

# Memorandum



CITY OF DALLAS

DATE April 18, 2019

TO Honorable Members of the Mobility Solutions, Infrastructure and Sustainability Committee

SUBJECT **Water Conservation Plan and Drought Contingency Plan Updates**

On Monday, April 22, 2019, the Mobility Solutions, Infrastructure and Sustainability Committee will be briefed on state required updates to the water conservation plan and drought contingency plan. The briefing materials are attached for your review.

Please contact Terry Lowery, Director of Dallas Water Utilities, and James McGuire, Director of the Office of Environmental Quality and Sustainability if you have any questions or concerns.

A handwritten signature in blue ink, appearing to read 'Majed Al-Ghafry'.

Majed Al-Ghafry, P.E.  
Assistant City Manager

[Attachment]

c: Honorable Mayor and Members of the City Council  
T.C. Broadnax, City Manager  
Chris Caso, City Attorney (Interim)  
Billerae Johnson, City Secretary  
Preston Robinson, Administrative Judge  
Kimberly Bizer Tolbert, Chief of Staff to the City Manager  
Jon Fortune, Assistant City Manager

Joey Zapata, Assistant City Manager  
Nadia Chandler Hardy, Assistant City Manager and Chief Resilience Officer  
Michael Mendoza, Chief of Economic Development and Neighborhood Services  
M. Elizabeth Reich, Chief Financial Officer  
Laila Alequresh, Chief Innovation Officer  
Directors and Assistant Directors

# **Water Conservation Plan and Drought Contingency Plan Updates**

**Mobility Solutions,  
Infrastructure and Sustainability**

**April 22, 2019**

**Terry S. Lowery, Director  
Dallas Water Utilities**

**James McGuire, Director  
Office of Environmental Quality & Sustainability**



# Overview

- Purpose
- Background
  - State Requirement
- Water Conservation Plan
- Drought Contingency Plan
- Next Steps and Summary

# Purpose

- Provide background on State required Water Conservation and Drought Contingency Plans
- Seek Council Committee recommendation of support for adoption of:
  - City of Dallas 2019 Water Conservation Plan
  - City of Dallas 2019 Drought Contingency Plan

# State Requirements

- The State of Texas requires Dallas to have Council adopted water conservation and drought contingency plans and to update the plans every 5 years
- Current plans adopted by City Council on February 26, 2014
- Next updates are due to the State by May 1, 2019

# Comparison of Water Conservation and Drought Measures

- Conservation measures are used to achieve more efficient use of water resources.
  - Water Wise landscaping
  - Low-income plumbing repair
- Drought measures are restrictions to ensure that water is available to meet public health, welfare and safety needs during shortage.
  - Additional lawn watering restrictions
  - Limit operation of ornamental fountains



# Water Conservation Plan and Drought Contingency Plan Development Process

- Customer notification process
  - Notice published in newspaper
  - Social media posting
  - Draft plans posted on website for review and comment
  - Draft plans provided to wholesale customer cities
- Comment period February 1 – March 5 2019
- Public Meeting held February 11, 2019

# City of Dallas Water Conservation Program



SAVE WATER  
NOTHING CAN REPLACE IT™

**IT'S ALL IN A DROP.**

AND EVERY DROP COUNTS. OUR ENVIRONMENT.  
OUR ECONOMY. OUR QUALITY OF LIFE.  
MY FUTURE. SO PLEASE SAVE SOME FOR ME.

WWW.SAVEDALLASWATER.COM

# Brief History of Dallas Water Conservation

- **1980- 2000:** Primarily education and outreach focused
- **2001-2012:** Establishment of Water Conservation Ordinance and Division; Time of Day watering & Twice Weekly watering restrictions adopted; Incentive-based programs
- **2013-2017:** 2014 Water Conservation State Plan; 2016 Water Conservation Work Plan adopted
- **2018- present:** Water Conservation merges with Environmental Quality & Sustainability; 2019 Water Conservation State Plan updated

# State of Texas Water Conservation Plan Requirements

- DWU must comply with Texas Commission on Environmental Quality (TCEQ) requirements
  - Water Conservation Plan (WCP)
  - Water Conservation Implementation Report (WCIR)
- Texas Administrative Code, Title 30, Chapter 288

# Measuring Water Conservation Success



- GPCD = gallons per capita daily
- Useful indicator of water usage per person per day
  - Baseline that can be tracked and compared over time and geographically
  - Industry standard and best management practice
- Conceptually easy to understand and compare
- Good metric for tracking conservation goals

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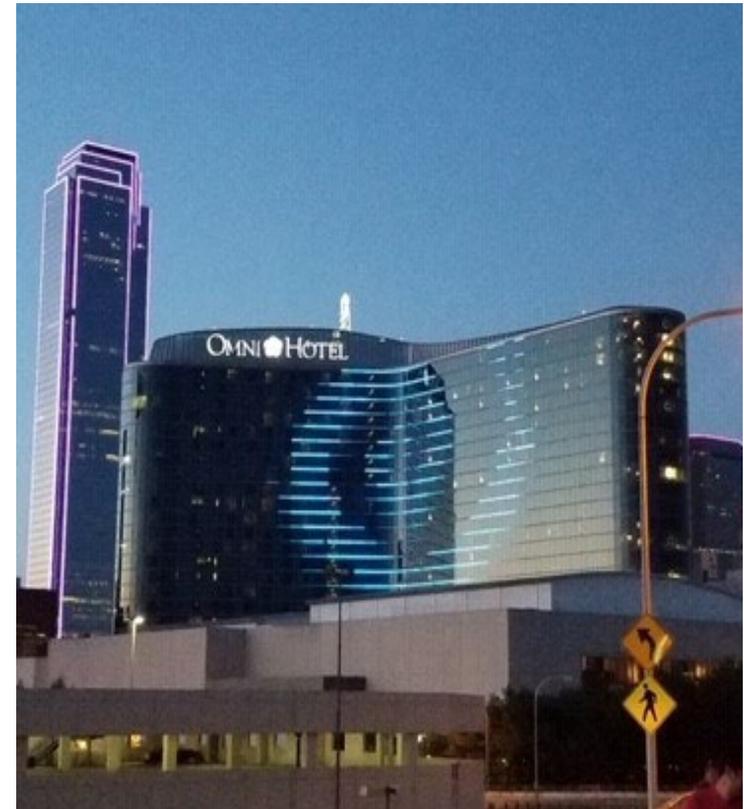
# Water Conservation Program Accomplishments

- Estimated 316 Billion Gallons saved since FY2001
- Extended Dallas' water supply by over two years
- Delayed the need for expensive infrastructure improvements
- Projected water usage in FY2018 without conservation measures approximately 295 GPCD
  - Compared to actual 185 GPCD for FY2018 with conservation measures in place
- Water Conservation Plan goal of 1% annual reduction in GPCD
- Conservation and reuse are projected to meet 26% of future water supply demand

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# 2019 Water Conservation Plan

- Plan includes maximum twice weekly watering and a diverse menu of incentive-based programs along with the following additions:
  - *Example: Texas Instruments retrofits across two properties, resulting in water savings of 13 million gallons annually and a rebate of \$94,000*
- Revamped guidelines for the Industrial, Commercial, Institutional (ICI) Rebate Program
- Revamped SaveDallasWater.com website and proactive social media presence



**Dallas Omni Hotel with SaveDallasWater logo during National Drinking Water Week 2018**

# 2019 Water Conservation Plan

- Water Conservation Plan goals and targets revised to match State reporting period through 2024
- 2019 Plan assumes the same reduction rate goals as 2010 Plan
  - 4% to 2019 and 4.5% through 2024
- Targeted water savings are based on the combined effects of all program elements
- Once regarded as a water hog, City of Dallas Water Conservation continues to emerge as a leader in the state and across the country
  - In FY19 alone, invitations to present on Dallas' efforts at national conferences (Water Smart Innovations, 5<sup>th</sup> Annual Urban Water Demand Roundtable, 2019 Water Resources Conference)

# Drought Contingency Plan



# Drought Contingency Plan Requirements



- 30 TAC 288 Subchapter B – Drought Contingency Plan
  - Update Plan every five (5) years
  - Specific criteria for drought response stages
  - Emergency response stage measures for:
    - Drought
    - Water production or distribution system limitations
    - Supply source contamination
    - System outage due to the failure or damage of major water system components
  - Specific, quantified targets for water use reductions



# Dallas' 2019 Drought Contingency Plan

- Plan based on a simulation of the drought of record (1950 to 1957)
- Plan developed to provide adequate water through such a drought
  - Dallas' lakes during a drought equivalent to the drought of record
    - After 3.5 years into a drought, Dallas' lakes should be 50 percent full
- Triggers for each Stage set for:
  - Raw water supply constraints
  - Treated water capacity constraints
  - Natural or man-made contamination
- Enforcement under existing plan is by Code Compliance with criminal penalties administered through the municipal court system

# 2019 Drought Plan Triggers and Responses

Stage	Triggers	Response	Reduction Goal
1	<ul style="list-style-type: none"> <li>• Supply drops below 65% (35% depleted)</li> <li>• Demand at or above 85% capacity for 4 consecutive days</li> <li>• Equipment or system failure</li> <li>• Contamination of water source</li> </ul>	<ul style="list-style-type: none"> <li>• Max 2 x week watering Schedule</li> <li>• Recreational water use resulting in no run-off</li> <li>• Other conservation measures encouraged</li> </ul>	5%
2	<ul style="list-style-type: none"> <li>• Supply drops below 50% (50% depleted)</li> <li>• Demand at or above 90% capacity for 3 consecutive days</li> <li>• Equipment or system failure</li> <li>• Contamination of water source</li> </ul>	<ul style="list-style-type: none"> <li>• Maximum 1x week watering schedule</li> <li>• Vehicle wash require auto-shutoff nozzle</li> <li>• 25% surcharge for use over 15,000 gallons</li> </ul>	15%
3	<ul style="list-style-type: none"> <li>• Supply drops below 35% (65% depleted)</li> <li>• Demand at or above 95% capacity for 2 consecutive days</li> <li>• Equipment or system failure</li> <li>• Contamination of water source</li> </ul>	<ul style="list-style-type: none"> <li>• No landscape watering, limited watering for trees and foundations</li> <li>• No new landscapes or pool permits</li> <li>• No vehicle washing or impervious surface cleaning, except for health/safety</li> <li>• 50% surcharge for use over 15,000 gallons</li> </ul>	20%



# Next Steps and Summary

- Request Committee recommendation on April 22, 2019 to approve April 24, 2019 agenda items for State required plans:
  - Water Conservation Plan
  - Drought Contingency Plan
- Submit both the Water Conservation Plan and Drought Contingency Plan to Texas Commission on Environmental Quality no later than May 1, 2019

# **Water Conservation Plan and Drought Contingency Plan Updates**

**Mobility Solutions,  
Infrastructure and Sustainability**

**April 22, 2019**

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Dallas Water Utilities**

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# Appendix



# Water Conservation Program Chronology and Trends



- Education and outreach only

- Ordinance passed prohibiting landscape water waste

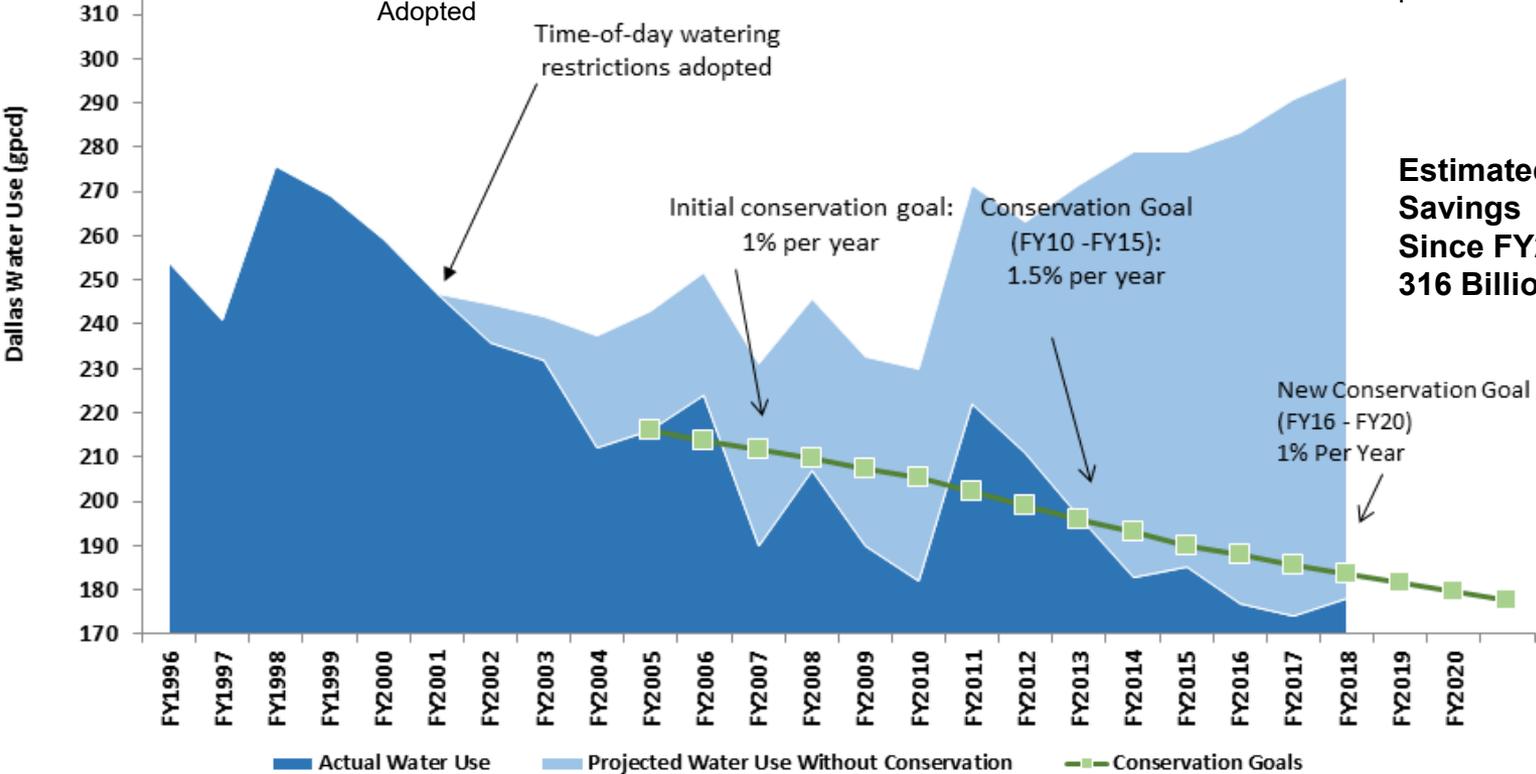
- Water Conservation Five-Year Strategic Plan Adopted

- Time-of-Day watering restrictions expanded

- Five-Year Strategic Plan Updated

- Landscape irrigation limited to a maximum of twice weekly

- Five-Year Work Plan Updated



**Estimated Water Savings Since FY2001**  
**316 Billion Gallons**

