January 21, 2019

California Natural Resources Agency
Department of Water Resources
Strategic Water Planning Branch
Attn: Francisco Guzman
P.O. Box 942836
Sacramento, CA 94236-0001

Via electronic mail to cwpcom@water.ca.gov

Dear Mr. Guzman:

Thank you for this opportunity to provide comments on the California Water Plan Update 2018 (Update 2018). WaterNow Alliance (WaterNow) is a nonprofit forum for local water leaders dedicated to sustainable, affordable, and climate resilient water strategies. While our network is national in scope, we are based in San Francisco and have a particular interest in working with California to advance innovative water solutions locally.

We have reviewed the Update 2018 and are encouraged by the Department of Water Resources’ (DWR) efforts to capture the broad range of challenges facing California water managers, provide bold recommended actions to overcome those challenges, and articulate statewide sustainability goals. To further inform this laudable effort, WaterNow’s comments focus on 2 topics:

(1) Modernizing California’s water infrastructure by encouraging more widespread adoption of decentralized water solutions as reliable, sustainable supplements and/or alternatives to conventional water infrastructure; and

(2) Leveraging local municipal bond proceeds, and other forms of capital, to finance these decentralized water solutions.

Accessing capital to finance deployment of decentralized water infrastructure at scale, in the same way that public water utilities have traditionally financed their conventional infrastructure, has the potential to catalyze California’s objectives to further advance more sustainable management of its water resources.

**Modernizing California’s Water Infrastructure Through Widespread Adoption of Decentralized Solutions Is Vital to California’s Water Future.**

Public water utilities provide drinking water to almost the entire U.S. population and represent 95% of all spending on urban drinking, wastewater, and stormwater water infrastructure...
nationwide.\textsuperscript{1} California is no different. (Update 2018, p. 1-8 (“Local agencies provided approximately 85 percent of all funding for water management in California…”).) As these local agencies manage challenges with ensuring access to clean, safe, and reliable water, and integrate these functions to the maximum extent possible with wastewater and stormwater management, a new generation of decentralized, “distributed” water solutions is coming online with extraordinary but as yet untapped potential to address supply, water quality, and environmental contamination issues.

Decentralized infrastructure is a “conceptual category” rather than a specific technology or legal term. In the context of urban water infrastructure, the term is used to refer to “dispersed facilities that extend beyond the central infrastructure and are located at or near the point of use.”\textsuperscript{2} This concept includes improvements, devices, and technologies installed at diffused properties that enhance a utility system by reducing the need for system expansion or the scale of expansion needed,\textsuperscript{3} such as the “many improvements, practices, and devices that conserve water and retain stormwater onsite.”\textsuperscript{4} These distributed site-level solutions can address a myriad of sustainable water management challenges, including those related to providing drinking water and managing urban stormwater and wastewater, often more cheaply and with less environmental impact than centralized strategies. They can also often serve more than one of these purposes simultaneously.\textsuperscript{5} For example, Moulton Niguel Water District in Orange County implemented a turf replacement program that accounted for 25 percent of all turf removed in Orange County, and developed an innovative demand forecasting tool that helped to avoid the need for additional centralized infrastructure saving the agency approximately $20 million.\textsuperscript{6}

\begin{itemize}
\item \textsuperscript{1} Not Everything is Broken, pp. 38, 60, RAND 2017, available at 
\item \textsuperscript{2} Optimizing the Structure and Scale of Urban Water Infrastructure: Integrating Distributed Systems, p. 3, The Johnson Foundation at Wingspread, August 2014, available at 
\item \textsuperscript{3} Bond Financing Distributed Water Systems: How to Make Better Use of Our Most Liquid Market for Financing Water Infrastructure, p. 7, Ceres, 
\item \textsuperscript{4} Bond Financing Distributed Water Systems: How to Make Better Use of Our Most Liquid Market for Financing Water Infrastructure, p. 4, Ceres, 
\item \textsuperscript{5} See, e.g., 5 Ways Cities Are Preparing for a Dry (or Flooded) Future, Natural Resources Defense Council, 
\url{https://www.nrdc.org/stories/5-ways-cities-are-preparing-dry-or-flooded-future}, accessed December 6, 2018; see also Bond Financing Distributed Water Systems: How to Make Better Use of Our Most Liquid Market for Financing Water Infrastructure, pp. 10-11, Ceres, 
\item \textsuperscript{6} OC Register: Moulton Niguel innovation to save money, water and power: October 17, 2017, available at 
\url{https://www.mnwd.com/oc-register-moulton-niguel-water-district/}.
\end{itemize}
The potential for widespread adoption of localized technology and strategies systems to address California’s urban water challenges is significant. The Pacific Institute has estimated that with existing technologies and policies Californians can reduce current urban water use by 3-5 million acre-feet per year. With these savings, California could potentially meet at least a third and up to half of its annual water supply need, given that between 2001 and 2010 the state’s average urban water use was 9.1 million acre-feet per year and demand has remained relatively flat despite population growth. Indeed, the Update 2018 identifies the 2016 Water Action Plan Update and California’s new efficiency legislation adopted in May 2018 as two of the “Featured Companion State Plans” that informed the sustainability goals set out in the Update 2018. (Update 2018, pp. 1-1, 1-2 (citing SB 606 and AB 1668), FCSP-1, FCSP-2.)

Despite the promise of these solutions, public utilities have been slow to invest in localized strategies at large-scale. And scale is the issue. While many utilities have adopted conservation, efficiency, and/or green infrastructure programs, these initiatives sit primarily on the margins, limited to a relatively limited slice of annual utility spending compared with investments in conventional water infrastructure. Investing in decentralized solutions at much higher levels is essential if California is to realize the benefits that can accrue from these solutions in the aggregate. Using these strategies to their full potential, California’s urban water providers can better ensure that communities of all sizes have reliable access to clean, healthy drinking water, manage storm water runoff, and treat contaminants in environmentally sustainable and affordable ways.

As to California’s current water infrastructure, the Update 2018 states, “Much of California’s water-resource infrastructure is reaching the end of its design life” and “costly maintenance and capital improvements have been deferred in some regions and water sectors because of lack of funding or regulatory challenges.” (Update 2018, p. 2-3.) To address these water infrastructure related challenges, among others, DWR sets out six sustainability goals each with their own recommended actions. (See Updated 2018, pp. 3-1 - 3-4.) In particular, “Goal 2 – Strengthen Resiliency and Operational Flexibility of Existing and Future Water Infrastructure” provides that water managers must “make plans to address aging infrastructure and impacts associated with climate change, population growth, ecosystem stressors, and funding constraints.” (Update 2018, p. 3-2.) There is one recommended action—Recommended Action 2.1—under this category:

Continue to build upon recent efforts to evaluate and maintain State-owned and State-regulated water supply infrastructure and State Plan of Flood Control Infrastructure.
Identify and evaluate opportunities to expand surface and groundwater storage capacity

in the state. Increase information sharing and public awareness of flood risk and assist local entities through DWR’s Floodplain Management program. Consider opportunities to assist and support local managers to invest in continued operations, maintenance, and rehabilitation of infrastructure.

(Update 2018, p. 3-2.) DWR’s “what to review” guide indicates that a primary message of the updated plan is “modernizing California’s green and grey infrastructure for water management.” (Update 2018, What to Review.) Recommended Action 2.1, however, appears to be focused solely on conventional infrastructure operated by the State. And there is only one mention of “green infrastructure”—just one type of decentralized solution—in the Update 2018, which is part of DWR’s “what to review” guide not the substance of the plan. DWR’s goal of modernizing the State’s water infrastructure is correct and critical to our water future.

Yet, truly modernizing California’s water infrastructure will require investing in and scaling up adoption of decentralized solutions and technology. Given that DWR’s Update 2018 is the State’s “comprehensive strategic plan for managing and developing water resources sustainably,” expressively identifying and incentivizing localized water infrastructure as a way to bring California’s water infrastructure into the 21st century is crucial to meeting Goal 2 set out in the Update 2018.

We respectfully recommend that Recommended Action 2.1 in the Update 2018 be revised to include the language in red below:

Continue to build upon recent efforts to evaluate and maintain State-owned and State-regulated water supply infrastructure and State Plan of Flood Control Infrastructure. Identify and evaluate opportunities to expand surface and groundwater storage capacity in the state. Increase information sharing and public awareness of flood risk and assist local entities through DWR’s Floodplain Management program. Consider opportunities to assist and support local managers to invest in continued operations, maintenance, and rehabilitation of infrastructure. Encourage and incentivize more widespread adoption of distributed and localized water solutions (e.g., rebates and other financial incentives for business and residential consumers) as reliable, sustainable supplements and/or alternatives to conventional water infrastructure.

The Update 2018 Should Encourage California Public Water Utilities to Access Capital to Finance Decentralized Water Infrastructure As Appropriate.

As the Update 2018 recognizes, urban water utilities and their ratepayers are responsible for the vast majority of the costs of non-agricultural, local water infrastructure (Update 2018, pp. 9).
1-8, 4-4). Municipal bonds are the debt-financing vehicle of choice for many public water utilities. The Update 2018 also emphasizes that ensuring access to clean, safe, reliable, and affordable water must be a priority. (Update 2018, pp. 2-2, 3-2.) WaterNow agrees, and keeping rates affordable is critical to this goal.

It is well documented that localized solutions are often far less expensive than conventional alternatives. Nevertheless, public utility investments in localized solutions—which, for the most part, involve rebates to business and residential consumers—have been limited for various reasons. Recent polling of water utility leaders identified one of these barriers: determining how to pay for these solutions. As others have noted, the opportunity to scale distributed systems requires that utilities be empowered to access capital for these investments in the same way that they access capital for conventional infrastructure.

To this end, as a result of efforts by WaterNow and our partners, in May 2018, the Governmental Accounting Standards Board (GASB) issued new guidance clarifying that public water providers are authorized to access capital to finance localized water programs just as they do for their fixed assets. The new GASB guidance is a game changer for California's local public utilities. If even a tiny percent of the annual capital spending for water infrastructure in California is redeployed, or expanded, to distributed solutions, it would represent vast new investment capacity and a major expansion in the adoption of these technologies and programs across the Golden State.

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Chapter 4 of the Update 2018 addresses State financing mechanisms for water resource sustainability such as the General Fund and statewide general obligation bonds, which represent “approximately 10 percent of the total local, State, and federal annual expenditures on water resource management” annually. (Update 2018, p. 4-1.) In addition, Chapter 4 identifies “novel funding mechanisms” that could provide additional revenues outside of current State funding mechanisms and could augment current funding levels. (Update 2018, p. 4-6.)

In this chapter, however, the Update 2018, does not recognize the opportunity to expand the definition of capital investment to include localized and decentralized water solutions or the option of using capital to finance these solutions at the local level. We appreciate that utilities will need to husband limited capital resources to address many types of aging infrastructure challenges. But the opportunity to leverage municipal bond proceeds, or other forms of debt-financing, as a means of increasing adoption of water technology and innovation can now be a part of the equation as well with real potential to provide benefits for California communities. DWR and all public water providers in California would significantly benefit if the Update 2018 identified, described, and encouraged the use of capital to finance large-scale deployment of innovative, decentralized water infrastructure programs at the local level.

We respectfully recommend that the list of novel funding mechanisms be revised to include local municipal bond financing for localized systems as an additional mechanism. We provide proposed language for this additional bullet point below:

- **Local municipal bond financing for localized systems**: GASB Statement 62 allows public agencies to book the cost of “business-type activities” as assets instead of annual expenses. These are called “regulatory assets” and can be capitalized by public water resource entities. The regulated assets approach is a complete alternative to traditional public agency accounting for capital assets. To meet the regulated assets approach and access debt-financing for localized infrastructure, local water providers need to have a governing board that: (1) is empowered to set rates; (2) can set those rates at levels to cover the cost of the specific programs to be financed; and (3) can commit to setting rates in the future to pay for the cost of these programs. Virtually all public water providers in California are positioned to meet these criteria.

In the event this bullet point is added to the list on page 4-6 of the Update 2018, we are available to work with DWR to also incorporate this additional novel funding mechanism into Table 4-4.

**Conclusion**

For utility leaders looking to diversify their water resilience strategies, localized green infrastructure, efficiency programs, and reuse initiatives offer affordable and effective
alternatives/supplements to support and extend centralized infrastructure. Following the recent GASB policy clarification, California utilities can now access capital to support rebate and direct installation programs for localized water strategies—just as they would with traditional gray infrastructure—instead of funding these programs with operating cash alone. That means more projects without hiking water rates, and on-site solutions that can reduce or eliminate the need for building larger, more expensive transmission and treatment systems.

These benefits of decentralized water infrastructure are directly in line with the Update 2018 sustainability goals. In the final draft of the Update 2018, WaterNow strongly encourages DWR to:

1. Cite decentralized water infrastructure as a sustainable alternative/supplement to conventional, centralized solutions in Recommended Action 2.1; and
2. Include local municipal bond financing for localized systems as an additional funding mechanism in Chapter 4.

We appreciate DWR’s thoughtful consideration of our comments and look forward to working with you to transform California’s water infrastructure to secure our water future.

Sincerely yours,

Caroline Koch
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WaterNow Alliance