M E M O R A N D U M

TO: Mayor and Council Members

THROUGH: Robert Goode, P.E., Assistant City Manager

FROM: Shay Ralls Roalson, P.E., Director, Austin Water

DATE: November 5, 2024

SUBJECT: **Water Forward – Austin's Integrated Water Resource Plan Update**

Austin Water is pleased to share the 2024 update to Water Forward--Austin's Integrated Water Resource Plan (Water Forward Plan), which supports a sustainable and equitable water future for Austin's next 100 years. Revisions to Austin's Water Conservation Plan and Drought Contingency Plan have also been completed and complement the strategies in the Water Forward Plan. These plans are slated for City Council consideration on November 21, 2024.

BACKGROUND

Austin's first Water Forward Plan was unanimously adopted by City Council in November 2018. It established the community's first integrated water resource plan, and Austin Water has worked diligently to implement the plan's strategies since adoption. A summary of key milestones in the implementation of Water Forward 2018 is attached.

WATER FORWARD 2024 UPDATES

As part of our adaptive management approach, Austin Water began updating the Water Forward plan in late 2021. The updated plan is the culmination of detailed technical analysis along with extensive community input. The plan development process was led by Austin Water with support from the Council-appointed Integrated Water Resource Planning Community Task Force (known as the Water Forward Task Force). In addition, Austin Water convened a Climate Technical Advisory Group to provide subject matter expertise throughout the plan update and obtained technical support from the University of Texas at Austin on developing climate projections. This effort also incorporated a Community Ambassador Cohort to provide broader participation of historically underrepresented communities in the plan's Equity and Affordability Road Map. A listing of advisory bodies and consultants who contributed to Water Forward 2024 Plan development is attached.

Water Forward 2024 builds on the 2018 plan and provides a roadmap to a sustainable, resilient, equitable, and affordable water future for Austin for the next 100 years. Most of the strategies reflected in the Water Forward 2018 plan continue as key strategies in the Water Forward 2024 plan. In the future, the lower Colorado River and Highland Lakes system that provides Austin's drinking water supply will

likely experience impacts from regional growth, droughts, and climate change. Water Forward includes a 50-year portfolio of conservation, reuse, and supply strategies to meet these challenges. The plan also includes a 100-year adaptive management framework to respond to changing conditions.

The Water Forward 2024 plan objectives focus on water reliability, increasing equity, protecting the environment, being cost-effective, and reducing risks in implementing strategies. To achieve these objectives, Water Forward 2024 includes a diverse set of water conservation, non-potable reuse, and potable water supply strategies. A summary of the strategies in Water Forward 2024 is attached.

WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN UPDATES

The Water Conservation Plan (WCP) and Drought Contingency Plan (DCP) are required by the Texas Commission on Environmental Quality (TCEQ) and must be updated every five years. In May 2024, City Council adopted Austin Water's proposed updates to the WCP and DCP. At that time, Austin Water committed to further review of the plans, in collaboration with the Water Forward Task Force. Austin Water has completed the review of the plans, resulting in additional water conservation measures and drought restrictions. A summary of the revisions to the WCP and DCP is attached.

ENGAGEMENT

Austin Water has facilitated extensive community engagement to develop Water Forward as a plan that is inclusive and reflects community values. This engagement has included numerous public meetings, such as workshops, Task Force meetings, and briefings to the Water & Wastewater Commission. Commission and Task Force recommendations to City Council are as follows:

- November 4, 2024: Water Forward Task Force voted 9-0 to recommend Council adoption of the Water Forward 2024 plan. Water Forward Task Force voted 8-0 to recommend Council adoption of the revised Drought Contingency Plan. Water Forward Task Force voted 7 in favor and 1 opposed to recommend Council adoption of the revised Water Conservation Plan. (Completed)
- November 13, 2024: Water & Wastewater Commission will consider action items to recommend Council approval of the plans. (Pending)
- November 19, 2024: Resource Management Commission will consider action items to recommend Council approval of the Water Conservation and Drought Contingency plans. (Pending)

COUNCIL BRIEFINGS & ACTIONS

Council briefings related to Water Forward 2018 implementation and development of Water Forward 2024 are as follows:

- November 2019 - May 2024: 14 staff briefings to Austin Water Oversight Committee (Completed)
- October 22, 2024: Staff briefing at City Council Work Session (Completed)
- November 12, 2024: Staff briefing to Austin Water Oversight Committee (Pending)

On November 21, 2024, Austin Water (AW) is requesting consideration of the following items:

- Adopt Water Forward 2024, Austin's Integrated Water Resource Plan
- Adopt Water Conservation Plan revisions
- Adopt Drought Contingency Plan revisions

- Amend City Code Chapter 6-4 relating to water use management, to codify necessary changes to enact the updated 2024 Water Conservation Plan and Drought Contingency Plan

If you have any questions, please contact Shay Ralls Roalson at 512-972-0108 or shay.roalson@austintexas.gov.

cc: T.C. Broadnax, City Manager
CMO Executive Team

Attachments: Water Forward 2018 Implementation Milestones
Summary of Water Forward 2024 Strategies
Summary of Revisions to Water Conservation Plan and Drought Contingency Plan
Contributors to Water Forward 2024 Plan Development

ATTACHMENT 1
WATER FORWARD 2018 IMPLEMENTATION MILESTONES

Following Council approval of the 2018 Water Forward plan, Austin Water began implementing near term plan strategies. The Water Forward Task Force continued to meet regularly to participate in the implementation phase.

Key implementation milestones since 2018 include:

- Incorporation of Water Forward 2018 strategies into the 2021 Region K Water Plan, making these projects eligible for low-interest State loans
- Council adoption of an onsite water reuse regulatory framework and pilot incentives
- Council adoption of code requiring water use benchmarking applications with all new site plan submittals
- Completion of the OSCAR and CLARA onsite reuse pilot project at the City's Permitting and Development Center
- Council adoption of the GoPurple program to increase use of onsite water reuse and centralized reclaimed water through regulatory requirements, cost-sharing, grants, and other incentives
- Replacement of all 250,000 analog meters in the City with digital meters as part of the My ATX Water Advanced Metering Infrastructure (AMI) project (currently 98% complete)
- Development of an Aquifer Storage and Recovery (ASR) desktop analysis to identify favorable areas for an ASR pilot project
- Initiation of emergency Indirect Potable Reuse planning and permitting activities
- Completion of a third-party evaluation of Austin Water's water loss program
- Development of proposed landscape transformation code changes for new single family residential homes
- Water Conservation
    - Launched a mandatory cooling tower water efficiency program, requiring most cooling towers to submit an annual water-efficiency inspection.
    - Updated progressive penalties for water waste that are dependent upon the number of violations, drought stage, and historical water use.
    - Increased distribution of household water-efficient materials by 700% through the use of online forms and direct mail delivery.

Austin Water celebrates these achievements, and we recognize the need to do more, as well as to proactively adjust strategies in response to lessons learned.

ATTACHMENT 2
SUMMARY OF WATER FORWARD 2024 STRATEGIES

The Water Forward 2024 plan objectives include ensuring water reliability, increasing equity, protecting the environment, being cost-effective, and reducing risks in implementing strategies. To achieve these objectives, Water Forward 2024 includes a diverse set of water conservation, non-potable reuse, and potable water supply strategies intended to stretch our current Colorado River and Highland Lakes supplies.

Water Conservation

- Decreasing losses from the City's water system by implementing the recommendations of the Water Loss Program Review, Analysis & Optimization as described in the memo issued to Mayor and Council on October 2, 2024
- Expanding customer incentives for more efficient water use
- Using near real-time customer meter data for water budgeting, identifying customer leaks, and encouraging changes in customer behavior
- Supporting the transition to native and efficient landscapes through new ordinances, expanded incentives, and outreach using the My ATX Water portal

Non-Potable Reuse

- Continued expansion of the existing centralized and decentralized reclaimed water ("purple pipe") systems for non-potable demands for uses such as irrigation, cooling, and toilet flushing
- Implementation of existing and expanded onsite water reuse requirements
- Continued implementation of Austin Water's GoPurple program

Potable Water Supply

- Implement aquifer storage and recovery (ASR) to store treated drinking water in an underground aquifer during wet times, making it available during droughts or other emergencies
- Develop Lake Walter E. Long as an off-channel water storage reservoir within a limited operating range (up to five feet fluctuation during drought periods)
- Utilize Indirect Potable Reuse (IPR) during severe drought emergencies, where highly treated reclaimed water would be conveyed to Lady Bird Lake and then treated for potable use
- Evaluate brackish (salty) groundwater desalination as a 2070 strategy, which would involve treating salty groundwater from very deep aquifers to meet drinking water standards

ATTACHMENT 3
SUMMARY OF REVISIONS TO WATER CONSERVATION PLAN AND DROUGHT CONTINGENCY PLAN

The Water Conservation Plan (WCP) and Drought Contingency Plan (DCP) were both adopted by the Austin City Council in May 2024, with the commitment by Austin Water that the plans would be reviewed in collaboration with the Water Forward Task Force over the summer and would be readopted with the Water Forward Plan by the end of 2024. Austin Water staff held numerous meetings with the Task Force, stakeholders, and members of the public to discuss potential amendments to both the WCP and the DCP.

Revisions to the WCP include:

- Additional information regarding increasing Austin Water's efforts to address water system loss and updates reflecting Austin Water's GoPurple program for reclaimed water and onsite water reuse
- Additional and expanded activities with additional water use savings, including:
    - Additional water loss mitigation activities
    - Add restrictions regarding the use of drip irrigation, similar to restrictions on automatic spray and hose-end irrigation
    - Increase commercial and industrial customer engagement through the My ATX Water system
    - Develop a community partnership grant program to expand outreach of water conservation messaging
    - Develop the data and processes necessary for future water use benchmarking and budgeting
- Amended Total Gallons Per Capita Daily (GPCD) and Residential GPCD water use goals from the recently approved 2024 Water Conservation Plan
- A new section "Future Water Use and Loss Activities" with detailed implementation milestones and anticipated water-saving yields for the five-year period covered by this plan, which will form the basis for quarterly and annual reporting on water conservation activities and outcomes

Revision to the DCP include:

- Additional restrictions regarding the use of drip irrigation, similar to restrictions on automatic spray and hose-end irrigation
- Clarification of the Stage 4 Drought irrigation restrictions and the definition of Functional and Nonfunctional Turf

ATTACHMENT 4
CONTRIBUTORS TO WATER FORWARD 2024 PLAN DEVELOPMENT

Water Forward Task Force Members

Jennifer Walker, Chair	District 9, Council Member Zohaib Qadri
Robert Mace, Vice Chair	District 7, Mayor Pro Tem Leslie Pool
Bill Moriarty, P.E.	Mayor Kirk Watson
Hani Michel, P.E.	District 1, Council Member Natasha Harper Madison
Paul DiFiore	District 2, Council Member Vanessa Fuentes
Perry Lorenz	District 3, Council Member Jose Velasquez
Sarah Faust	District 5, Council Member Ryan Alter
Todd Bartee	District 6, Council Member Mackenzie Kelly
Vanessa Puig-Williams	District 8, Council Member Paige Ellis
Madelline Mathis	District 10, Council Member Alison Alter

Ex Officio Members

Kevin Critendon, P.E.	Austin Water
Kathleen Garrett	Austin Energy
Ramesh Swaminathan, P.E.	Watershed Protection Department
Zach Baumer	Office of Sustainability
Donald Hardee	Austin Resource Recovery
Chase Bryan	Housing Department
Daniel Culotta	Office of Innovation

Water Forward Community Ambassadors Group

Parthi Arunasalam	Dianna Holman
Gaby Benitez	Morgan Jackson, P.E.
Daniela de Souza	Maiya Olsen

Water Forward Climate Technical Advisory Group

John Nielsen-Gammon, Ph.D.	Regents Professor of Atmospheric Sciences, Texas A&M University Texas State Climatologist Director of the Southern Regional Climate Center
Julie Vano, Ph.D.	Research Director, Aspen Global Change Institute
Mohammed Mahmoud, Ph.D.	Director of the Climate and Water Program, Middle East Institute
Laurna Kaatz	Former Climate Science, Policy, and Adaptation Program Director, Denver Water

Consultants

Hoffpauir Consulting	**RAND Corporation**	**University of Texas at Austin**
Richard Hoffpauir, P.E., Ph.D.	Robert Lempert, Ph.D.	Sabiha Tabassum, Ph.D.
Plummer Associates Inc.	Michelle Miro, Ph.D.	Zong-Liang Yang, Ph.D.
Brigit Buff, P.E., PMP	Russell Hanson	Paola Passalacqua, Ph.D.
Cody McCann		Geeta Persad, Ph.D.
Qiwen Zhang, P.E.	**Joyce James Consulting**	Dev Niyogi, Ph.D.
Ellen McDonald, P.E., Ph.D.	Joyce James	Wen-Ying Wu, Ph.D.
Brandon Laird, P.E.		