

Office of Neighborhood Services

City of Richland Hills, Texas

Memorandum

To: Honorable Mayor Bill Agan and members of the Richland Hills City Council
From: Scott Mitchell, Director of Neighborhood Services
Date: August 5, 2014
Subject: Water Conservation and Emergency Water Demand Management Plan

Council Action Requested:

Conduct a public hearing and consider adoption of the Water Conservation and Emergency Water Demand Management Plan for the City of Richland Hills.

Background Information:

The current water conservation management and emergency drought plan was last revised in 2011. This item is an update reflecting the most recent Texas Commission on Environmental Quality (TCEQ) rules as well as updated requirements as part of the contract the city has with the City of Fort Worth for the provision of potable water and sewer treatment services. The ordinance also utilizes the current use data from the City of Richland Hills. A public hearing on the plan is required prior to adoption.

Adoption of this ordinance will bring the city into full compliance with state regulations as well as contractual requirements from the City of Fort Worth.

Board/Citizen Input: Public Hearing

Financial Impact: N/A

Staff Contacts:

Scott Mitchell
Director of Neighborhood Services

smitchell@richlandhills.com

Attachments:

Water Conservation and Emergency Water Demand Management Plan Ordinance
Water Conservation Plan
Drought Plan

ORDINANCE NO. _____

AN ORDINANCE AMENDING THE CODE OF ORDINANCES OF THE CITY OF RICHLAND HILLS, TEXAS, BY AMENDING DIVISION 4, "WATER CONSERVATION AND EMERGENCY WATER DEMAND MANAGEMENT PLAN" OF ARTICLE V, "WATER" OF CHAPTER 86, "UTILITIES"; ADOPTING AN UPDATED WATER CONSERVATION PLAN AND A DROUGHT CONTINGENCY AND EMERGENCY WATER MANAGEMENT PLAN; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A PENALTY FOR VIOLATIONS HEREOF; PROVIDING FOR PUBLICAITION IN THE OFFICIAL NEWSPAPER; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Richland Hills, Texas (the ACity@) is a home rule city acting under its charter adopted by the electorate pursuant to Article XI, Section 5, of the Texas Constitution and Chapter 9 of the Local Government Code; and

WHEREAS, the City is a wholesale water service customer of the City of Fort Worth; and

WHEREAS, as a wholesale customer of the City of Fort Worth, the City is required to institute the same rationing and water use restrictions on City customers as does the City of Fort Worth for so long as any part of the total water supply is furnished by the City of Fort Worth; and

WHEREAS, as a wholesale customer of the City of Fort Worth, the City is required to adopt updated water conservation and drought contingency and emergency water plans; and

WHEREAS, the City has drafted a "Drought Contingency and Emergency Water Management Plan" and a "Water Conservation Plan" which comply with Chapter 288, Title 30 of the Texas Administrative Code.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF RICHLAND HILLS, TEXAS:

SECTION 1.

That the Water Conservation Plan attached as Exhibit "A" and the Drought Contingency and Emergency Water Management Plan attached as Exhibit "B" are hereby adopted and incorporated herein for all purposes. The Water Conservation Plan and the Drought Contingency and Emergency Water Management Plan hereby adopted shall replace any previous such plans adopted by the City.

SECTION 2.

That Division 4 of Article V of Chapter 86, "Utilities" is hereby repealed in its entirety and is replaced with a new Division 4 to read as follows:

"Division 4. Water Conservation and Drought Contingency and Emergency Water Management Plans

Sec. 86-266. General

The water conservation and drought contingency and emergency water management plans outline the city's water conservation and emergency water demand management efforts. These efforts consist of two plans: (1) a water conservation plan; and (2) a drought contingency and emergency water management plan. The objective of these plans is to reduce the quantity required for each water using activity, insofar as is practical, through the implementation of efficient water practices. The plans also provide procedures for voluntary and mandatory actions to be put in place upon the city's water supply system during a drought or water emergency. The City will revise these plans as needed to meet objectives requested by the Texas Commission on Environmental Quality, regional water planning groups, the City of Fort Worth and to meet the goals stated in these plans. The plans established in this Division shall be administered by the Director of Neighborhood Services of the City or his/her duly appointed representative ("director").

Sec. 86-267. Water Conservation Plan

The City has adopted a Water Conservation Plan which is on file and available for inspection at the City Secretary's office. The Water Conservation Plan may be amended from time to time by adopting an ordinance amending the plan.

Sec. 86-268. Drought Contingency and Emergency Water Management Plan

(a) The City has adopted a Drought Contingency and Emergency Water Management Plan which is on file and available for inspection at the City Secretary's office. The Drought Contingency and Emergency Water Management Plan may be amended from time to time by adopting an ordinance amending the Plan.

(b) Purpose and scope. The purpose of this section is to establish the city's policy in the event of shortages or delivery limitations in the city's water supply and to establish water restrictions to be enforced in case of drought or emergency conditions. This section applies to:

- (1) All persons and premises within the city using water from the water system;
- (2) All retail customers who live in unincorporated areas within the city's extraterritorial jurisdiction and are served by the water system; and

(3) All wholesale service customers outside the city to the extent provided in subsection (h).

(c) Authority. The director is authorized to implement measures prescribed when required by this section and by the drought contingency and emergency water management plan approved by the city council. The director is authorized to enforce the measures implemented and to promulgate regulations, not in conflict with this section, the plan or state and federal laws, in aid of enforcement.

(d) Initiation of plan stages. The director may order that the appropriate stage of the drought contingency and emergency water management plan be initiated upon determination that drought conditions or a water emergency exists. To be effective, the order must be:

- (1) Made by public announcement to local media; and
- (2) Published on the city's website.

(e) Duration of stage; change. A stage will remain in effect until the conditions that triggered initiation of the stage have been eliminated. If the stage is initiated because of excessive demands, all initiated actions will remain in effect through September 30 of the year in which they were triggered unless the director determines that conditions exist that will allow termination of the stage before September 30. When conditions change, the director may terminate, upgrade or downgrade the stage. Any such change must be made in the same manner prescribed in subsection (d).

(f) Violation of section. A person commits an offense if he knowingly makes, causes or permits a use of water contrary to the measures implemented by the director as prescribed in the plan. For purposes of this subsection, it is presumed that a person has knowingly made, caused or permitted a use of water contrary to the measures implemented if the mandatory measures have been formally ordered consistent with the terms of subsection (d) and:

- (1) The manner of use has been prohibited by the drought contingency and emergency water management plan;
- (2) The amount of water used exceeds that allowed by the drought and emergency water management plan; or
- (3) The manner or amount used violates the terms and conditions of a compliance agreement made pursuant to a variance granted by the director.

(g) Penalties/enforcement of violations. Any person who is convicted of violating, disobeying, omitting, neglecting or refusing to comply with a measure implemented in accordance with this section and the drought contingency and emergency water management plan will be given a written warning that he has violated a mandatory water use restriction as a first offense. Any person who is convicted of violating, disobeying, omitting, neglecting or refusing to comply with a measure implemented in accordance with this section and the drought

contingency and emergency water management plan may be fined not more than \$2,000.00 for each subsequent offense. In addition, the following penalties shall apply:

- (1) A person who is convicted of violating, disobeying, omitting, neglecting or refusing to comply with a measure implemented in accordance with this section and stage 1 of the plan as a second offense, shall be fined not less than \$100.00.
- (2) A person who is convicted of violating, disobeying, omitting, neglecting or refusing to comply with a measure implemented in accordance with this section and stage 2 of the plan as a second offense, shall be fined not less than \$250.00.
- (3) A person who is convicted of violating, disobeying, omitting, neglecting or refusing to comply with a measure implemented in accordance with this section and stage 3 of the plan as a second offense, shall be fined not less than \$500.00.
- (4) If a person is convicted of violating, disobeying, omitting, neglecting or refusing to comply with a measure implemented in accordance with this section and the plan as a third offense, the director may either:
 - a. Install a flow restrictor in the water line to the premises where the violations occurred to limit the amount of water that may pass through the meter in a 24-hour period or a lock-out device to a backflow assembly; or
 - b. Discontinue water service to the premises where the violation occurred.
- (h) Wholesale service to customers outside the city. The director shall advise customers receiving wholesale water service from the city of actions taken under the drought contingency and emergency water plan. The director may restrict service to customers outside the city as permitted under the contract and state law.
- (i) Authority under other laws. Nothing in this section shall be construed to limit the authority of the mayor, the city council or the city manager to seek emergency relief under the provisions of any state or federal disaster relief act.
- (j) Variances. During the times the emergency order is operative, the director may grant variances only under the following circumstances and conditions:
 - (1) The applicant signs a compliance agreement on a form provided by the director, and approved by the city attorney, agreeing to use the water only in the amount and manner permitted by the variance;
 - (2) Granting of the variance would not cause an immediate significant reduction in the city's water supply;
 - (3) Failure to approve the variance would result in an extreme hardship or need relating to the health, safety or welfare of the applicant; and

(4) Granting the variance would not adversely affect the premises at which the violation occurred.

(k) Revocation of Variances. The director may revoke a variance when he or she determines that:

- (1) The conditions of subsection (j) are not being met or are no longer applicable;
- (2) The terms of the compliance agreement are being violated; or
- (3) Revocation is advisable to protect the health, safety or welfare of other persons.

(l) Appeal. Denial or revocation of a variance by the director may be appealed to the city manager by filing a written notice of appeal with the city manager within ten days after issuance of the director's decision. The city manager's decision shall be final.

Sec. 86-269.-86-300.—Reserved”

SECTION 3. CUMULATIVE PROVISIONS

This Ordinance shall be cumulative of all provisions of the Code of Ordinances of the City of Richland Hills and other applicable City ordinances, except where the provisions of this Ordinance are in direct conflict with the provisions of such ordinances, in which event the applicability of the conflicting provisions of such ordinances are hereby repealed.

SECTION 4. SEVERABILITY CLAUSE

It is hereby declared to be the intention of the City Council that the sections, paragraphs, sentences, clauses, and phrases of this Ordinance are severable, and if any section, paragraph, sentence, clause, or phrase of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining sections, paragraphs, sentences, clauses, and phrases of this Ordinance, since the same would have been enacted by the City Council without the incorporation in this Ordinance of any such unconstitutional section, paragraph, sentence, clause or phrase.

SECTION 5. PENALTY CLAUSE

Any person, firm or corporation who violates, disobeys, omits, neglects or refuses to comply with or who resists the enforcement of any of the provisions of this Ordinance shall be fined not more than Two Thousand Dollars (\$2,000.00) for each offense. Each day that a violation is permitted to exist shall constitute a separate offense.

**SECTION 6.
SAVINGS CLAUSE**

All rights and remedies of the City of Richland Hills are expressly saved as to any and all violations of the provisions of any ordinances governing irrigation and water usage that have accrued at the time of the effective date of this Ordinance; and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this Ordinance but may be prosecuted until final disposition by the courts.

**SECTION 7.
PUBLICATION**

The City Secretary of the City of Richland Hills is hereby directed to publish at least twice in the official newspaper of the City of Richland Hills, the caption and the penalty clause of this ordinance in accordance with Section 52.013(b) of the Local Government Code.

**SECTION 8.
EFFECTIVE DATE**

This Ordinance shall be in full force and effect from and after its passage and publication as required by law, and it is so ordained.

PASSED AND APPROVED ____ DAY OF _____, 2014.

THE HONORABLE BILL AGAN, MAYOR

ATTEST:

LINDA CANTU, CITY SECRETARY

EFFECTIVE DATE: _____

APPROVED AS TO FORM AND LEGALITY:

BESTY ELAM, CITY ATTORNEY

EXHIBIT "A"
WATER CONSERVATION PLAN

EXHIBIT "B"
DROUGHT CONTINGENCY AND EMERGENCY WATER MANAGEMENT PLAN

City of Richland Hills

Water Conservation Plan

1. Introduction and Objectives

The City of Richland Hills developed the following Water Conservation Plan (Plan) to provide a framework for future efforts to conserve existing water resources and avoid wasting water in current water use practices. The Plan outlines procedures to conserve the available water supply and protect the integrity of water supply facilities with particular regard for domestic water use, and fire protection, and to protect and preserve public health, welfare, and safety. Further, the goal of the Plan is to minimize adverse impacts of water supply shortage or other water supply emergency conditions.

The Plan outlines water conservation procedures currently used by the City of Richland Hills water system. The Plan also identifies practices that may reduce water usage in the future.

2. Water System Profile

According to the 2010 Census, the City of Richland Hills has a population of 7,850. The city purchases a majority of its water production from the City of Fort Worth and the remaining is produced by city-owned water wells. There are currently five active water wells that pump water from the Trinity and Paluxy Aquifers. These wells play a major role in maintaining a low peaking factor during peak use periods. The City's utility profile and data can be found on the attached [Appendix A](#).

3. Record Management System

The city administers a comprehensive records management system that accounts for water use by selected category and allows staff to monitor water usage characteristics and customer specific categories. The system also allows the city to monitor specific areas of the city to identify concentration of problem areas of the infrastructure system that need to be rehabilitated. Selected water user categories are shown on the attached [Appendix A](#). It should be noted that the city does not make classification distinctions between commercial and institutional or industrial water users.

4. Conservation Goals

4.1 GPCD Reduction

The city's current 5 year GPCD average is 125. Because of the city's fully developed condition, automatic meter reading system, and improvements to water infrastructure in the last 5 years, the city has maintained an average 125 GPCD. Industry wide this is an acceptable rate which the city will continue to maintain through a proactive approach to infrastructure improvements, maintenance of existing facilities, efficient management, record keeping policies, public notification of water usage requirements, training and annual review of average GPCD, peaking factor and water loss records. Table 1 below lists the reduction of GPCD and peaking factor for 5 and 10 year goals.

Table 1. Richland Hills Per Capita Water Use Goals:

Water Use	2019	2024
Peak GPCD	174	174
Annual Avg. GPCD	125	125
Peaking Factor	1.39	1.39

4.2 Unaccounted Water Loss and Leak Detection

Unaccounted water loss occurs due to leaks, line breaks, meter inaccuracies, theft, flushing of lines, fires, and other issues. The city monitors water production and water billing on a monthly basis and calculates water losses as seen in the utility profile. The city has a leak detection and valve exercise program, monitors the distribution system on a daily basis and has been very effective in making repairs in a timely manner. The city's average water loss rate of 9% is an acceptable rate and will continue to stay within this rate and reduced whenever possible. Table 2 below list the water loss projections for the 5 and 10 year Goals.

Table 2. Richland Hills Unaccounted Water Loss Goals:

Unaccounted Water Loss	2019	2024
Water Demand (gal)	354,225,000	354,405,000
Unaccounted Water (gal)	31,880,000	31,896,000
Unaccounted Water (%)	9.0	9.0

5. **Universal Metering and Meter Testing Program**

The City currently provides metering for all customers. The City will continue to provide universal metering and records will be kept for each meter. The City will implement a program of regularly scheduled maintenance and testing of meters as follows:

Meter	Test Frequency (years)
FWWD Meter	1
Well Meters	1
Meters 3" or larger	1
Meters larger than 1 1/2"	5
Meters 1 1/2" or smaller	10

6. Other Conservation Measures

6.1 Continuing Public Education

Educating and informing the citizens of Richland Hills is the most readily available and lowest cost method of promoting water conservation. Practices of water conservation will be accomplished through a program of direct mailings or distributions, information packets for new water customers, articles in the city newsletter, school programs or flyers, and reports at Council meetings and Town Hall meetings. Specific actions to be performed are as follows:

- a. At least four (4) times per year a direct mailing or distribution will be made to each water customer which includes information regarding water conservation.
- b. Water conservation material will be included in an information packet for new water customers.
- c. A water conservation “tip” will be included in every issue of the city newsletter which is distributed to every residence and business in Richland Hills.
- d. The City will be an active participant in National Drinking Water Week each year.
- e. Periodic reports will be made to the City Council regarding water conservation efforts.

6.2 Water Rate Structure

The current water rate structure (see Appendix B) is an increasing rate to usage structure and promotes water saving practices. The City will periodically review respective retail water rate structures to insure that the prevailing rates encourage water conservation while covering the total cost of service and minimizing adverse impacts.

6.3 Xeriscaping

The use of xeriscaping shall be encouraged through the education and information program. The City shall consider the use of such technology in its own future landscaping and irrigation projects.

6.4 Plumbing Codes

The City will adopt an amendment to its plumbing code that requires the use of water saving fixtures for all new construction and for replacement of plumbing in existing structures.

6.5 Plumbing Retrofit Program

The education and information program will provide information regarding the advantages of water saving devices.

6.6 Recycling and Reuse

The City’s wastewater effluent is currently treated and released by others. The City supports any efforts by those entities in this area.

6.7 Pressure Reduction

The City has installed a pressure reduction valve at its FWWD water source and its pump station and altitude valves at its two elevated storage tanks.

6.8 Landscape Water Management

The City has an existing ordinance which prohibits wasting water and which prohibits watering between 10 a.m. and 6 p.m. year round. The City has adopted ordinances to require rain and freeze sensors on new irrigation systems. Further, the City has adopted a twice per week watering schedule to mirror that of Fort Worth, as follows:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
No outdoor watering	Non-residential	Residential addresses ending in (0,2,4,6,8)	Residential addresses ending in (1,3,5,7,9)	Non-residential	Residential addresses ending in (0,2,4,6,8)	Residential addresses ending in (1,3,5,7,9)

6.9 Implementation and Enforcement

The Director of Neighborhood Services or his/her duly appointed representative will administer and enforce of the Plan. The director or designee will oversee the execution and implementation of all elements of the Plan. The director or designee will also be responsible for overseeing records of program implementation. The City Council has enacted appropriate ordinances to enforce this Plan, and such ordinances provide for enforcement procedures and penalties.

7. Periodic Review and Reporting

The City of Richland Hills will review this Plan and prepare annual reports as necessary or required by law. The Plan will also be updated as appropriate.

APPENDIX A

UTILITY EVALUATION DATA FORM

WATER SUPPLY AND DISTRIBUTION SYSTEM INFORMATION

- A. Population of Service Area 7,801
- B. Size of Service Area 3.9 sq. miles
- C. Water Production and Sales Information
1. Water supplied during the last year: 356,522,400 gal/yr.
 2. Average water supplied for last 3 years: 368,917,706gal/yr.
 3. Estimated monthly water sales by user category for the last year in 1,000's of gallons (based on customer meters):

MONTH	RESIDENTIAL	COMMERCIAL	TOTAL
October-2012	25,113,000	6,762,700	31,875,700
November-2012	19,181,800	5,621,900	24,803,700
December-2012	18,139,400	4,633,600	2,773,000
January-2013	16,807,300	3,700,300	20,507,600
February-2013	16,589,000	4,196,100	20,785,100
March-2013	14,502,400	4,147,500	18,649,900
April-2013	16,823,400	4,640,500	21,463,900
May-2013	17,756,200	4,773,900	22,530,100
June-2013	20,177,600	5,407,100	25,584,700
July-2013	29,402,000	6,954,000	36,356,000
August-2013	30,212,600	7,618,900	37,831,500
September-2013	34,153,800	7,096,100	41,249,900
TOTAL	258,858,500	65,552,600	324,411,100

4. Highest daily water use (production) on record for system: 3,265.900 gal/day.
 5. Peak daily use (production) for last year: 1,517,000 gal/day.
 6. Unaccounted for water (prod.-sales)/production x 100=10% unaccounted for water.
- D. Number and type of meter connections in service area:
- Residential: 2827 Commercial: 289 Industrial: 0

E: Net gain of new connections per year:

Residential: 0 Commercial: 4 Industrial: 0

F. Source of Water:

Ft. Worth Water Dept.	269,421,400
City Wells	87,101,000

G. Design capacity of Water system: 3.8MGD

H. Major high-volume customer:

<u>NAME</u>	<u>ANNUAL WATER USE (GALLONS)</u>
Raintree Apartments	15,933,000
Birdville ISD	5,967,300
Alterra Healthcare Corp.	4,885,400
QW Coin Services	4,700,700
Lexington Place Nursing	3,470,800
First Industrial Realty Trust	3,021,400
Austin Road CO	2,868,100
Colormatrix Corp	2,750,500
Ash Park Apartments	2,679,900

WASTEWATER SYSTEM INFORMATION

A. Service Area Information

1. Percent of your potable water customers sewered by your utility's wastewater treatment system: 0%
2. Percent of your utility's potable water customers who have septic tanks or other privately operated sewage disposal systems: 0%
3. Percent of potable water customers sewered by another wastewater treatment utility: 100%

B. Wastewater System Capacity Information

Average daily volume of wastewater treated for most recent year: 467,529 gal/day

C. Estimated percent of wastewater flows to your treatment plant that originate from the following categories:

Residential:	70%
Industrial and Manufacturing:	5%
Commercial/Institutional	20%
Storm Water	5%

UTILITY FINANCIAL OPERATIONS INFORMATION

A. Water and Wastewater Rate Structure

See Appendix B

B. Source of Revenue for the Utility:

1. Percent of annual revenues from water or wastewater rates: 100%
2. Percent of annual revenues from all other sources (taxes, general revenue, etc.): 0%

C. Annual Statement of Costs

1. Annual operating costs:	<u>\$ 2,994,158</u>
2. Annual revenue:	<u>\$ 4,122,817</u>

**MISCELLANEOUS STATISTICAL DATE
OCTOBER 1, 2013**

WATER RATES:

Residential Monthly Billing:

First 2,000 gallons (minimum)	
3/4" meter	\$ 21.45
1" meter	\$ 35.81
1.5 meter	\$ 71.41
2.0" meter	\$114.30
3.0"meter	\$214.43
4.0"meter	\$357.45
2,001 - 4,000 gallons (per 1,000 gallons)	\$ 4.17
4001 - 10,000 gallons (per 1,000 gallons)	4.40
10,001 - 20,000 gallons (per 1,000 gallons)	4.97
over 20,000 gallons (per 1,000 gallons)	6.03

Commercial Monthly Billing:

First 2,000 gallons (minimum)	
3/4" meter	\$ 21.45
1" meter	\$ 35.81
1.5 meter	\$ 71.41
2.0" meter	\$114.30
3.0"meter	\$214.43
4.0"meter	\$357.45
2,001 - 4,000 gallons (per 1,000 gallons)	\$ 4.58
4,001 - 10,000 gallons (per 1,000 gallons)	4.85
10,001 - 20,000 gallons (per 1,000 gallons)	5.48
over 20,000 gallons (per 1,000 gallons)	6.62

SEWER RATES:

Residential:

Minimum Rate (first 2,000 gallons)	\$ 28.18
Volume charge (per 1,000 gallons, based on winter month average)	\$ 1.98

Commercial:

Minimum rate (first 2,000 gallons)	\$ 33.18
Volume charge (per 1,000 gallons)	\$ 2.27

NUMBER OF METERS:

Active	3116
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APPENDIX B

WATER RATES

A. WATER RATES ENUMERATED

From and after the 1st day of October, 2010 (meter readings after such date), the following water rates and charges shall be in full effect within the city:

1. All customers with water service shall be charged the following, unless otherwise provided for:

- First 2,000 gallons \$ 21.45 minimum
- 2,001-4,000 gallons \$ 4.17 per 1,000 gallons
- 4,001-10,000 gallons \$ 4.40 per 1,000 gallons
- 10,001-20,000 gallons \$ 4.97 per 1,000 gallons
- Over 20,000 gallons \$ 6.35 per 1,000 gallons

2. Charges for apartment houses shall be as follows:

When two (2) or more residential living units are supplied with water from one (1) meter, a minimum water service charge of \$21.45 will be made each month for each unit, adjusted by an occupancy factor of 80%.

(Ordinance No. 1180-10. Section 1, of October 1, 2010)

B. BILLING

The water charges shall be billed out to the customer as net bills. The gross bill shall be ten percent (10%) added if the bill is not paid by the due date. The due date shall be the fifteenth (15th) day of the month after the meter is read.

(Ordinance No. 453 of May 18, 1981)

SEWER RATES

A. SEWER RATES ESTABLISHED

From and after October 1, 2010, the following sewer charges shall be made to customers on the Richland Hills sewer system:

1. The monthly minimum charge for all customers shall be \$28.18 for the first 2,000 gallons of actual water used or wastewater produced during the monthly billing periods.
2. The monthly minimum charge for all commercial and industrial customers shall be \$33.18 for the first 2,000 gallons of actual water used and wastewater produced during the monthly billing period. In addition to the monthly base charge, non-residential customers shall be charged a monthly excess sewer or wastewater volume usage charge of two dollars and twenty seven cents (\$2.27) per 1,000 gallons of total water used and wastewater produced over the first 2000 gallons of winter average water volume usage included in the base charge.
3. The monthly volume charge for all single-family residential customers shall be based on the individual customer's average monthly water usage during the preceding winter quarter months of December, January and February and calculated at the rate of one dollar and ninety eight cents (\$1.98) per 1,000 gallons of actual water used or wastewater produced during the monthly billing period over the first 2,000 gallons. When no preceding winter quarter average is available from records, an estimated average monthly volume of 10,000 gallons shall be used.
4. When two (2) or more residential living units are supplied with water from one (1) meter, a minimum sewer charge of \$28.18 will be made each month for each unit, adjusted by an occupancy factor or 80%. The monthly volume charge shall be calculated at the rate of one dollar and ninety-eight cents (\$1.98) per 1,000 gallons of actual water used or wastewater produced during the monthly billing period after subtracting 2,000 gallons for each minimum included in the occupancy factor.

(Ordinance No. 1180-10, Section 3, of October 1, 2010)

City of Richland Hills

Drought Contingency & Emergency Water Management Plan

1. INTRODUCTION AND OBJECTIVES

The purpose of this Drought Contingency and Emergency Water Management Plan (subsequently referred to as the Plan) is as follows:

- To conserve the available water supply in times of drought and emergency
- To maintain supplies for domestic water use, sanitation, and fire protection
- To protect and preserve public health, welfare, and safety
- To minimize the adverse impacts of water supply shortages
- To minimize the adverse impacts of emergency water supply conditions.

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

TCEQ rule Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.1 (4) defines a drought contingency plan as “a strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies.”

TCEQ rules governing development of and minimum requirements for drought contingency plans for municipal water suppliers and wholesale water suppliers are contained in Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.20 and Rule 288.22, respectively.

3. WATER SYSTEM PROFILE

According to the 2010 Census, the City of Richland Hills has a population of 7,850. The city purchases approximately 70 percent of its water production from the City of Fort Worth and the remaining 30 percent is produced by city-owned water wells. There are currently two active water wells that pump water from the Trinity and Paluxy Aquifers.

The water supply triggers defined in Section 4.4 were provided to Richland Hills by its water supplier, City of Fort Worth. The City of Fort Worth was provided its water supply triggers from its suppliers, Tarrant Regional Water District (TRWD). TRWD selected its triggers after hiring an outside consultant to evaluate where the triggers levels should be for the drought plan to achieve meaningful water savings.

4. DROUGHT CONTINGENCY/EMERGENCY WATER MANAGEMENT PLAN

4.1 Public Involvement

The public had an opportunity to provide input into the plan.

- A public hearing was held on [REDACTED], 2014, and the Plan has been posted on the City’s website
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4.2 Public Education

Richland Hills will inform and educate the public about the Drought Contingency/Emergency Water Management Plan by the following means:

- Preparing fact sheets describing the plan and making these available online and at various city sites, and at events where the water department may have a booth.
- Posting a copy of the Plan on the city's Web site.
- Notifying local organizations, schools, and civic groups that staff are available to make presentations on the plan.

At any time that the Drought Contingency/Emergency Water Management Plan is activated or the stage changes, Richland Hills will notify local media of the issues, the current response stage, and the specific actions required of the public. The information will also be publicized on the city's Web site. Bill inserts will also be used as appropriate.

4.3 Initiation & Termination of Drought & Emergency Response Stages

The provisions of this Plan shall apply to all persons, customers, and property utilizing potable water provided by the City of Richland Hills. The terms "person" and "customer" as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities. The Plan does not apply to locations using treated wastewater effluent, private wells or possessing their own water rights in the Trinity River; however, any pond, impoundment, body of water, or other water source that is supplemented, or has the ability to supplement supply, with potable water shall adhere to the provisions of this plan.

The Plan may be applied to the entire city or geographic portions of the city as necessary. If the Plan is applied only to a limited sector, the boundaries will be defined in terms of roadways, creeks and other easily distinguishable features, such as city limits.

Initiation of a Drought/ Emergency Water Management Stage

The Director of Neighborhood Services or his designee ("Director") may order the implementation of a drought response or water emergency stage when one or more of the trigger conditions for that stage is met. The following actions will occur when a stage is initiated.

- The public will be notified through local media and the City of Richland Hills Web site, as described in Section 4.2.

Stages imposed by TRWD and Fort Worth must also be initiated by Richland Hills.

For other trigger conditions, the Director may decide not to order the implementation of a drought response or water emergency stage even though one or more of the trigger criteria for the stage are met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, the anticipation of replenished water

supplies, or the anticipation that additional facilities will become available to meet needs. The reason for this decision should be documented.

Termination of a Drought Stage

The Director may order the termination of a drought response or water emergency stage when the conditions for termination are met or at their discretion. The following actions will be taken when a drought stage is terminated:

- The public will be notified through local media and the City of Richland Hills Web site as described in Section 4.2.

The Director may decide not to order the termination of a drought response stage or water emergency even though the conditions for termination of the stage are met. The Director may choose to implement a phased out approach when exiting various stages to protect the integrity of the system. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, or the anticipation of potential changed conditions that warrant the continuation of the drought stage. The reason for this decision should be documented.

4.4 Drought and Emergency Response Stages

Stage 1 – Water Watch

Triggering Conditions

- The City of Richland Hills receives a portion of its water from the City of Fort Worth. The City of Richland Hills will continue to work with the City of Fort Worth to establish water restrictions during drought conditions. The City of Fort Worth will notify the City of Richland Hills when drought trigger conditions exist via telephone. The notification will be documented via letter or electronic communication. The City of Fort Worth's notification and subsequent documentation shall include the steps the City of Richland Hills must take. Upon notification, the City of Richland Hills will implement the Plan.
 - Water demand reaches or exceeds 90% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system.
 - Richland Hills' water distribution system becomes contaminated.
 - Richland Hills' water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.
 - Richland Hills' water supply system is unable to deliver water due to the failure or damage of major water system components.
 - Fort Worth initiated Stage 1 – Water watch for one or more of the following reasons:
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- o Fort Worth's water treatment or distribution system becomes contaminated.
- o Fort Worth's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.
- o Fort Worth's water supply system is unable to deliver water due to the failure or damage of major water system components.
- TRWD initiated Stage 1 – Water Watch for one or more of the following reasons:
 - o Total raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage.
 - o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - o Water demand is projected to approach the limit of TRWD's permitted supply.
 - o TRWD's supply source becomes contaminated.
 - o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components.
 - o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 1 drought.

Terminating Conditions for Stage 1

Stage 1 may terminate when TRWD and/or Fort Worth terminates its Stage 1 condition or when the circumstances that caused the initiation of Stage 1 no longer prevail.

Goal for Use Reduction for Stage 1

The goal for water use reduction under Stage 1, Water Watch, is five percent. If circumstances warrant or if required by TRWD and/or Fort Worth, the Director can set a goal for greater water use reduction.

Actions Available for Stage 1

The Director may order the implementation of any of the actions listed below, as deemed necessary. The Director must implement any action(s) required by the City of Fort Worth and/or TRWD.

All Water Users

Initiate mandatory restrictions to prohibit non-essential water use as follows:

- Discourage hosing of paved areas, such as sidewalks, driveways, parking lots, tennis courts, patios, or other impervious surfaces, except to alleviate an immediate health or safety hazard. This may include premises with raw or
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processed food, pharmaceutical or vaccine processing, storage or vending establishments including restaurants and grocery stores may be washed to the extent necessary for sanitary purposes. These areas may also include:

- Trash and dumpster areas
 - Areas around fuel pumps
 - Store front cleaning of areas with accumulated bird droppings, feathers and debris
 - Localized spot cleaning of parking areas to remove oil, grease buildup that may pose a health and safety issue.
- Discourage hosing of buildings or other structures for purposes other than fire protection or surface preparation prior to painting.
 - Prohibit using water in such a manner as to allow runoff or other waste, including:
 - failure to repair a controllable leak, including a broken sprinkler head, a leaking valve, leaking or broken pipes, or a leaking faucet;
 - operating a permanently installed irrigation system with: (a) a broken head; (b) a head that is out of adjustment and the arc of the spray head is over a street or parking lot; or (c) a head that is misting because of high water pressure; or
 - during irrigation, allowing water to (a) to run off a property and form a stream of water in a street for a distance of 50 feet or greater; or (b) to pond in a street or parking lot to a depth greater than one-quarter of an inch.
 - Allowing or causing an irrigation system or other lawn watering device to operate during any form of precipitation or when temperatures are at or below 32 degrees Fahrenheit.
 - Prohibit outdoor watering with sprinklers or irrigation systems between 10 a.m. and 6 p.m.
 - Limit landscape watering with sprinklers or irrigation systems at each service address to a twice per week schedule as outlined below. This includes landscape watering of parks, golf courses, and sports fields. Wholesale customers may use a different watering schedule than the one below as long as it limits each service address to a twice per week schedule; however, use of the same schedule would simplify the messages passed to customers through the news media.
 - Residential addresses ending in an even number (0, 2, 4, 6, or 8) may water on Wednesdays and Saturdays.
 - Residential addresses ending in an odd number (1, 3, 5, 7 or 9) may water on Thursdays and Sundays.
 - All non-residential locations (apartment complexes, businesses, industries, parks, medians, etc.) may water on Tuesdays and Fridays.
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Exceptions:

- Lawns and landscaping may be watered on any day by handheld hose, drip irrigation, a soaker hose or tree bubbler.
 - Water use necessary for the repair of an irrigation system, plumbing line, fountain, etc. in the presence of the person making the repair.
 - Outdoor watering at service addresses with large multi-station irrigation systems may take place in accordance with a variance granted by the Director, if the Director determines that a property cannot be completely irrigated with an average of three-quarters of an inch of water in a single day, and that the property should be divided into sections to be irrigated on different days. If approved, no station will be watered more than twice per week.
 - Establishing new turf is discouraged. If hydro mulch, grass sod, or grass seed is installed for the purpose of establishing a new lawn, there are no watering restrictions for the first 30 days while it is being established. After that, the watering restrictions set forth in this stage apply. (This does not include over seeding with rye, or seasonal grasses, since turf already exist.)
 - Golf courses may water greens and tee boxes as necessary, however watering must be done before 10 a.m. and after 6 p.m. They are encouraged to reduce water use by five percent.
 - Skinned areas of sports fields may be watered as needed for dust control.
 - Watering of athletic fields (fields only, does not include surrounding landscaped areas) used for organized sports practice, competition, or exhibition events may occur as necessary to protect the health and safety of the players, staff, or officials present for athletic events. Encouraged to reduce water use by five percent.
 - Public areas that are open to the public at-large and have a high –impact from frequent use may be allowed additional watering, with a variance granted by the Director, if it is deemed to be beneficial to serve and protect the community amenity. Examples may include but are not limited to: outdoor amphitheaters, demonstration gardens, public art exhibitions, outdoor learning areas, arboretums, etc.
- All users are encouraged to reduce the frequency of draining and refilling swimming pools.
 - All users are encouraged to use native and adapted drought tolerant plants in landscaping.
 - Washing of any motor vehicle, motorbike, boat, trailer, airplane, or other vehicle shall be limited to the use of a hand-held bucket or a hand-held hose equipped with a positive-pressure shutoff nozzle for quick rinses. Vehicle washing may be done at
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any time on the premises of a commercial car wash or commercial service station. Companies with an automated on-site vehicle washing facility may wash its vehicles at any time. Further, such washing may be exempt from these requirements if the health, safety, and welfare of the public are contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables.

- Discourage the filling, draining, or refilling of swimming pools, wading pools, hot tubs and Jacuzzi type pools except to maintain adequate water levels for structural integrity, proper operation and maintenance, and/or to alleviate an issue that poses a public safety risk.

In addition to the actions listed above, the City of Richland Hills will:

- Review conditions and problems that caused Stage 1. Take corrective action.
- Increase public education efforts on ways to reduce water use.
- Increase enforcement efforts.
- Intensify leak detection and repair efforts.
- Audit all city and local government irrigation systems to ensure proper condition, settings, and operation.
- Identify and encourage voluntary reduction measures by high-volume water users through water use audits.
- Reduce non-essential water use. As used herein, non-essential water uses are those that do not have any health or safety impact and are not needed to meet the core function of the agency.

Commercial or Industrial

- All actions listed above for all water users apply to commercial and industrial users.
 - Stock at commercial plant nurseries is exempt from Stage 1 watering restrictions.
 - Hotels, restaurants, and bars are encouraged to serve drinking water to patrons on an “on demand” basis.
 - Hotels are encouraged to implement laundry conservation measures by encouraging patrons to reuse linens and towels.
 - Car wash facilities must keep equipment in good working order, which should include regular inspections to be sure there are no leaks, broken or misdirected nozzles, and that all equipment is operating efficiently.
 - All commercial and industrial customers are encouraged to audit irrigation systems
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Stage 2 – Water Warning

Triggering Conditions for Stage 2

- Water demand reaches or exceeds 95% or reliable delivery capacity for three consecutive days. The delivery capacity could be city wide or in a specified portion of the system.
- Contamination of Richland Hills' water supply system.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Fort Worth initiated Stage 2 – Water warning for one or more of the following reasons:
 - Fort Worth's water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system.
 - Contamination of the Fort Worth water supply source(s) or water supply system.
 - Demand for all or part of the Fort Worth delivery system equals or exceeds delivery capacity because delivery capacity is inadequate.
 - Fort Worth's water supply system is unable to deliver water due to the failure or damage of major water system components.
- The TRWD initiated Stage 2 – Water Warning for one or more of the following reasons:
 - Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage.
 - Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - Water demand is projected to approach the limit of TRWD's permitted supply.
 - TRWD's supply source becomes contaminated.
 - TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components.
 - The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 2 drought.

Terminating Conditions for Stage 2

Richland Hills may terminate Stage 2 when City of Fort Worth or TRWD terminates Stage 2 or when the circumstances triggering Stage 2 no longer exist.

Goal for Use Reduction for Stage 2

The goal for water use reduction under Stage 2 – Water Warning is to decrease use by 10 percent. If circumstances warrant or if required by TRWD and/or Fort Worth, the Director can set a goal for greater water use reduction.

Actions Available for Stage 2

The Director may order the implementation of any of the actions listed below, as deemed necessary. The Director must implement any action(s) required by the TRWD or Fort Worth

- Continue actions under Stage 1.
- Initiate engineering studies to evaluate water supply alternatives should conditions worsen.

All Water Users

- Limit landscape watering with sprinklers or irrigation systems to a once per week schedule at each service address as determined by the Director. This includes landscape watering at parks, golf courses, and sports fields.

Exceptions:

- Lawns and landscaping may be watered on any day, at any time, by handheld hose, drip irrigation, a soaker hose or tree bubbler.
 - Outdoor watering at service addresses with large multi-station irrigation systems may take place in accordance with a variance granted by the director, if the director determines that a property cannot be completely irrigated with an average of three-quarters of an inch of water in a single day, and that the property should be divided into sections to be irrigated on different days. If approved, no station will be watered more than once per week.
 - Golf courses may water greens and tee boxes as needed to keep them alive, however watering must be done before 10 a.m. and after 6 p.m. Fairways are restricted to once per week watering as outlined above. Golf course rough cannot be watered.
 - Watering of athletic fields (fields only, does not include surrounding landscaped areas) used for organized sports practice, competition, or exhibition events may occur as necessary to protect the health and safety of the players, staff, or officials present for athletic events. Encouraged to reduce water use by 10%.
 - All users are encouraged to wait until the current drought or emergency situation has passed before establishing new landscaping and turf. Variances granted for establishing new turf grass or landscaping will be for a maximum
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of 30 days from the date of approval. After that, the watering restrictions set forth in this stage apply. (This does not include over seeding with rye since turf already exists.)

- Discourage the operation of ornamental fountains or ponds that use potable water except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.
- Discourage the filling, draining, or refilling of swimming pools, wading pools, hot tubs and Jacuzzi type pools except to maintain adequate water levels for structural integrity, proper operation and maintenance, and/or to alleviate an issue that poses a public safety risk.
- Encourage the use of covers for all types of pools, hot tubs, and Jacuzzi type pools when not in use.

Mandated City Actions for Stage 2

- Review conditions or problems that caused Stage 2. Take corrective action.
- Increase frequency of media releases on water supply conditions.
- Further accelerate public education efforts on ways to reduce water use.
- Eliminate non-essential water use. As used herein, non-essential water uses are those that do not have any health or safety impact and are not needed to meet the core function of the agency.
- Prohibit wet street sweeping.

Commercial or Industrial

- All actions listed above for all water users apply to commercial and industrial users.
 - Use of water from fire hydrants for any purpose other than firefighting related activities or other activities necessary to maintain public health, safety and welfare requires a variance issued by the Director. Fire hydrant use may be limited to only designated hydrants.
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Stage 3 – Emergency Water Use

Triggering Conditions for Stage 3

- Water demand has reaches or exceeds 98% of reliable delivery capacity for one day. The delivery capacity could be city wide or in a specified portion of the system.
 - Contamination of the water supply source(s) or water supply system.
 - Demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - Water supply system is unable to deliver water due to the failure or damage of major water system components.
 - Fort Worth has initiated Stage 3 – Emergency Water Use, which may also be initiated by one or more of the following:
 - Fort Worth’s water demand has reaches or exceeds 98% of reliable delivery capacity for one day. The delivery capacity could be citywide or in a specified portion of the system.
 - Contamination of the Fort Worth water supply source(s) or water supply system.
 - Demand for all or part of the Fort Worth delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - Fort Worth’s water supply system is unable to deliver water due to the failure or damage of major water system components.
 - TRWD has initiated Stage 3 – Emergency Water Use, which may also be initiated by one or more of the following:
 - Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage.
 - Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - Water demand is projected to approach or exceed the limit of TRWD’s permitted supply.
 - TRWD’s supply source becomes contaminated.
 - TRWD’s water supply system is unable to deliver water due to the failure or damage of major water system components.
 - The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 3 drought.
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Terminating Conditions for Stage 3

Stage 3 may terminate when TRWD and/or Fort Worth terminates its Stage 3 condition or when the circumstances that caused the initiation of Stage 3 no longer prevail.

Goals for Use Reduction for Stage 3

The goal for water use reduction under Stage 3, Emergency Water Use, is to decrease use by 20 percent. If circumstances warrant or if required by TRWD and/or Fort Worth, the Director can set a goal for a greater water use reduction.

Actions Available for Stage 3

The City of Richland Hills must implement any action(s) required by the City of Fort Worth or TRWD.

- Continue or initiate any actions available under Stages 1 and 2.

All Water Users

- Prohibit landscape watering, including at parks, golf courses, and sports fields.

Exceptions:

- Watering with hand-held hose, soaker hose or drip irrigation system may occur any day and any time. (The intent of this measure is to allow for the protection of structural foundations, trees, and other high value landscape materials).
 - Golf course greens only may be watered by hand-held hose as needed to keep them alive. Watering of athletic fields (fields only, does not include surrounding landscaped areas) used for organized sports practice, competition, or exhibition events may occur as necessary to protect the health and safety of the players, staff, or officials present for athletic events may be allowed to water by variance. A water management plan must be submitted to the Director detailing how each area will comply with stage 3 drought measures.
 - Prohibit establishment of new landscaping. Variances may be granted for those landscape projects started prior to the initiation of stage 3 drought restrictions.
 - Vehicle washing restricted to commercial car wash, commercial service station or a private on-site vehicle washing facility and can only be done as necessary for health, sanitation, or safety reasons, including but not limited to the washing of garbage trucks and vehicles used to transport food and other perishables. All other vehicle washing is prohibited.
 - Prohibit the operation of ornamental fountains or ponds that use potable water except where necessary to support aquatic life.
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- Prohibit the draining, filling, or refilling of swimming pools, wading pools and Jacuzzi type pools. Existing private and public pools may add water to maintain pool levels; however they may not be refilled using automatic fill valves.
- Prohibit hosing of buildings or other structures for purposes other than fire protection or surface preparation prior to painting with high-pressure equipment. Must be performed by a professional power washing service utilizing high efficiency equipment and a vacuum recovery system where possible.

Mandated City for Stage 3

- Continue or initiate any actions available under Stages 1 and 2.
- Review conditions or problems that caused Stage 3. Take corrective action.
- Implement viable alternative water supply strategies.
- Increase frequency of media releases explaining emergency situation.
- Reduce city and local government water use to maximum extent possible.
- Prohibit the permitting of new swimming pools, Jacuzzi type pools, spas, ornamental ponds and fountain construction. Pools already permitted and under construction may be completely filled with water.
- If City of Fort Worth or TRWD has imposed a reduction in water available to customers, impose the same percent reduction on wholesale customers.

Commercial or Industrial

- All actions listed above for all water users apply to commercial and industrial users.
 - Hotels, restaurants, and bars required to serve drinking water to patrons on an “on demand” basis.
 - Hotels are required to implement laundry conservation measures by encouraging patrons to reuse linens and towels.
 - Stock at commercial plant nursery may be watered only with a hand-held hose, hand-held watering can, or drip irrigation system.
 - Commercial and industrial water users required to reduce water use by a set percentage determined by the Director.
 - Use of water from hydrants for any purpose other than firefighting related activities or other activities necessary to maintain public health, safety and welfare requires a special permit issued by the Director. Fire hydrant use may be limited to only designated hydrants.
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4.5 Procedures for Granting Variances to the Plan

The Director may grant temporary variances for existing water uses otherwise prohibited under this drought contingency plan if one or more of the following conditions are met:

- Failure to grant such a variance would cause an emergency condition adversely affecting health, sanitation, or fire safety for the public or the person requesting the variance.
- Compliance with this plan cannot be accomplished due to technical or other limitations.
- Alternative methods that achieve the same level of reduction in water use can be implemented.

Variances shall be granted or denied at the discretion of the Director. All petitions for variances should be in writing, using the forms provided, and must 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
- Detailed schedule of irrigation that shows a reduction in use over the 30 day period for new lawns and landscapes. Schedule should be designed so that at the end of the 30 day period, lawn and landscaped areas can adhere to the twice per week schedule defined in Stage 1.
- Alternative measures that will be taken to reduce water use
- Other pertinent information.

4.6 Procedures for Enforcing Mandatory Water Use Measures

Mandatory water use restrictions may be imposed in Stages 1, 2, and 3. These mandatory water use restrictions will be enforced by warnings and penalties as follows:

- On the first violation, customers will be given a written warning that they have violated the mandatory water use restriction.
 - On the second and subsequent violations, citations may be issued to customers, with minimum and maximum fines established by ordinance.
 - After three violations have occurred, the utility may cut off water service to the customer.
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4.7 Update of Drought Contingency Plan

The City of Richland Hills reviewed this drought contingency plan in 2014 and will review at least every five years thereafter. The plan will be updated as appropriate based on new or updated information.

4.8 Coordination with the Other Entities

The city of Richland Hills will coordinate with the regional planning groups to ensure consistency with the appropriate approved regional water plans.

4.9 Drought Contingency Plan Definitions

Term	Definition
Aesthetic water use	Water use for ornamental or decorative features such as fountains, reflecting pools and water gardens.
Alternative Water Source	Means water produced by a source other than a water treatment plan and in not considered potable. These sources can include, but are not limited to: reclaimed/recycled water, collected rain water, collected grey water, private well water.
Athletic field	Means a sports playing field, the essential feature of which is turf grass, used primarily for organized sports for schools, professional sports, or sanctioned league play.
Automatic Irrigation System	Means a site specific system of delivering water generally for landscaping via a system of pipes or other conduits installed below ground that automatically cycles water use through water emitters to a preset program, whether on a designated timer or through manual operation.
Aquatic Life	Means a vertebrate organism dependent upon an aquatic environment to sustain its life.
Conservation	Those practices, techniques, and technologies that reduce water consumption; reduce the loss or waste of water; improve the efficiency in water use; and increase the recycling and reuse of water so that supply is conserved and made available for other or future uses.
Customer	Any person, company, or organization using water supplied by TRWD or through an entity supplied by TRWD.
Drip irrigation	An irrigation system (drip, porous pipe, etc.) that applies water at a predetermined controlled low-flow levels directly to the roots of the plant
Drought Contingency Plan	Means a strategy or combination of strategies for temporary supply management and demand management responses to temporary or potentially recurring water supply shortages and other water supply emergencies.

Fountain	An artificially created jet, stream or flow of water, a structure, often decorative, from which a jet, stream or flow of water issues.
Golf Course	Means an irrigated and landscaped playing area made up of greens, tees, fairways, roughs and related areas used for the playing of golf.
Hand-held hose	Means a hose physically held by one person, fitted with a manual or automatic shutoff nozzle.
Hand Watering	Means the application of water for irrigation purposes through a hand-held watering hose, watering can, or bucket.
Hose-end Sprinkler	Means a device through which water flows from a hose to a sprinkler to water any lawn or landscape.
Hosing	Means to spray, water, or wash with a water hose.
Industrial water use	Means the use of water for or in connection with commercial or industrial activities, including but not limited to, manufacturing, bottling, brewing, food processing, scientific research and technology, recycling, production of concrete, asphalt, and cement, commercial uses of water for tourism, entertainment, and hotel or motel lodging, generation of power other than hydroelectric and other business activities.
Irrigation system	Means a system of fixed pipes and water emitters that apply water to landscape plants or turfgrass, including, but not limited to, in-ground and permanent irrigation systems.
Lake, lagoon or pond	Means an artificially created body of fresh or salt water.

Landscape irrigation use	Water used for the irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks, right-of-ways, medians and entry ways.
“New landscape” means	<ul style="list-style-type: none"> a. Installed during construction of a new house, multi-family dwelling, or commercial building; b. Installed as part of a governmental entity’s capital improvement project; or c. Alters more than one-half the area of an existing landscape.
Non-essential water use	<p>Water uses that are not required for the protection of public health, safety and welfare, such as:</p> <ul style="list-style-type: none"> a. Irrigating landscape areas, including parks, athletic fields, and golf courses, except as otherwise provided under this plan; b. Washing any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas; except to alleviate a public health and safety issue; c. Washing any automobile, motorbike, boat (and/or trailer), airplane, or other vehicle except where required by law for safety and sanitary purposes. d. Washing buildings or structures for purposes other than immediate fire protection, or other uses provided under this plan; e. Filling, refilling, or adding to any swimming pools or Jacuzzi-type pools, except to maintain safe operating levels; f. Filling or operation of a fountain or pond for aesthetic or scenic purposes except when necessary to support aquatic life; g. Failure to repair a controllable leak within a reasonable time period after being directed to do so by formal notice; and h. Drawing from hydrants for construction purposes or any other purpose other than firefighting or protection of public drinking water supplies.
Park	Means a non-residential or multifamily tract of land, other than a golf course, maintained by a city, private organization, or individual, as a place of beauty or public recreation and available for use to the general public.
Power/Pressure washer	Means a machine that uses water or a water-based product applied at high pressure to clean impervious surfaces.
Pressure washer (High-Efficiency)	Means a machine that uses water or a water-based product applied at 1500 pounds per square inch (PSI) or greater.
Reclaimed Water	Municipal wastewater effluent that is given additional treatment and distributed for reuse in certain applications. Also referred to as recycled water.

Soaker hose	Means a flexible hose that is designed to slowly emit water across the entire length and connect directly to a flexible hose or spigot. Does not include hose that by design or use sends a fine spray in the air. It is not considered drip irrigation.
Splash Pad/Spray Park	Means an area for water play that has no standing water. Typically, they utilize various spray nozzles which spray water in multiple directions.
Swimming pool	Means any structure, basin, chamber, or tank including hot tubs, containing an artificial body of water for swimming, diving, or recreational bathing, and having a depth of two (2) feet or more at any point.
Vegetable garden	Means any noncommercial vegetable garden planted primarily for household use; "noncommercial" includes incidental direct selling of produce from such a vegetable garden to the public.
Well Water	Means water that has been, or is, obtained from the ground by digging, boring, or drilling to access an underground aquifer.

