exemption or variance shall be retroactive or otherwise justify any violation of this Plan occurring prior to the issuance of the variance.