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Submitted via email to rjsimson@dw.dec.state.ny.us & regsqa@health.state.ny.us

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**Re: *New York State 2014 Rule Review – State Revolving Funds
6 NYCRR Part 649 and 10 NYCRR Part 53***

Dear Mr. Simson and Ms. Ceroalo:

Thank you for the opportunity to comment on New York's 2014 rule review proposal, and in particular, the State's proposal not to amend the existing regulations for the Clean Water State Revolving Fund (CWSRF), 6 NYCRR Part 649, and Drinking Water State Revolving Fund (DWSRF), 10 NYCRR Part 53.¹ These comments are submitted by Natural Resources Defense Council (NRDC), on behalf of our 37,000 members in New York. NRDC works on behalf of these members, as well as our more than 1.4 million members and online activists nationwide, to ensure safe and sufficient water for people and the environment.

NRDC commends New York for its long-time use of the CWSRF and DWSRF programs to fund important water and wastewater infrastructure projects throughout the state. We urge the state to adopt certain improvements to the programs that can help New York ensure that it achieves the greatest returns on its water infrastructure investments, in terms of both environmental protection and opportunities for regional economic growth. In sum, the state should amend its program regulations to ensure that:

1. climate resilience is a fundamental requirement for all SRF projects;

¹ New York Register, Jan. 18, 2014, at 145-46, 151, available at <http://docs.dos.ny.gov/info/register/2014/jan8/pdf/rulereview.pdf>.

2. all SRF projects are required to incorporate cost-effective green infrastructure; and
3. all SRF projects are required to integrate cost-effective water conservation and efficiency measures.

These approaches all serve to ensure that the New York's limited SRF dollars are allocated wisely and efficiently and achieve the greatest possible benefits for the state. They would, therefore, serve DEC's and DOH's stated goals of managing the SRFs in a "fiscally responsible manner that will ensure [their] revolving nature in perpetuity."² They would also serve DOH's legal obligation to "commit and expend all [DWSRF] funds as efficiently as possible..."³ and DEC's and DOH's obligations to ensure that all projects receiving SRF funds are "necessary" for accomplishment of the state's water pollution control and safe drinking water objectives.⁴

Indeed, to meet these legal obligations and self-identified goals, DEC and DOH must not direct SRF resources to projects that are unnecessarily vulnerable to climate change (and are therefore susceptible to costly damage from extreme weather events, which may require further state financial assistance to repair), or on infrastructure costs that could be avoided through the use of more cost-effective measures (including green infrastructure and water efficiency). The use of SRF funds on such projects would not be "fiscally responsible," "efficient," or "necessary" to achieve the state's objectives because other, less costly alternatives are available.

Our detailed comments follow below. Thank you for considering these recommendations.

1. *New York Should Amend Its CWSRF and DWSRF Regulations to Make Climate Resilience a Fundamental Requirement For All Projects.*

New York is vulnerable to the impacts of climate change, including sea level rise, changes in storm intensity, increased flooding, warmer temperatures, increases in extreme heat, and longer dry periods. As recently affirmed by the Intergovernmental Panel on Climate Change, these changes in our climate are also leading to changes in the frequency, intensity, duration, and timing of extreme weather events.⁵

Average annual precipitation in New York is projected to increase by 5 percent by the 2020s, 10 percent by the 2050s, and up to 15 percent by the 2080s.⁶ Along with this overall increase in average rainfall, the amount of precipitation falling during heavy rainfall events is also expected to increase. More numerous heavy precipitation events could have important

² DWSRF 2014 Final IUP, p. 5, available at <http://www.nysefc.org/Default.aspx?tabid=108>; CWSRF 2014 Final IUP at 2, available at <http://www.nysefc.org/Default.aspx?tabid=112>.

³ 40 C.F.R. § 35.3550(l).

⁴ ECL 17-1909(1)(d)(ii)(b); Pub. Health Law § 1160(4)(a).

⁵ Intergovernmental Panel on Climate Change (IPCC), *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation: Summary for Policymakers* (2012), available at http://ipcc-wg2.gov/SREX/images/uploads/SREX-SPMbrochure_FINAL.pdf.

⁶ New York State Energy Research and Development Authority (NYSERDA), ClimAID Team, *Responding to Climate Change in New York State: The Synthesis Report of the Integrated Assessment for Effective Climate Change Adaptation Strategies in New York State* 6 (2011), available at <http://www.nyscrda.ny.gov/-/media/Files/Publications/Research/Environmental/EMEP/climaid/ClimAID-synthesis-report.ashx>.

implications for water quality, as more intense downpours lead to increased streamflows, which can lead to deposits of sediments and pollutants in waterways. Heavy rainfall events also can lead to combined sewer overflows in cities, such as New York, Albany, Syracuse, and Buffalo, when stormwater runoff exceeds the treatment capacity of combined sewer systems, resulting in the discharge of untreated sewage.⁷ In addition, heavy rainfall events can contribute to widespread flooding and jeopardize vital infrastructure.⁸

Since 1900 sea level has risen approximately 1 foot along New York's coastline.⁹ Models that do not consider rapid ice melt project that sea levels in New York could rise 1 to 5 inches by the 2020s, 5 to 12 inches by mid-century, and 8 to 23 inches by the 2080s.¹⁰ If rapid ice melt of polar regions occurs, sea levels could rise between 4 and 10 inches, 17 to 29 inches, and 37 to 55 inches for these same time frames, respectively.¹¹ Moreover, these projections are still relatively conservative compared with recent studies indicating that global sea level rise on the order of 30 to 75 inches (2.5 to 6.2 feet) is possible by the end of the century.¹² Recent projections from the New York City Panel on Climate Change suggest possible sea level rise of 11 to 24 inches by the 2050s.¹³

Rising sea levels will increase incidences of coastal flooding and intensify erosion risks. The New York City area currently contains more than \$320 billion in assets at risk from a 100-year coastal flood.¹⁴ What is now considered a once-in-a-century coastal flood is predicted to occur twice as often by mid-century and 10 times as often—once per decade—by the end of the century.¹⁵ Flood events of this magnitude would have severe ramifications for the 500,000-plus people in New York who currently live within the 100-year coastal floodplain.

Water and wastewater utilities in New York are particularly vulnerable to these impacts. More frequent intense precipitation events may challenge current infrastructure for water management and flood control, potentially causing inundation that may damage infrastructure such as treatment plants, intake facilities, and conveyance and distribution systems.¹⁶ (In 2012,

⁷ Natural Resources Defense Council, *Thirsty for Answers: Preparing for the Water-Related Impacts of Climate Change in American Cities* 9 (Aug. 2011), available at <http://www.nrdc.org/water/files/thirstyforanswers.pdf>.

⁸ NYSERDA, *supra* note 3, at 7.

⁹ *Id.* at 49.

¹⁰ *Id.* at 6.

¹¹ *Id.*

¹² Martin Vermeer & Stefan Rahmstorf, "Global Sea Level Linked to Global Temperature," *Proceedings of the National Academy of Sciences* 106, 51 (2009): 21527-21532.

¹³ New York City Panel on Climate Change, *Climate Risk Information 2013: Observations, Climate Change Projections, and Maps* (June 2013), available at http://www.nyc.gov/html/planyc2030/downloads/pdf/npsc_climate_risk_information_2013_report.pdf.

¹⁴ World Wildlife Fund & Allianz, *Major Tipping Points in the Earth's Climate System and Consequences for the Insurance Sector* 33 (2009), available at http://awsassets.panda.org/downloads/plugin_tp_final_report.pdf.

¹⁵ Union of Concerned Scientists, *New York—Confronting Climate Change in the U.S. Northeast* 2 (2007), http://www.climatechoices.org/assets/documents/climatechoices/new-york_necia.pdf.

¹⁶ U.S. Environmental Protection Agency, *Adaptation Strategies Guide for Water Utilities* (2012), available at <http://water.epa.gov/infrastructure/watersecurity/climate/upload/epa817k11003.pdf>.

Sandy caused \$2 billion in damages to wastewater infrastructure in New York.¹⁷) Episodic peak flows into reservoirs will strain the capacity of these systems, and inflow will be of lesser quality due to erosion and contaminants from overland flows.¹⁸ Wastewater infrastructure is particularly at risk of flooding when extreme events occur due to the typically low elevation of facilities within a watershed.¹⁹ In addition, more extreme events can lead to more overflows in combined systems and reduce the capacity of systems already impacted by inflow and infiltration. Climate change effects can even influence the level of treatment needed to maintain clean receiving waters due to impacts on the quality and quantity of in-stream flows.²⁰

Utilities cannot ignore these changes, but rather must begin to prepare for them immediately to ensure that they will be able to carry out their responsibilities in the future. Climate change preparations must not be an afterthought; they need to be considered as part of every project that a water or wastewater utility carries out. Such considerations would be in line with the NYS 2011 Commission's recommendation that climate change should be factored into a wide variety of decision-making processes throughout New York.²¹ Using the SRFs to support such efforts would also be consistent with the President's Climate Action Plan, which calls for "integrat[ing] considerations of climate change impacts and adaptive measures into . . . [the] Clean Water and Drinking Water State Revolving Funds."²²

Climate change's effects have implications for all water and wastewater utility activities – everything from infrastructure construction to treatment processes to energy consumption. The U.S. Environmental Protection Agency notes that utilities may need to undertake the following types of actions to protect themselves against climate impacts:

- Plan for alternative power supplies to support operations in case of loss of power.
- Ensure that emergency response plans deal with flooding.
- Integrate climate-related risks into capital improvement plans, including flood-proofing options to build facility resilience.
- Incorporate sea-level rise and storm surge inundation models and mapping into land use and facility planning.
- Acquire and manage coastal ecosystems, such as coastal wetlands, to attenuate storm surge and reduce coastal flooding.
- Acquire and manage ecosystems, such as forested watersheds, vegetation strips, and wetlands, to buffer against floods and sediment and nutrient inflows into source waterways.
- Set aside land to support future flood-proofing needs.

¹⁷ Climate Central, *Hurricane Sandy's Untold Filthy Legacy: Sewage* (2013), available at <http://www.climatecentral.org/news/11-billion-gallons-of-sewage-overflow-from-hurricane-sandy-15924>.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ U.S. Environmental Protection Agency, *Adaptive Response Framework for Drinking Water and Wastewater Utilities* 4 (2012), available at <http://water.epa.gov/infrastructure/watersecurity/climate/upload/epa817f12009.pdf>.

²¹ See NYS 2100 Commission, *Recommendations to Improve the Strength and Resilience of the Empire State's Infrastructure* (Jan. 2013), available at <http://www.governor.ny.gov/assets/documents/NYS2100.pdf>.

²² *The President's Climate Action Plan* (June 2013), p. 13, available at <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

- Implement green infrastructure on site and in municipalities to reduce runoff and associated pollutant loads into waterways.
- Diversity options to complement current water supply, including recycled water and stormwater capture.
- Build flood barriers, flood control dams, and related structures to protect infrastructure.
- Relocate facilities to higher ground.
- Increase capacity for wastewater and stormwater collection, treatment, and discharge, including redundancies to hedge against infrastructure losses and disruptions.²³

Many of these activities are already eligible for SRF funds. However, the regulations do not require that *all* projects take the full range of expected climate impacts into account when designing projects, even if those projects are intended to increase resilience. This loophole could lead to the development of emergency plans, for example, or the increase in treatment capacity, that protect against current but not projected future conditions that factor in climate change.

Critical SRF dollars must not be wasted on projects that may have to be adjusted or completely redone in a few years because they failed to consider climate change and therefore underestimated the amount of flooding, sea level rise, and other impacts that would occur. SRF loans, which are funded in part by New York taxpayers, must instead be spent smartly and efficiently in order to protect New Yorkers from harm. The CWSRF and DWSRF regulations should be revised to make the full range of climate change impacts a required consideration in *every* SRF-funded project. In particular, the flood elevation design criteria that are currently required of projects receiving funding through the Storm Mitigation Loan Program (SMLP) should be expanded to include all SRF-funded projects.²⁴ The wider application of these requirements would help to reduce current and future flooding risks of SRF projects. Also, more broadly, SRF regulations should require all eligible projects to demonstrate that future climate risk, including sea level rise projections and available weather-related data predicting the likelihood of future severe weather events, has been considered.

2. New York Should Amend Its CWSRF and DWSRF Regulations to Require that Projects Incorporate Cost-Effective Green Infrastructure, and Should Emphasize the Value of Green Infrastructure in Intended Use Plans.

Green infrastructure restores or mimics natural conditions, allowing rainwater to infiltrate into the soil or evapotranspire into the air. Green infrastructure techniques include porous pavement, green roofs, parks, roadside plantings, and rain barrels.²⁵

Green infrastructure is a critical component of water-focused climate preparedness efforts. The climate adaptation benefits of green infrastructure are generally related to its ability to moderate the impacts of extreme precipitation. Benefits include better management of stormwater runoff, lowered incidents of combined storm and sewer overflows, water capture and

²³ EPA, *Adaptation Strategies Guide*, *supra* note 13, at “High Flow Events and Flooding (WW)” and “Flooding From Coastal Storm Surges (WW).”

²⁴ See NYS EFC, “Storm Mitigation Loan Program – (SMLP) Fact Sheet,” (2013), available at <http://www.nysefc.org/Default.aspx?tabid=508>.

²⁵ See generally Natural Resources Defense Council, *Rooftops to Rivers II: Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (2011), available at <http://www.nrdc.org/water/pollution/rooftopsii/>.

conservation, flood prevention, storm-surge protection, defense against sea-level rise, and accommodation of natural hazards (e.g., relocating out of floodplains).²⁶ Because green infrastructure solutions are decentralized and implemented at multiple locations, they are flexible and adaptable—an important characteristic given the likelihood that future hydrologic conditions will become increasingly volatile and unpredictable due to climate change. Unlike traditional hard infrastructure, these approaches allow for planning to be incremental, continuous, and easily modified when climatic and hydrologic conditions change. Additionally, many green infrastructure practices contribute to climate mitigation goals by helping to reduce greenhouse gas emissions; for example, trees absorb and store carbon and can provide shade that reduces cooling needs and hence electricity demands.²⁷

The NYS 2100 Commission has recognized these benefits of green infrastructure techniques, stating: “The Commission recommends that New York State adopt measures that promote the use of green and natural infrastructure through direct investment, new incentive programs, and education. ... There have been many severe weather events where a broader adoption of green infrastructure could have minimized local problems with flooding, contamination or erosion.”²⁸

Green infrastructure provides numerous benefits for drinking water projects under the DWSRF, not only water quality projects under the CWSRF. In addition to the myriad water quality benefits described previously (which can also be achieved with green infrastructure at the site of drinking water facilities), green infrastructure strategies contribute directly to drinking water goals, since they increase water supplies by contributing to groundwater recharge and reducing water demand. Practices such as downspout disconnections, infiltration trenches, swales, rain gardens, and buffer strips, as well as curbless parking lots and narrower roads, can help replenish and sustain groundwater. Other practices such as rainwater harvesting techniques (cisterns, rain barrels, and blue roofs) and drought-tolerant landscapes help to reduce potable water use for irrigation, thereby conserving water supplies. Studies indicate that widespread implementation of green infrastructure practices can increase local water supplies and increase groundwater recharge, resulting in significant cost savings.²⁹

New York’s CWSRF program has done an exemplary job of directing federal set-aside “Green Project Reserve” funds toward green infrastructure projects over the last five years. These funds have been distributed primarily to fund green infrastructure-focused projects through the Green Innovation Grant Program (GIGP) and, to a lesser extent, to support green infrastructure components of traditional infrastructure projects via the typical SRF loan process.

²⁶ The Center for Clean Air Policy, *The Value of Green Infrastructure for Urban Climate Adaptation* ii-iii (2011), available at http://ccap.org/assets/THE-VALUE-OF-GREEN-INFRASTRUCTURE-FOR-URBAN-CLIMATE-ADAPTATION_CCAP-February-2011.pdf.

²⁷ *Id.* at iii.

²⁸ NYS 2100 Commission, *supra* note 16, at 12.

²⁹ See NRDC, *A Clear Blue Future: How Greening California Cities Can Address Water Resources and Climate Challenges in the 21st Century* (2009), (available at <http://www.nrdc.org/water/lid/files/lid.pdf>) and U.S. EPA, “Green Infrastructure in Arid and Semi-Arid Climates: Adapting Innovative Stormwater Management Techniques to the Water-Limited West” (2010), (available at http://www.ci.cypress.ca.us/public_works/arid_climates_casestudy.pdf).

New York should now take more pro-active steps to ensure that green infrastructure is routinely integrated into all CWSRF- and DWSRF-funded projects wherever it is cost-effective. Green infrastructure should no longer be a niche program funded primarily through GIGP, but should be fully integrated into the main portion of the SRF program.

Specifically, because green infrastructure is such a valuable climate preparedness technique, and a cost-effective means to achieve core water quality and water supply objectives, the state should amend the CWSRF and DWSRF regulations to require that green infrastructure be integrated into all SRF-funded projects wherever it is a cost-effective approach to meet project goals, taking into account the life-cycle costs of constructing, operating and maintaining the project, as well as the costs of replacing the project at the end of its useful life. In other words, green infrastructure should be the preferred approach for all SRF-funded projects, and applicants who propose not to integrate green infrastructure should be required to explain why doing so would not be cost-effective. Additionally, projects that maximize the use of green infrastructure should also get first priority for grants and negative-interest loans.

Congress has previously required that a certain portion of SRF capitalization grants—set aside in a percentage called the Green Project Reserve—be used for sustainable projects including green infrastructure, so a mandate concerning green infrastructure in the SRF context is both reasonable and precedented.³⁰ Moreover, the NYS 2100 Commission has recommended that the state “[i]ncorporate increased green infrastructure incentives into the State clean water infrastructure funding programs operated by ... EFC.”³¹ Directing SRF funds toward projects utilizing green infrastructure would be consistent with this recommendation and further the goal of improving incentives for green infrastructure in New York.

In order to bolster this proposed regulatory requirement, the state should also modify its Intended Use Plans (IUPs) to emphasize the benefits of green infrastructure approaches for flood reduction and climate preparedness, in addition to the water quality benefits that are already referenced in the CWSRF IUP. Many communities either are unaware of the benefits of green infrastructure, believe that it is more difficult to implement than traditional gray infrastructure, or lack the necessary resources to plan and implement green solutions.³² The state should include a section in all IUPs that explains and emphasizes the many benefits of green infrastructure, so that potential SRF applicants understand and appreciate those benefits when designing projects.

3. New York Should Amend its CWSRF and DWSRF Regulations to Require Cost-Effective Water Conservation and Efficiency Measures as Conditions of Funding Eligibility.

New York should adopt several policies that can leverage the DWSRF and CWSRF programs to increase water efficiency. Water conservation and efficiency are effective means of increasing resilience to climate impacts such as increased drought, decreased precipitation, and declining snowpack.

³⁰ See U.S. EPA, “Green Project Reserve,” http://water.epa.gov/grants_funding/cwsrf/Green-Project-Reserve.cfm.

³¹ NYS 2100 Commission, *supra* note 16, at 130.

³² *Id.* at vi.

Water-efficient fixtures and appliances (including direct replacement of inefficient products and/or rebates for installation in existing buildings; efficiency standards for new products and new construction), installation and upgrades of meters, volumetric water and wastewater pricing, and other rate mechanisms are examples of ways to reduce both municipal water demand and subsequent demand for wastewater treatment services.³³ The use of water-efficient landscapes and irrigation practices, as well as system-wide water loss reduction efforts (*e.g.*, water loss auditing, detection and repair of leaks in water distribution systems), also reduce municipal water demand, although they do not affect wastewater flows.³⁴ All of these measures – as well as the development of water conservation plans -- are among the types of “water efficiency” projects deemed eligible for assistance under the state’s DWSRF and/or CWSRF IUPs.³⁵

Importantly, these water efficiency measures not only save water, they also help to reduce both capital and operating costs associated with drinking water and wastewater systems, including by helping to avoid, minimize, or delay the need for expanded conveyance, collection, and treatment capacity, and by reducing energy needs for pumping and treatment. Accordingly, the state’s CWSRF sustainability advisory group stated that:

[N]ot only is efficient water resource management needed to prevent future shortages but that it also can reduce the need for, and cost of, wastewater infrastructure and energy use. Water conservation, including reduction of quantity used, water harvesting, and reuse . . . reduces the amount of wastewater that needs to be treated and discharged and released to lakes and streams, thus reducing the size of facilities needed to treat it.³⁶

The state’s Intended Use Plans include expressly acknowledge the importance of efficiently utilizing available financial resources.³⁷ The IUPs also include some language that

³³ NRDC and American Rivers, “Top 10 No-Regret Strategies,” *Getting Climate Smart: A Water Preparedness Guide for State Action* (2013), 48-55, available at <http://www.nrdc.org/water/climate-smart/>.

³⁴ *Id.*

³⁵ *See, e.g.*, CWSRF 2014 Final IUP, pp. F-7--F-8.

³⁶ The New York Clean Water State Revolving Fund Sustainability Initiative: Advisory Group Recommendations (June 2010) at 11, available at <http://www.nysefc.org/Portals/0/Advisory%20Group%20Recommendations.pdf>.

³⁷ For example, the DWSRF IUP establishes a long-term goal that the DWSRF be administered in a “fiscally responsibility manner that will ensure its revolving nature in perpetuity.” DWSRF 2014 Final IUP, p. 5. Similarly, the CWSRF IUP establishes a goal of “administer[ing] the CWSRF in a manner that will ensure its revolving nature in perpetuity, including . . . assisting applicants in developing sustainable projects and systems.” CWSRF 2014 Final IUP at 2. Fiscally responsible use of SRF funds requires that such funds not be spent on infrastructure costs that could be avoided through more cost-effective demand-side management (*i.e.*, water conservation and efficiency) measures.

acknowledges, in principle, the value of water efficiency measures,³⁸ and highlights the eligibility of many such projects for Green Innovation Grant Program funds.³⁹

Despite all of the foregoing, however, nothing in New York's current DWSRF or CWSRF regulations (or IUPs) requires applicants to maximize the cost-effective use of water efficiency measures, to ensure that the state's limited SRF dollars are allocated efficiently and achieve the greatest possible benefits for the state.

To address this gap, we recommend three changes to the state's DWSRF and CWSRF regulations to fully integrate water efficiency into the SRFs. As detailed in the Appendix at the end of this letter, there is ample legal authority to implement each of these regulatory revisions; a number of states are already using these approaches or similar ones; and there are many examples of water and wastewater utilities that have successfully used (or are currently using) water conservation strategies to reduce water demand and the costs of water and wastewater infrastructure.

DOH and DEC should revise the DWSRF and CWSRF regulations, respectively, to include the following provisions:

- a. Require water and wastewater utilities to adopt comprehensive water conservation plans and/or specific policies and programs (including, for water utilities, comprehensive water loss accounting and leak repair) as a condition of eligibility for funding.

EPA and others have already developed guidance for utilities on the development of water conservation plans.⁴⁰ Although some elements of a water conservation plan are relevant only to drinking water utilities (*e.g.*, water loss audits and leak repair), most are equally applicable to wastewater utilities (*e.g.*, direct replacement of inefficient plumbing fixtures and fittings in existing homes and other buildings; consumer incentives/rebates for water efficient fixtures and appliances; metering, volumetric billing, and conservation pricing; changes in local ordinances, building codes or plumbing codes requiring installation of water efficient fixtures and appliances). We note that, in regard to drinking water utilities, water loss accounting and leak repair may be the single most significant water efficiency measure the SRF program can promote; the state should not be funding water infrastructure to treat or distribute drinking water that is unnecessarily lost before it ever reaches its intended users.⁴¹

³⁸ For example, the DWSRF IUP requires that "engineering reports and/or plans and specifications submitted to the DOH identify project components that incorporate ... water efficiency..." although it does not require the inclusion of such components. DWSRF 2014 Final IUP at 4. The CWSRF IUP includes the following short-term goal "[t]o encourage all eligible CWSRF project to include environmentally sustainable attributes such as ... conservation of water..." and a long-term goal "[t]o promote water efficiency, reuse, and conservation through the use of improved technologies and practices that deliver equal or better services with less water." CWSRF 2014 Final IUP at 2.

³⁹ CWSRF 2014 Final IUP, pp. F-7--F-8.

⁴⁰ See, *e.g.*, U.S. EPA, *Water Conservation Plan Guidelines*, available at http://www.epa.gov/WaterSense/docs/part1_508.pdf. New York issued a Water Conservation Manual in 1989, but has not updated it since; we strongly encourage the state to do so.

⁴¹ To address water loss, an adequate water conservation program under the DWSRF should include, at a minimum, a requirement to prepare and submit an annual water balance report using the methods identified in American Water

- b. Require that drinking water and wastewater projects seeking funding must (i) evaluate water conservation alternatives, (ii) include in the project any such measures that reduce the net capital/operating costs of the project, and (iii) incorporate the resulting flow reductions into the design of the overall project.

The Title II Construction Grants Program, which predated the CWSRF, required project applicants to evaluate and implement cost-effective “flow reduction” methods to reduce demand for publicly-owned treatment works.⁴² A similar approach would be sound policy today, both for drinking water and wastewater facilities.

- c. Ensure that designs of new, replacement, or expanded infrastructure are based on the most current data and projections of per capita water demand, which are already on a downward trend nationally.

While targeted, local water conservation programs can rapidly accelerate water use reductions, there is already a downward trend in per capita/household water use nationally, due in large part to national plumbing fixture efficiency standards.⁴³ New national standards that are being phased-in over the next several years (e.g., for washing machines) will add further to this trend.⁴⁴ New York should revise its SRF regulations as needed to ensure that funding applicants do not rely on outdated assumptions of domestic water use in the design of projects.

Finally, beyond adding funding eligibility requirements to the state’s SRF regulations, we urge New York to actively promote the availability of DWSRF and CWSRF funds to directly support water conservation projects and programs. Such activities have long been eligible for funding under both the DWSRF⁴⁵ and CWSRF.⁴⁶ Although they are also eligible under New

Works Association (AWWA) Manual M-36, *Water Audits and Loss Control Programs*, and the accompanying free software provided by AWWA; and to eliminate, within ten years, all water losses that are deemed economically recoverable and are cost effective to identify and eliminate. See NRDC, *Protecting a Shared Future* (2011), p. 17, available at <http://www.nrdc.org/water/greatlakescompact.asp>. At least five states -- Georgia, Rhode Island, Tennessee, Texas, and Wisconsin -- and the Delaware River Basin Commission currently require water loss accounting pursuant to the AWWA methodology for all water utilities; Maryland, New Mexico, and numerous other states have moved in similar ways to strengthen and standardize water loss reporting. See Ed Osann, Osann, “Water Main Leaks Don’t Let Up, Even During a Drought” (Feb. 15, 2014) (providing links to states’ requirements), available at http://switchboard.nrdc.org/blogs/eosann/lets_get_smarter_about_water_1.html. A state advisory panel in California has also recommended that the state require utilities to use the AWWA method for annual water audits. *Id.*

⁴² Those regulations—which were intended to ensure the cost-effectiveness of grant-funded projects—required evaluation of “flow reduction” (i.e., water conservation) methods to reduce demand for treatment plant capacity, the adoption of such measures where cost-effective, and adjusting the sizing of projects to account for the reduced flow. See U.S. EPA, *Flow Reduction: Methods, Analysis Procedures, Examples* (1981) for flow reduction evaluation guidance and 40 CFR Part 35, Subpart E, Appendix A, ¶ 8(c) for guidance on project sizing.

⁴³ Rockaway, et al. 2011. “Residential water use trends in North America.” *Journal AWWA*. Vol. 103, Issue 2.

⁴⁴ See http://switchboard.nrdc.org/blogs/eosann/greener_washdays_ahead.html.

⁴⁵ U.S. EPA Office of Water, Memo No. DWSRF 03-03 (July 25, 2003), available at http://www.epa.gov/ogwdw/dwsrf/pdfs/memo_dwsrf_policy_2003-07-25.pdf.

⁴⁶ U.S. EPA Office of Water, Memo No. CWSRF 00-13 (Sept. 20, 2000), available at www.cuwcc.org/WorkArea/downloadasset.aspx?id=4324.

York's SRF regulations,⁴⁷ SRF funding has almost certainly been under-utilized for such projects in New York. Similar to how the Green Innovation Grant Program (GIGP) under the CWSRF has successfully promoted the uptake of green infrastructure practices, New York should engage in proactive outreach to encourage SRF funding applications for water conservation projects – not only under the GIGP, but for all relevant funding categories under the SRFs.

* * *

In conclusion, we urge New York State to amend its DWSRF and CWSRF regulations as recommended above, to ensure that SRF loans are directed to the projects that will most effectively protect and benefit New Yorkers.

We look forward to your response and would welcome the opportunity to discuss these recommendations with you.

Sincerely,



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⁴⁷ 21 NYCRR § 2604.2(20) (DWSRF); 6 NYCRR § 649.2(51) (CWSRF).

Appendix:

Regulatory Opportunities to Integrate Water Efficiency Requirements into New York's SRFs

New York State's DWSRF and CWSRF program regulations should be revised to:

1. Require water and wastewater utilities to adopt comprehensive water conservation plans and/or specific policies and programs as a condition of eligibility for funding;
2. Require that water, wastewater, and stormwater projects seeking funding must (i) evaluate water conservation alternatives, (ii) include in the project any such measures that reduce the net capital/operating costs of the project, and (iii) incorporate the resulting flow reductions into the design of the overall project; and
3. Ensure that designs of new, replacement, or expanded infrastructure are based on the most current data and projections of per capita water demand, which are already on a downward trend nationally.

As explained below, there is ample legal authority for New York State to integrate these water efficiency requirements into its DWSRF and CWSRF regulations; a number of states are already using these approaches or similar ones; and there are many examples of water and wastewater utilities that have successfully used (or are currently using) water conservation strategies to reduce water demand and the costs of water and wastewater infrastructure.¹

A. Legal authority for New York to require water efficiency measures under the SRFs

Existing EPA policy makes clear that water conservation projects and programs are eligible for funding under both the DWSRF² and CWSRF;³ this is also reflected in New York's regulations.⁴

New York can do much more, however, to fully integrate water efficiency into its SRF programs. New York has the authority – and, arguably, the obligation – to require water efficiency

¹ The discussion below references many EPA SRF guidance documents, memoranda, and fact sheets that recommend the use of water efficiency strategies under both the DWSRF and CWSRF. In addition, EPA's WaterSense program has promoted water efficiency practices in connection with both the DWSRF and CWSRF programs, (see <http://www.cifanet.org/documents/09WS/Blette.pdf>); and EPA's recent "sustainability" guide for the CWSRF also promotes water efficiency practices (see *Sustainability and the CWSRF: A Best Practices Guide*, EPA-832-R-12-005, p. 9 (July 2012), http://water.epa.gov/grants_funding/cwsrf/upload/CWSRF-Best-Practices-Guide.pdf).

² U.S. EPA Office of Water, Memo No. DWSRF 03-03 (July 25, 2003), available at http://www.epa.gov/ogwdw/dwsrf/pdfs/memo_dwsrf_policy_2003-07-25.pdf; see also U.S. EPA 816-F-03-022 (Aug. 2003), available at http://www.epa.gov/ogwdw/dwsrf/pdfs/fact_dwsrf_water_efficiency03-09-02.pdf. Additionally, "[a]t a state's option, water conservation plan preparation is eligible for SRF funding." EPA *Water Conservation Plan Guidelines*, p. 7, available at <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=200043OS.txt>.

³ U.S. EPA Office of Water, Memo No. CWSRF 00-13 (Sept. 20, 2000), available at www.cuwcc.org/WorkArea/downloadasset.aspx?id=4324; see also U.S. EPA 832-F-99-050 (June 1999), available at http://water.epa.gov/grants_funding/cwsrf/upload/2002_06_28_cwfinance_cwsrf_cwreuse.pdf.

⁴ 21 NYCRR § 2604.2(20) (DWSRF); 6 NYCRR § 649.2(51) (CWSRF).

measures as a *mandatory* condition of SRF funding for *all* projects, whether or not the primary purpose of the project is water conservation:

DWSRF

- Under federal law:
 - The Safe Drinking Water Act authorizes states to condition a project’s DWSRF funding eligibility on the “submi[ssion of] ... a water conservation plan consistent with” EPA’s guidelines for water conservation plans for public water systems.⁵
 - States retain complete discretion to place additional conditions on eligibility for DWSRF funding, so long as they are not inconsistent with the minimum requirements imposed by federal law or EPA grant agreements.⁶ The states establish their “criteria and methods...for the distribution of funds” through the development of annual Intended Use Plans (IUPs).⁷
 - As per the mandatory terms of its DWSRF capitalization agreements with EPA, New York must “commit and expend all funds as efficiently as possible...”⁸
- Under state law:
 - DOH must ensure that projects receiving DWSRF assistance are “necessary for the objectives and goals of the state sanitary code or the federal safe drinking water act to assure safe public drinking water ...”⁹ DOH can (and should) interpret “necessary,” in this context, as requiring a demonstration the proposed infrastructure is no larger than necessary to meet the needs of the authorized service area, accounting for all cost-effective water efficiency measures that would reduce water demand. The minimum elements of such a demonstration could include both project-specific analyses and the development and implementation of a utility-wide water conservation plan.
 - DOH must ensure that projects receiving DWSRF assistance “take[] into consideration the water resource management strategy pursuant to title twenty-nine of article fifteen of the environmental conservation law.”¹⁰ This provides another basis for DOH to incorporate water efficiency requirements into the DWSRF regulations,

⁵ 42 U.S.C. § 300j-15(a).

⁶ See 42 U.S.C. § 300j-12(f) (“Except *as otherwise limited by state law*, the amounts deposited into a State loan fund under this section may be used...” (emphasis added)).

⁷ 42 U.S.C. § 300j-12(b)(2).

⁸ 40 C.F.R. § 35.3550(l).

⁹ Pub. Health Law [PHL] § 1160(4)(a). See also 21 NYCRR § 2604.2(20) (providing that eligibility for DWSRF assistance is contingent on the DOH Commissioner’s written certification that a project meets the statutory eligibility requirements).

¹⁰ PHL § 1160(4)(c). See also 21 NYCRR § 2604.2(20).

since the most recent state Water Resource Management Strategy, issued in 1989, prioritizes water conservation and efficiency.¹¹

CWSRF

- Under federal law, states retain complete discretion to place additional conditions on eligibility for CWSRF funding, so long as they are not inconsistent with the minimum requirements imposed by federal law or EPA grant agreements.¹² The states establish their “criteria and method[s]...for the distribution of funds” through the development of annual Intended Use Plans (IUPs).¹³

- Under state law:
 - DEC must ensure that projects receiving CWSRF assistance are “necessary for the accomplishment of the state water pollution control program.”¹⁴ DEC can (and should) interpret “necessary,” in this context, as requiring a demonstration that proposed wastewater infrastructure projects are no larger than necessary to meet the needs of the authorized service area, accounting for all cost-effective water efficiency measures that would reduce demand. The minimum elements of such a demonstration could include both project-specific analyses and the development and implementation of a utility-wide water conservation plan.

 - DEC must ensure that projects receiving CWSRF assistance include “a reasonable effort to develop economic viability.”¹⁵ Since water efficiency reduces both the capital and operating costs of wastewater collection and treatment systems, DEC could (and should) interpret this provision as imposing specified water conservation and efficiency obligations on applicants.

 - DEC has the authority to issue such regulations as may be “necessary or proper” to carry into effect the CWSRF authorizing statute.¹⁶ Since water efficiency is needed to ensure that CWSRF resources are allocated efficiently to maximize the benefits of the program, DEC can (and should) conclude that imposing water conservation and efficiency obligations on applicants is “necessary” to achieve the goals of the program. At a minimum, such requirements would certainly be considered “proper” to carry out the objectives of the CWSRF program.¹⁷

¹¹ New York State Water Resources Management Strategy (Jan. 1989), Sec. III.A., available at <http://nyswater.blogspot.com/>.

¹² See 33 U.S.C.A. § 1383 (“Except as otherwise limited by State law, a water pollution control revolving fund of a state under this section may be used. . .” (emphasis added)).

¹³ 33 U.S.C.A. § 1386.

¹⁴ 17-1909(1)(d)(ii)(b).

¹⁵ 17-1909(1)(d)(ii)(c).

¹⁶ ECL § 17-0303(3).

¹⁷ ECL § 17-0303(3) also empowers DEC to issue such regulations as are “necessary and proper” to carry out the over-arching “policy” of Article 17, which “require[s] the use of all known available and reasonable methods to

B. Examples of other states' SRF programs that condition funding eligibility on water conservation practices

Although it appears that no state has taken advantage of the opportunity to condition funding eligibility for DWSRF projects on the “submit[ssion of] ... a water conservation plan consistent with” EPA’s Water Conservation Plan Guidelines,¹⁸ a number of states condition DWSRF and/or CWSRF funding eligibility on either (i) the evaluation of water conservation alternatives that would reduce or eliminate the need for the proposed project, or (ii) a utility’s implementation of certain water conservation practices. Examples are listed below:

DWSRF examples

- California:
 - Effective July 2016, eligibility for DWSRF funds will be contingent on compliance with the state’s per capita water use reduction targets for urban water suppliers (10% reduction by 2015 and 20% reduction by 2020).¹⁹
 - “Urban water suppliers,” as a condition of eligibility for financial assistance from the state for a water use efficiency project, a drinking water treatment project, or a permit for a new or expanded water supply, must meet specific requirements concerning metering and volumetric billing.²⁰ The funding condition applies to DWSRF, as well as to CWSRF if it is an integrated utility that does both drinking water and wastewater.
- Colorado: Water utilities applying for funds must have an updated water conservation plan, as a condition of eligibility.²¹
- Kansas: To be eligible for funding, utilities must have “adopted and implemented conservation plans and practices that are consistent with” state guidelines.²²
- Nebraska: Under the state’s 2012 DWSRF IUP, if the water system applying for funds does not have service connections individually metered, then water meters will be required as part of the project.²³

prevent and control the pollution of the waters of the state of New York.” ECL § 17-0101. This would also justify the imposition of water efficiency requirements in the context of the CWSRF.

¹⁸ See 42 U.S.C. § 300j-15(a).

¹⁹ Ca. Water Code § 10608.56

(http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=WAT§ionNum=10608.56). This provision is applicable to the DWSRF because it applies to all grants and loans by "the state" to "urban retail water suppliers"

²⁰ Ca. Water Code, § 529.5; *id.* §§ 525 – 528.

²¹ CRS 37-60-126.

²² Kan. Stat. Ann. § 65-163g(b)(1). See also Kansas Municipal Water Conservation Plan Guidelines (2007) (http://www.kwo.org/projects_programs/WaterConservationEducation/rpt_2007%20WCP_Guidelines_081507_ms%20.pdf).

- Utah: “The applicant must have adopted a Water Conservation Plan prior to executing the loan agreement.”²⁴

CWSRF examples

- California: Utilities that function as integrated water and wastewater utilities must, as a condition of eligibility for financial assistance from the state for a wastewater treatment project or a water use efficiency project, must meet specific requirements concerning metering and volumetric billing.²⁵
- Nebraska: Applications must include a cost-effectiveness analysis, including “evaluation of alternative flow reduction methods.”²⁶
- New Jersey: Applications must include evaluation of flow reduction methods.²⁷

C. Examples of water and wastewater utilities using water conservation strategies to reduce water demand and the costs of water and wastewater infrastructure

It is well-known that drinking water utilities can and do implement water conservation programs as a means of reducing demand and, thereby, avoiding or minimizing the need to develop new water sources, expand withdrawals for existing water sources, or construct new water delivery and treatment infrastructure.²⁸

Less well-known is that many wastewater utilities and communities, both large and small, have undertaken, or are currently implementing, water conservation strategies as a means of avoiding or minimizing the need for expanded wastewater treatment capacity. These include: New York;²⁹ Boston, MA;³⁰ Cotati, CA;³¹ East Bay Municipal Utility District, CA;³² Goleta, CA;³³

²³ 2012 IUP at 46.

([http://www.deq.state.ne.us/Publica.nsf/2fb83fae0322b61606256ad900655c9c/56d575b7214db282862578db004fb052/\\$FILE/2012-IUP-FINAL.pdf](http://www.deq.state.ne.us/Publica.nsf/2fb83fae0322b61606256ad900655c9c/56d575b7214db282862578db004fb052/$FILE/2012-IUP-FINAL.pdf)).

²⁴ Utah Admin. Code R309-700-4(24).

²⁵ Ca. Water Code, § 529.5; *id.* §§ 525 – 528. With respect to the CWSRF, it appears that only integrated water and wastewater utilities – but not stand-alone wastewater utilities – are bound by this requirement, since it applies only to “urban water suppliers.”

²⁶ Neb. Admin. R. & Regs. Tit. 131, Ch. 4, § 004.

²⁷ N.J.A.C. 7:22-3.11.

²⁸ A recent survey of 328 drinking water utilities nationwide found that nearly one-quarter of them have water conservation programs. Black & Veatch. 2013. “2013 Strategic Directions in the U.S. Water Industry.” Retrieved 6/12/13 at <http://bv.com/docs/reports-studies/2013-water-report-web.pdf>.

²⁹ <http://www.gao.gov/new.items/rc00232.pdf> (p. 21)

³⁰ <http://www.mwra.state.ma.us/comsupport/pilotprograms/0509depfinalreport.pdf>

³¹ <http://www.codepublishing.com/CA/Cotati/html/Cotati13/Cotati1364.html>

³² http://www.allianceforwaterefficiency.org/water-efficiency-watch-april-2010.aspx?terms=wastewater#c_bennett

³³ http://www.epa.gov/WaterSense/docs/utilityconservation_508.pdf

San Jose, CA;³⁴ Orleans, MA;³⁵ Olympia, WA;³⁶ Spokane, WA;³⁷ San Antonio;³⁸ San Francisco;³⁹ Santa Monica, CA;⁴⁰ and Washington, DC.⁴¹ Leading industry associations also have endorsed the vision that a wastewater “utility of the future” will engage pro-actively in water conservation efforts “to reduce sanitary wastewater and expansion of wastewater infrastructure.”⁴² Nonetheless, at present, demand-side management and planning is not nearly as common among wastewater utilities as it is among drinking water utilities; the CWSRF program, therefore, has the potential to significantly increase the use of these approaches.

³⁴<http://nepis.epa.gov/Exe/ZyNET.exe/20004MQA.txt?ZyActionD=ZyDocument&Client=EPA&Index=1995%20Thru%201999&Docs=&Query=%28wastewater%29%20OR%20FNAME%3D%2220004MQA.txt%22%20AND%20FNAME%3D%2220004MQA.txt%22&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C95THRU99%5CTXT%5C0000002%5C20004MQA.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p%7C&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=54>

³⁵ http://town.orleans.ma.us/Pages/OrleansMA_BComm/cwmpfinal (sec. 11.5.3)

³⁶ <http://www.lottcleanwater.org/conservation.htm>; <http://www.spokanecounty.org/utilities/rptdoc/2008jan/02-04%20Water%20Conservation.pdf> (p. 4-3).

³⁷ <http://www.spokanecounty.org/utilities/RptDoc/fwfp/FFP%2009%20Recommended%20Plan.pdf>

³⁸ http://www.pbs.org/newshour/bb/science/jan-june13/sewers_01-03.html;
<http://www.cifanet.org/documents/09WS/Blette.pdf>

³⁹ <http://www.allianceforwaterefficiency.org/awe-sfpuc-op-ed.aspx>

⁴⁰ http://www.epa.gov/WaterSense/docs/utilityconservation_508.pdf

⁴¹<http://nepis.epa.gov/Exe/ZyNET.exe/20004MQA.txt?ZyActionD=ZyDocument&Client=EPA&Index=1995%20Thru%201999&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\ZYFILES\INDEX%20DATA\95THRU99\TXT\00000002\20004MQA.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p|f&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=56>

⁴² WERF, WEF, & NACWA. 2013. “The Water Resources Utility of the Future: A Blueprint for Action.” Retrieved 6/12/13 at <http://www.nacwa.org/images/stories/public/2013-01-31waterresourcesutilityofthefuture-final.pdf>.