BUILDING A 21ST-CENTURY INFRASTRUCTURE FOR AMERICA: WATER STAKEHOLDERS' PERSPECTIVES

(115–25)

HEARING

BEFORE THE

SUBCOMMITTEE ON
WATER RESOURCES AND ENVIRONMENT

OF THE

COMMITTEE ON TRANSPORTATION
AND INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

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September 22, 2017

SUMMARY OF SUBJECT MATTER

TO: Members, Subcommittee on Water Resources and Environment
FROM: Staff, Subcommittee on Water Resources and Environment
RE: Subcommittee Hearing on "Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives"

PURPOSE

The Subcommittee on Water Resources and Environment will meet on Tuesday, September 26, 2017 at 10:00 a.m. in 2167 Rayburn House Office Building, for a hearing titled "Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives." The purpose of this hearing is to receive the views of water stakeholders regarding infrastructure in the 21st Century. The Subcommittee will receive testimony from several public and private sector stakeholders with an interest in water infrastructure.

BACKGROUND

The U.S. Environmental Protection Agency (EPA) administers water quality and wastewater infrastructure programs pursuant to the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA). Title III of the CWA establishes the technological and water quality-based treatment requirements for point source dischargers, including municipalities' wastewater treatment works. Title IV of the CWA establishes the National Pollutant Discharge Elimination System (NPDES) permit program for the discharge of pollutants from point sources, including wastewater treatment works and certain municipal storm sewer systems. Title VI of the CWA provides for the establishment and capitalization of Clean Water State Revolving Loan Funds (CWSRFs) to aid in funding the construction of wastewater treatment works and other wastewater infrastructure around our Nation.

Resilient wastewater and clean drinking water services are necessary to sustain public health, support our economy, and protect the environment. Significant amounts of public resources have been devoted to improving water infrastructure in American communities over the last 45 years. An impressive inventory of physical assets has been developed over this period.

Our Nation's wastewater infrastructure includes over 151,000 public water systems, 100,000 major pumping stations, 800,000 miles of public sewers, and 200,000 miles of storm sewers.[1] Since 1972, with the enactment of the CWA, federal, state, and local investment in our national water and wastewater infrastructure has amounted to well over $2 trillion.[2] Of this amount, approximately $815 billion was spent on physical capital investments and $1.35 trillion was spent on operations and maintenance costs.[3] This investment has provided significant environmental, public health, and economic benefits to the Nation. Our farmers, fishermen, manufacturers, and tourism industries rely on clean water to carry out activities that contribute well over $300 billion to our economy each year. However, the Nation's ability to provide clean and safe water is being challenged as existing wastewater infrastructure is aging, deteriorating, and in need of repair, replacement, and upgrading.

The Federal Role in Financing Water Infrastructure

Beginning in the 1970s, the Construction Grants program, contained in Title II of the CWA, oversaw considerable investment in our Nation's wastewater infrastructure. From 1972 to 1990, the federal government provided more than $60 billion in direct grants to communities for wastewater treatment capital improvements under the Construction Grants program.[4] Despite this large federal expenditure, many newly constructed wastewater treatment plants were not treating wastewater at the efficiency levels they were designed to achieve and a large percentage of plants were in violation of their permits.[5] As a result federal, state, and local governments spent millions to fix the same treatment plants for which they originally spent millions to construct.[6] In part, as a result of these problems, in the 1980s, a shift occurred in the financing of water infrastructure. Congress and the Reagan Administration wanted states and localities to assume greater responsibilities for funding new wastewater treatment facilities. This led to the transition of the Federal Construction Grants program to a state revolving loan program to provide states with a permanent source of funding that would not be fully dependent on federal contributions – a change that was enacted in the *Water Quality Act of 1987*.

Since 1987, most of the federal government's assistance for water infrastructure has been provided through the CWSRF program. Through this program, individual states and territories maintain their own revolving loan funds to provide low-cost financing for approved water quality infrastructure projects, including municipal wastewater treatment, nonpoint source, watershed protection and restoration, estuary management, and more. These programs are capitalized annually by federal and state contributions. For every dollar contributed by the federal government, states must contribute 20 cents. Since capitalization of the CWSRF program began, federal contributions have reached $41 billion, with corresponding state

[1] American Society of Civil Engineers, *2017 Infrastructure Report Card: Wastewater* (March 2017).
[2] Congressional Budget Office, *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* (March 2015).
[3] *Id.*
[4] U.S. Environmental Protection Agency, *2016 Annual Report: Clean Water State Revolving Fund Programs*, EPA-832-R-17007 (March 2017).
[5] U.S. Government Accountability Office, *Environmental Protection Agency's Water Pollution Control Construction Grants Program* (June 1981).
[6] *Id.*

contributions of $7.6 billion.[7] However, these public funds have a multiplier effect. Over the past 30 years, these federal and state contributions in the 51 CWSRF programs resulted in over $120 billion in available funding for eligible projects.[8] At the same time, according to the Congressional Budget Office, the federal share of the costs for wastewater infrastructure has significantly declined since the transition to the CWSRF.[9]

To further assist in the financing of large water infrastructure projects, Congress enacted the *Water Infrastructure Finance and Innovation Act* (WIFIA), as part of the *Water Resources Reform and Development Act of 2014*, to provide federal credit assistance for drinking water and wastewater activities to be administered by EPA. This program is modeled after the Transportation Infrastructure Finance and Innovation Act program for surface transportation projects. WIFIA aims to provide credit assistance in the form of loans or guarantees for eligible water projects and promotes the use of public-private partnerships in the water market by reducing the cost of private participation. EPA has actively developed its WIFIA program and is expected to issue the first round of credit assistance by the end of 2017.

Water Infrastructure Needs

Water is our most precious resource, one that is essential to a healthy human life. As a result, water pollution issues dominate public concerns about national water quality and maintaining healthy ecosystems. However, "out of sight, out of mind" best describes our attitude toward water infrastructure, and this "hidden" infrastructure is often lost in the general infrastructure discussion.

In the United States, localities are primarily responsible for providing water infrastructure services and funding these services through user fees. Today, many communities face formidable challenges in providing adequate and reliable water infrastructure services, and investment is not always keeping up with the needs. In the absence of increased federal and state financial resources, the cost of many of these obligations ultimately rests with local governments and ratepayers. Today, local government provides the majority of the capital required to finance water infrastructure investments through loans, bonds, and user fees. A number of factors contribute to our Nation's water infrastructure problems, including changing demographics, underpricing, compliance with increased federal regulatory requirements without commensurate federal financial support, and deferred maintenance and replacement of water assets.

While the age of our water-related infrastructure and the absence of increased federal investment have both contributed to the challenges facing our water infrastructure needs, Hurricanes Harvey and Irma also demonstrated that these systems are vulnerable to damage from storm events. In particular, Hurricane Harvey caused historic flooding in Houston, Texas, that contributed to releases of wastewater from sanitary sewers.[10]

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[7] U.S. Environmental Protection Agency, *2016 Annual Report: Clean Water State Revolving Fund Programs*, EPA-832-R-17007 (March 2017).

[8] *Id.*

[9] Congressional Budget Office, *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* (March 2015).

[10] U.S. Environmental Protection Agency, *Press Release: Status of Water Systems in Areas Affected by Harvey.* (September 2017). <https://www.epa.gov/newsreleases/status-water-systems-areas-affected-harvey>

The EPA estimates the national funding need for capital improvements for such facilities totals approximately $660 billion over the next 20 years. Of this, the total documented needs for sustainable wastewater infrastructure, combined sewer overflow correction, and stormwater management are $271 billion nationwide (as of January 1, 2012, which is the most recent numbers available).[11]

Municipalities are very concerned about the impacts of a lack of available financial resources on the ability of local governments to meet their compliance obligations and needs. These needs are especially urgent, as many communities lack sufficient independent financing and continue to face the need to meet existing and future water quality requirements, all while EPA has stepped up enforcement actions against many municipalities.

More needs to be done to help our Nation's communities meet their water infrastructure needs. The continuing water infrastructure problems our Nation faces require a fundamental shift away from the "business as usual" approach. The first step in doing so, is to hear from various stakeholders' views on the types of policies that are needed to further improve our Nation's water infrastructure.

[11] U.S. Environmental Protection Agency, *Clean Watersheds Needs Survey 2012: Report to Congress*, EPA-830-R-15005 (January 2016).

WITNESS LIST

The Honorable Joy Cooper
Mayor
City of Hallandale Beach, Florida
On behalf of the U.S. Conference of Mayors

Mr. James M. Proctor, II
Senior Vice President and General Counsel
McWane, Inc.

Mr. David W. Pedersen, P.E.
General Manager
Las Virgenes Municipal Water District
On behalf of the Association of California Water Agencies
and the California Association of Sanitation Agencies

Mr. David St. Pierre
Executive Director
Metropolitan Water Reclamation District of Greater Chicago
On behalf of the National Association of Clean Water Agencies

Mr. Hector Gonzalez
Government Affairs Manager
El Paso Water Utilities
On behalf of the Association of Regional Water Organizations

Mr. Christopher Franklin
President and CEO
Aqua America
On behalf of the National Association of Water Companies

Mr. Lawrence Levine
Senior Attorney
Natural Resources Defense Council

BUILDING A 21ST-CENTURY INFRASTRUCTURE FOR AMERICA: WATER STAKEHOLDERS' PERSPECTIVES

TUESDAY, SEPTEMBER 26, 2017

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:03 a.m., in room 2167, Rayburn House Office Building, Hon. Garret Graves (Chairman of the subcommittee) presiding.

Mr. GRAVES OF LOUISIANA. The subcommittee will come to order.

Good morning and thank you all for being here. I want to welcome everyone to our hearing today on "Building a 21st-Century Infrastructure for America: Water Stakeholders' Perspectives."

But before we begin, I would like to extend our thoughts and prayers to victims of Hurricane Irma, Hurricane Harvey, and Hurricane Maria. I know that we have millions of Americans that are continuing to suffer and struggle through recovery efforts across the United States.

And I also know that there has been extraordinary generosity from members of the public across the United States and across the world, reaching out and offering resources and help, and many donations and services to a lot of our victims. But I ask that we all continue to keep the victims in our thoughts and prayers. And Mexico. Thank you very much.

As the chairman of the subcommittee with oversight over the Army Corps of Engineers and the Environmental Protection Agency, I can assure everyone that we are working closely with our Federal agencies to ensure a speedy recovery for the States and communities that have been impacted by these awful storms.

Since the subcommittee's first hearing in March, we have explored a variety of potential ideas for inclusion in an infrastructure package, and of course our water needs. Water and wastewater are an important component of that. But I am happy that today we have a diverse panel that is very well-invested into water and wastewater infrastructure to help inform some of our efforts moving forward.

We are all well aware of the needs for communities to address water and wastewater infrastructure, that they are substantial, and that these needs are going to continue to grow moving forward. In many communities, the water and wastewater infrastructure is

long past its design life, its intended service life. It is in need of urgent repair, replacement, and upgrading.

As a result, leaks and blockages are all too familiar an experience across the United States and represent a massive waste of vital, and sometimes scarce, resources. We have many needs in regard to combined sewer overflows, sanitary sewer overflows, and other challenges that are affecting the performance and environmental impacts and of course, ultimately, the impacts on the end user of many of these systems.

Shrinking municipal budgets, insufficient independent financing capabilities, and increasingly burdensome regulations without commensurate Federal support have compounded these problems and the communities' efforts to address them across the United States.

According to the EPA, the documented needs for sustainable wastewater infrastructure, CSO [combined sewer overflow] and SSO [sanitary sewer overflow] correction, and stormwater management are over $270 billion over the next 20 years, an extraordinary figure. I will say that again. The needs over the next 20 years are estimated to be approximately $270 billion. The needs for drinking water infrastructure drive this figure to over $600 billion. And these are very conservative estimates.

So with talk of a major infrastructure package, today we ask the not-so-simple question: What can we do? We ask the question: What should we do? What is the role of the Federal Government in these infrastructure investments moving forward? And how do we best invest these scarce resources to efficiently achieve the objectives that we all share in regard to water and wastewater infrastructure?

I believe it is going to take an all-hands-on-deck approach to reverse the decline of our Nation's infrastructure. Federal, State, and local investment will be necessary but cannot be relied upon to solve all our problems.

Instead, we need to move away from business as usual and utilize every tool that is in our toolbox. This means searching for new sources of funding. This means increasing collaboration between public and private entities. This means doing a better job more efficiently investing the scarce resources that we have available.

Earlier this year we had a hearing on improving water quality through integrated planning, talking about opportunities for efficiency there, and ensuring that we are actually investing dollars to achieve the problems rather than spending dollars on process.

We need smarter asset management and increased efficiencies in our water systems, and to do so, we need to incentivize the adoption of new and innovative technologies that will cut costs and improve water quality.

And as Hurricanes Harvey, Irma, and Maria showed us this past month, we need to build resiliently. Treatment plants in Texas, Louisiana, Florida, and elsewhere have been unable to cope with the influx from Harvey, Irma, and Maria, causing poorly treated wastewater and raw sewage to flow into city streets and nearby waterways. This has not only caused numerous public health and environmental concerns, but also challenges our national security.

We need to carefully prioritize our investments in water infrastructure to ensure that we are adequately protecting the public

health, promoting the economic growth of our communities, and preventing the degradation of the environment.

I look forward to hearing thoughts from our witnesses today. And I now recognize Ranking Member Napolitano for an opening statement.

Mrs. NAPOLITANO. Thank you, Mr. Chairman Graves, because you are highlighting this critical need to address all of our drinking water-related infrastructure.

Next month is the 45th anniversary of the enactment of the Clean Water Act, the main reason why our Nation's waterways experienced historic improvements in water quality even as the population increased by over 50 percent. To a large degree, the success of that act resulted from a strong Federal commitment to invest in its wastewater infrastructure improvements around the country.

In recent years, States and communities have started to question whether the Federal commitment to invest in our water and wastewater continues or whether Congress now believes, as former Presidents Nixon and Reagan highlighted in their vetoes of prior clean water bills, that the construction of wastewater infrastructure is "properly the responsibility of States and local governments."

Today trends on the Federal investment in the Nation's water-related infrastructure are, in my opinion, going the wrong direction. Recently the Congressional Budget Office issued a report highlighting how the Federal contribution towards addressing our Nation's infrastructure was declining, and how State and local governments are forced, where possible, to make up the difference.

This trend on a decreasing Federal commitment to addressing our water infrastructure challenges reflects the trend on how the Federal Government provides its contribution to address these challenges.

For example, in 1972 the Clean Water Act Construction Grants Program covered 75 percent of the cost of constructing water infrastructure for all our needs. However, when President Reagan proposed to substitute the Construction Grants Program for the Clean Water State Revolving Fund Program, the result was that the Federal contribution towards individual projects was reduced. This again compelled local communities to shoulder a greater share of the costs of individual projects.

More recently, when Congress created another financial mechanism, the Water Infrastructure Finance and Innovation Act, WIFIA, again the Federal contributions toward the construction of individual projects was further reduced and communities were again forced to look elsewhere to make up the difference.

To be clear, each of these mechanisms for infrastructure investment grants, SRF loans and federally leveraged private capital, have a place in solving our water-related infrastructure crisis. Yet I spot a trend and make this point: As the administration and Congress continue to discuss potential mechanisms to address our crumbling infrastructure, we recognize that the Federal Government already is contributing less towards the cost of individual projects today than just a few decades ago.

Yet there is no free lunch when it comes to solving our infrastructure crisis. When the Federal Government contributes less to the cost of these projects, somebody has to pick up the difference,

and often that somebody is local government or municipality or the individual ratepayer that is already struggling to make ends meet.

If we are serious about closing our water infrastructure needs gap, we must recognize the unique challenges facing all our individual communities. For those communities with financial capability to use the WIFIA program or private capital, that may be the appropriate mechanism of addressing their local needs.

However, we know that other communities continue to rely on mechanisms such as the Clean Water State Revolving Fund to obtain the financial assistance. To that end, the committee should quickly approve the legislation such as the bipartisan Water Quality Protection and Job Creation Act, which I cosponsor with Ranking Member DeFazio and Mr. Duncan of Tennessee, to reauthorize increased funding levels for this important program.

For those communities that still have the affordability challenges using these existing mechanisms, we need to explore ways to target Federal assistance to the neighborhoods or households least able to afford water and wastewater services. This will help communities meet their local infrastructure challenges in a way that does not disproportionately impact those least able to afford the cost.

In addition, I am concerned that any forthcoming infrastructure proposal from this administration will be light on real infrastructure spending and heavy on gimmicks such as environmental streamlining that would do nothing to solve our infrastructure needs. That would be a significant missed opportunity.

We will not be able to address our local water infrastructure with slogans that may sound like we are doing something but in fact we are not. Without question, our communities expect and demand safe and desirable water resources for their consumption, use, and enjoyment. It is our responsibility to ensure that these communities have adequate, affordable resources to address these needs, and that is that.

Thank you, Mr. Chair.

Mr. GRAVES OF LOUISIANA. Thank you, Mrs. Napolitano.

Before I begin introducing our witnesses this morning, allow me to dispense with some unanimous consent requests.

I ask unanimous consent the written testimony submitted on behalf of the following be included in the hearing's record: the Association of Metropolitan Water Agencies; the American Public Works Association; a letter from the American Rivers and other conservation organizations; a joint letter from Computing Technology Industry Association, Smart Cities Council, and Smart Waters Network Forum; and a letter from BlueGreen Alliance. Is there any objection?

[No response.]

Mr. GRAVES OF LOUISIANA. Without objection, so ordered.

[The aforementioned letters are on pages 122–140.]

I ask unanimous consent the record remain open 15 days for additional comments and information submitted by Members or witnesses to be included in the record of today's hearing. Is there any objection?

[No response.]

Mr. GRAVES OF LOUISIANA. Without objection, so ordered.

I ask unanimous consent that the record of today's hearing remain open until such time as the witnesses have provided answers to any questions that may be submitted to them in writing. Without objection, so ordered.

I am going to have to leave this hearing early today and I have asked the vice chair, Mr. Mast, to take over the chair at some point. I want to apologize to you for that. We have some conflicting committee business today. But I want to thank you all very much for being here.

The first witness today is the Honorable Joy Cooper, the mayor of the city of Hallandale Beach, Florida. Mayor Cooper, I am going to break, I am sure, rules, protocol, and everything else. I just want to ask you very quickly, could you just give a quick update on how things are in your community from the impacts of Hurricane Irma?

Ms. COOPER. Thank you very much, Mr. Chair. Thankfully, Hallandale Beach is 98 percent recovered. We were very, very fortunate. We were on the brink on flooding, but were not, and we are very fortunate, unlike Brickell. The Keys will be hopefully up and running for business, believe it or not, in November. And we are recovering.

Certainly many communities still need assistance. You are right on point. Thank you very much for kind comments to those that are suffering.

Mr. GRAVES OF LOUISIANA. You bet. Look, I think I speak on behalf of every member of this committee on both sides when I say that we all stand ready to continue assisting to find ways to help improve the efficiency of recovery efforts, and certainly continuing to keep your community and many others in our thoughts and prayers.

But with that, please move forward with your testimony.

TESTIMONY OF HON. JOY COOPER, MAYOR, CITY OF HALLANDALE BEACH, FLORIDA, ON BEHALF OF THE U.S. CONFERENCE OF MAYORS; JAMES M. PROCTOR II, SENIOR VICE PRESIDENT AND GENERAL COUNSEL, MCWANE, INC.; DAVID PEDERSEN, GENERAL MANAGER, LAS VIRGENES MUNICIPAL WATER DISTRICT, ON BEHALF OF THE ASSOCIATION OF CALIFORNIA WATER AGENCIES AND THE CALIFORNIA ASSOCIATION OF SANITATION AGENCIES; DAVID ST. PIERRE, EXECUTIVE DIRECTOR, METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO, ON BEHALF OF THE NATIONAL ASSOCIATION OF CLEAN WATER AGENCIES; HECTOR GONZALEZ, GOVERNMENT AFFAIRS MANAGER, EL PASO WATER UTILITIES, ON BEHALF OF THE ASSOCIATION OF REGIONAL WATER ORGANIZATIONS; CHRISTOPHER FRANKLIN, PRESIDENT AND CEO, AQUA AMERICA, ON BEHALF OF THE NATIONAL ASSOCIATION OF WATER COMPANIES; AND LAWRENCE M. LEVINE, SENIOR ATTORNEY, NATURAL RESOURCES DEFENSE COUNCIL

Ms. COOPER. Thank you. Good morning, Chairman Graves and Ranking Member Napolitano and members of this committee. My name is Mayor Joy Cooper. I am the mayor of Hallandale Beach. I would like to thank you for having this hearing today and inviting me to provide you with my city's perspective, as well as rec-

ommendations of the U.S. Conference of Mayors, on rebuilding our water infrastructure.

Hallandale Beach is a 90-year-old community in southeast Florida. We are 4.4 square miles, with a population of 38,000 that swells to 50,000 during our winter season. Our annual budget is $110 million, with a general fund of $70 million.

A full evaluation of our infrastructure needs was constructed in 2014. That included underground and aboveground infrastructure. The price tag is well over $200 million. We have committed over $12 million in our water supply and treatment systems, $30 million in the next 5 years on our sanitary sewers, and we plan on spending approximately $1 million per year to deal with sea level rise and associated flooding.

The proposed city budget has increased various service fees from 10 to 51 percent to cover projected expenditures. In the case of stormwater management, the increase is 220 percent. With a median income of $24,000 and 15 percent of our residents living on $15,000 a year, the rising fees are difficult to afford. And there is a growing concern that those households unable to make payments will place a significantly greater burden on those that can.

While we are committed to invest substantial amounts on public water and sewer services, we have a glaring need to invest in resiliency measures. Hurricane Wilma-related floods impacted numerous main roads in our community and resulted in damages to many homes.

In response, an extensive pumping system for two targeted areas with repetitive flood-related losses had to be designed and constructed at a cost of more than $25 million. We are currently constructing phase 2 of the project. To complete the project and maintain it required the 220-percent increase in fees I mentioned earlier.

This project would not have been possible without the help of FEMA both in financial and technical consultation. This is the type of model of intergovernmental partnership that works best.

Overall, local governments in Florida have invested over $88 billion in water and sewer from 2000 to 2014, $7.1 billion in 2014 alone. This amounts to investing $19.5 million every day. Sewer revenues increased 116 percent from 2000 to 2013, and water revenues increased 80 percent over the same time period.

I just described my city and Florida's experiences and investments. In my written testimony, there is an outline of national needs, along with how they should be determined, along with specific actions that would boost spending. But a majority point is—the major point, pardon me—is for local governments, by far the main investments in water and sewer, around 95 to 97 percent.

We are trying to do our part, but it is clear that we are not—but clearly it is not adequate to meet our Nation's infrastructure needs without unduly burdening our citizens. We need a more robust infrastructure plan with more resources and tools. The Conference of Mayors has recently released a framework for addressing the Nation's local infrastructure needs.

We ask you to do the following:

Prevent any efforts to cap or limit tax-exempt municipal bonds;

Allocate resources directly to cities and counties for priority water and sewer infrastructure projects that will support low- and moderate-income neighborhoods;

Support the use of public-private partnerships;

Amend the Internal Revenue Code to remove the State volume caps for private activity bonds used to finance public purpose water and sewer facilities;

Direct at least $5 billion in additional funding to low- or no-interest grants, to State Revolving Funds;

Codify integrated planning and affordability legislation in Mr. Gibbs' bill, H.R. 465;

Build infrastructure that increases resiliency; and

Increase Army Corps of Engineers funding and spend the full amount of the annual Harbor Maintenance Trust Fund on its intended use.

I again want to commend this committee for addressing this important issue, and I hope you are successful in passing a comprehensive infrastructure bill. Thank you.

Mr. GRAVES OF LOUISIANA. Thank you, Ms. Mayor.

The next witness is James Proctor, from McWane, Incorporated.

Mr. Proctor?

Mr. PROCTOR. Chairman Graves, Ranking Member Napolitano, and members of the subcommittee, good morning. My name is Jim Proctor with McWane, and thank you for the opportunity to testify about an issue vital to our Nation's health, economy, and security.

Water is our most precious resource, one that is essential to human health and life. Access to water depends upon a reliable water infrastructure system that preserves, treats, and delivers safe drinking water to our Nation's communities. For almost 200 years, our team members at McWane have proudly provided the building blocks for our Nation's water infrastructure, supplying products that transport clean water to communities and homes across the country.

Despite its obvious importance, "out of sight, out of mind" best describes the Nation's attitude toward water infrastructure. But the reality is that much of America's wastewater and water infrastructure is nearing the end of its useful life, and over $1 trillion is needed over the next 20 years to rebuild and rehabilitate these systems.

However, our water infrastructure challenges cannot be solved simply by providing more Federal funding. Rather, a fundamental shift away from the traditional approaches must occur, through a combination of new sources of funding, greater accountability, and improved governance.

For the past 9 months, an inclusive group of prominent associations in the water infrastructure sector have been working together to discuss and develop a set of ideas that can provide this positive and transformative change. The participants in these discussions include the spectrum of publicly and privately owned systems, rural and urban communities, and drinking and wastewater systems.

This package of ideas the group has discussed is broadly organized around three themes: first, removing barriers to investment

and better management; second, funding; and third, innovation. I will discuss each of these in turn.

Removing investment barriers: Water and wastewater services in the United States are delivered by more than 70,000 entities, over 80 percent of which serve fewer than 10,000 customers. In fact, 50 percent serve fewer than 500 customers. These small operators sometimes struggle to achieve the scale of operations and expertise necessary to meet the challenges that they face.

Voluntary partnerships with other entities can help them scale up to develop the necessary financial, operational, and technical capacity to solve this problem. There are many paths to such partnering arrangements, including public to public, public to private, private to private, and private to public partnerships, as well as concessions, operating agreements, or even the consolidation of assets or services.

But let me emphasize, nothing I say today should be construed as favoring one path over another. Rather, all paths should remain available at the discretion of the local entity.

Such partnerships should be encouraged by, among other things, more financial incentives, a regulatory safe harbor, removing the defeasance penalty, encouraging effective utility management and best practices, including requiring full-cost accounting, and empowering local decisionmaking.

Congress should also increase Federal funding for the water sector. Since the recession, annual appropriations for water infrastructure have been decreasing while the funding need has been increasing.

To correct that unfortunate trend, Congress should extend WIFIA and increase its funding to $45 million, increase funding to the State SRFs to $3 billion for each program, provide more technical assistance to small and rural systems, remove the volume cap on private activity bonds for water projects, retain tax exemptions for municipal bonds, and expand eligibility for SRF loans to private water providers.

In addition to funding, Congress should help increase innovation by authorizing and funding the creation of a national water infrastructure test bed network, and establish a national program for collaboration in the sharing of best practices among utilities. Congress should also task the Department of Labor with developing a workforce development program for water and wastewater systems of tomorrow.

These ideas have all been discussed by the various water constituencies mentioned above, and in concept they all enjoy the unanimous support of the group, subject to agreement on the actual legislative language. But I should point out that the consensus is a product of compromises that balance diverse perspectives and the resulting premise that all the various components are linked.

These are only a few of the issues and solutions that merit discussion. The key takeaway, however, is that the scope and scale of America's water infrastructure needs require a forward-looking and creative response. Reform and reauthorization of the Clean Water Act programs like the SRFs and WIFIA are crucial to that effort, and we at McWane are glad to have the opportunity to contribute to that process.

Thank you very much.

Mr. GRAVES OF LOUISIANA. Great. Thank you.

Our next witness is David Pedersen from Las Virgenes Municipal Water District.

Mr. Pedersen.

Mr. PEDERSEN. Good morning, Chairman Graves, Ranking Member Napolitano, and members of the subcommittee. My name is David Pedersen, general manager of Las Virgenes Municipal Water District in Calabasas, California. We are a municipal water/wastewater agency that serves about 100,000 people in western Los Angeles County.

Thank you for the opportunity to testify on behalf of the California Association of Sanitation Agencies and the Association of California Water Agencies. CASA and ACWA represent hundreds of local agencies in California on water quality issues and drinking water needs. Today I will summarize four important issues that are described in more detail in my written testimony, which I ask be accepted for the record.

First, CASA and ACWA ask the subcommittee to support a robust infrastructure funding partnership between the Federal Government and local communities, including both grants and loans. California and much of the Nation face deteriorating infrastructure, increased regulatory compliance costs, unpredictable weather conditions, and general population growth.

The U.S. EPA State revolving loan fund program right now is currently the most important and effective water infrastructure financing program available to local agencies. In fact, projects that were constructed with SRF funds, including and especially those for water recycling, were key and instrumental in reducing the impact of the statewide drought that we experienced in California.

In addition to robust funding, we recommend that the subcommittee update the formula that is used to allocate those limited funds to States.

Moving to our second issue, we ask that the subcommittee extend National Pollutant Discharge Elimination System permit terms from 5 to 10 years. We believe this change would provide significant benefits to States and to the local public and wastewater agencies.

In the 45 years that the program has been in place, NPDES permits have become increasingly complex, and the treatment technologies have become substantially more expensive and time-intensive to implement. As a result, many local agencies are faced with negotiating the terms for a new permit while they are still working to implement the improvements for their current permit.

The 5-year term that was established in 1972 no longer reflects today's clean water challenges, and it is an obstacle for long-term planning. My agency is a prime example of the advantages of a 10-year permit. In July of 2013, the U.S. EPA established a TMDL for our watershed that created some of the toughest nutrient standards in the country. Upgrades to our treatment plant were estimated to be in the neighborhood of $160 million.

Through a stakeholder-driven process, we developed the Pure Water Project Las Virgenes-Triunfo, a surface water augmentation project that provides a new source of drinking water for us and also

meets our regulatory needs. The $95 million project is estimated to take 13½ years to complete, yet we will be faced with renewing our NPDES permit every 5 years during that process. Sacramento Regional County Sanitation District experienced a similar challenge in that they were making over $1 billion in improvements to their treatment facilities when they were faced with a 5-year permit renewal.

Ten-year permit terms would give local water and wastewater agencies adequate time to comply with their existing regulatory requirements before new ones are imposed, and also States could direct their resources to higher priority issues. Importantly, the new 10-year permits would include the existing permit reopener provisions that allow new conditions to be addressed into the permit during the term of the permit.

Third, CASA and ACWA support integrated planning as an effective means for public agencies to address multiple Clean Water Act requirements. We support proposals recognizing the value of integrated plans, particularly those that are developed by our colleagues at NACWA [National Association of Clean Water Agencies] and in collaboration with the EPA. Integrated plans promote more comprehensive water planning while stretching limited local resources.

And as our final request, we ask that Congress avoid proposals that include consolidation or reorganization of local water and wastewater agencies as a criterion for Federal funding or to rank projects for Federal funding. Consolidation may be appropriate in certain instances, but we believe these decisions are best left to the policymakers at the local level.

In summary, we urge the subcommittee to maintain robust funding for the vital SRF program, extend NPDES permit terms to 10 years, support the use of integrated plans, and avoid consolidation or reorganization as a criterion for Federal funding.

Thank you for your consideration.

Mr. GRAVES OF LOUISIANA. Thank you. Our next witness is David St. Pierre from the Metropolitan Reclamation District of Greater Chicago.

Mr. St. Pierre.

Mr. ST. PIERRE. Chairman Graves, Ranking Member Napolitano, and members of the subcommittee, thank you for the opportunity to appear before you today. My name is David St. Pierre, and I am the executive director of the Metropolitan Reclamation District of Greater Chicago. I also serve as vice president of the National Association of Clean Water Agencies, which is a not-for-profit trade association that represents the interests of public clean water agencies nationwide.

The need for greater investment in our Nation's infrastructure, including water, is well-known. Nationally, our Nation's clean water infrastructure has received a D-plus grade from the American Society of Civil Engineers, and the EPA calculates national investment needs to fully comply with the Clean Water Act under current conditions at approximately $271 billion over the next 20 years.

Those of us who work in this sector understand that the true investment needs are likely much higher. And while local clean water

investments are often driven by Federal statute or enforcement actions, over 90 percent of water investment in the U.S. is funded by local dollars.

Earlier this year, then-President-elect Trump called for a tripling of Federal funding to the State Revolving Funds to help address water infrastructure investment needs. NACWA applauds this recognition of the important and successful role of the State Revolving Funds.

We are grateful for the work the subcommittee has done to support strong SRFs. As discussions advance regarding Federal infrastructure investment, it is imperative that the SRFs play a prominent role and that real investment dollars for water are on the table to ensure clean water gains continue to be made.

Private investments facilitated by the Clean Water SRF may be appropriate in certain situations but should not come at the expense of financing for publicly owned systems which serve the overwhelming majority of the U.S. sewered population.

Another very timely area of interest to NACWA and its members is the potential for regionalization, public-public, and public-private water utility partnerships to help advance clean water, particularly in areas where there are opportunities for economies of scale or sharing of resources and expertise.

In the Chicago region, our agency provides technical and financial support to 125 communities in Cook County to address infrastructure needs and build resilient communities. These efforts have encouraged local community investment and collaboration and increased efficiency in addressing infrastructure needs. These regional efforts allow solutions to problems in local communities and decrease State and Federal liabilities.

Another element of sustainable long-term financial footing is moving toward full-cost accounting. But given the complex and dynamic nature of this calculation, we do not support it as a barrier to the SRFs. Municipalities face enormous pressure to maintain rates based on the abilities of low-income households to pay, which can inhibit charging the full cost of the service provided, or lead to deferred investments. A safety net for the lowest income households would better position utilities to charge rates that fully reflect the true cost of service and address the infrastructure investment gap.

In addition, utilities need flexibility to address today's challenges. These challenges underlie why the clean water sector is encouraged by the U.S. EPA's integrated planning framework. The integrated planning approach provides communities an opportunity to consider their clean water obligations holistically, to develop compliance schedules that can maximize each ratepayer dollar, focused first on the investments that are of top priority for the community and environment, and ensure the greatest possible net environmental benefit is achieved.

We greatly appreciate the work that the subcommittee has done today on integrated planning and to address affordability concerns. We recognize Representative Gibbs, former chairman of the subcommittee, who sponsored H.R. 465, the Water Quality Improvement Act.

Similarly, we recognize several members of the Transportation and Infrastructure Committee, including subcommittee Ranking Member Napolitano, Representative Bustos, and Representative Smucker, cosponsors of H.R. 2355, the Water Infrastructure Flexibility Act. These efforts signify nothing less than trying to bring the Clean Water Act into the 21st century.

In closing, I would like to thank the subcommittee, Congress, and the administration for their focus on clean water infrastructure investment. I believe that investment in water is a nonpartisan issue which protects public health and the environment, creates jobs, and is essential for economic development. As Congress looks to advance the 21st-century infrastructure for America, clean and safe water must be a top investment priority supported by a true local, State, and Federal partnership.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. St. Pierre. I think you ended right at 5 minutes. Perfect timing.

Our next witness is Mr. Hector Gonzalez, El Paso Water Utilities.

Mr. Gonzalez.

Mr. GONZALEZ. Good morning, Chairman Graves and members of the subcommittee. My name is Hector Gonzalez. I am here representing El Paso Water. El Paso Water provides water, wastewater, reclaimed water, and stormwater services for the residents of El Paso and some of the surrounding areas.

I am also on the board of directors of the Association of Regional Water Organizations, which supports policies and infrastructure funding programs that will help regional water and wastewater systems in unserved and underserved communities.

Thank you for the opportunity to share my thoughts on key priorities for infrastructure legislation. The first of the priorities deals with how the Association of Regional Water Organizations is focused on how best to help rural water systems in unincorporated areas receive better service at a lower cost. Outside of the city limits of El Paso, approximately 35,000 people are not connected to a public wastewater system. An estimated $500 million is required to provide the needed connections.

Laws prohibit our utility from spending ratepayer money outside the service area, but we have loaned expertise and partnered to identify Federal funding and manage projects. Various Federal agencies have helped extend potable water service, but without wastewater connections, homes often have failing septic systems, which pose a public health hazard.

There are thousands of similar stories across rural America, where communities are underserved and must rely on inadequate septic systems. There are an estimated 50,000 community water systems across the country, and all but the largest have a difficult time accessing capital, which prevents major infrastructure improvements from moving forward.

These are challenges that need attention in the new infrastructure bill. Programs with Federal matching grant funding are needed to fill these gaps. The Association of Regional Water Organizations sees regionalization through both private-public partnerships and public-public partnerships as the best solution to improve water resource planning and increase access to capital. Through

partnerships, we can fill the gaps and execute major capital investments and deliver results.

The second priority that I would like to focus on is water reuse. With the frequency of drought and growing challenges from declining freshwater resources, more and more communities are turning to impaired groundwater, wastewater, and stormwater to meet their future needs.

El Paso Water is active with the WateReuse Association, which represents various communities and effectively advocates for policies and funding to increase water reuse. They emphasize the value of water reuse as a safe, reliable, locally controlled water supply that protects the environment, sustains economic growth, and provides a high quality of life.

Several decades ago, El Paso Water faced water scarcity fears. Yet, because of our pioneering efforts in reuse and conservation, we are now considered a leader in water resource innovation. But we, and many communities throughout the arid West, will need to expand the reuse of water resources to ensure freshwater supplies for the future.

I will share two water reuse examples from my home city. El Paso Water owns and operates the Kay Bailey Hutchison Desalination Plant. This is the largest inland desalination plant in the world. It provides a drought-proof supply for our city, and also sometimes serves the needs of Fort Bliss. We will need to significantly expand this plant in the future.

In another reuse project, El Paso plans to build an advanced water purification facility that will transform wastewater into high-quality drinking water and send it directly to our customers. Both of these water reuse projects are expensive, at about $100 million apiece. Both projects are essential to our future water supply.

Many other communities face similar challenges, and with Federal funding opportunities, these types of projects can move forward, spur innovation, and ultimately bring down the cost for water reuse overall.

I would like to mention a couple of considerations as you take up the infrastructure bill. El Paso has partnered with the U.S. Army Corps of Engineers in various stormwater projects. Infrastructure legislation should expand Corps funding for dams and flood control systems. New focus areas should include the capture and treatment of stormwater for reuse.

Military base partnerships with local water utilities deserve attention. El Paso Water provides 100 percent of the wastewater service to Fort Bliss, and infrastructure at times serves municipal and military base purposes and would benefit from Federal funding program opportunities.

Finally, I would encourage streamlining of regulatory requirements, especially related to water reuse, and simplifying the Federal funding application process. Excessive delays could be removed with a new one-stop approach of prequalification based on a master application and a single comprehensive review.

In closing, continued utility innovation success depends on partnership with Federal Government agencies and the ability to obtain funding assistance for innovation projects. Thank you for the opportunity to be here today.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Gonzalez.

Our next witness is Mr. Christopher Franklin from Aqua America.

Mr. Franklin.

Mr. FRANKLIN. Thank you, Chairman Graves, Ranking Member Napolitano, and members of the subcommittee. I am Chris Franklin, and I am president and CEO of Aqua America and president-elect of the National Association of Water Companies, on whose behalf I speak today.

The NAWC is the association that represents the regulated water and wastewater industry. In many ways, our companies operate water utilities in the same ways that large gas and electric utilities operate. NAWC members are located throughout the Nation, and range in size from multibillion-dollar companies to some smaller and more localized water utilities.

The company I lead is called Aqua America, and it is a water and wastewater utility that serves about 3 million people in 8 States across the country. In fact, we have operations in at least seven members' districts of this subcommittee. I would like to focus my time today on the actions the Federal Government can take to unleash solutions to meet the Nation's significant water and wastewater infrastructure needs.

Now, as a result of our size and our management strategies, regulated water utilities are able to take advantage of economies of scale. Spreading the cost of infrastructure improvements, operating costs, and billing and customer service over more people creates a benefit for customers.

Now, on a typical 3-year cycle, Aqua America spends over a $1 billion in capital replacing water and wastewater pipe. Over the last decade, we replaced an average of 130 miles of water main each year. Due to the large amount of pipe we purchase, we can buy pipe at bulk prices considerably lower than many other utilities. And by the way, all of this work has dropped the frequency of our main breaks to far less than the national average.

Now, you know very well the challenges faced by small and mid-sized city mayors. Public safety, human services, streets—for a mayor, finding capital dollars to replace water and wastewater mains underground where nobody will take notice is a challenge. We understand these political and financial challenges facing elected officials. And frankly, it is one of the reasons we believe that NAWC can be part of the solution.

Today the annual appropriation for the clean water and drinking water State revolving loan funds are approximately $2 billion. Importantly, the six largest members of our association collectively are spending $2.7 billion every year on their systems. So for the committee's consideration, I would like to talk about two policies that would lead to more efficiencies.

The first recommendation is the Federal Government should incentivize partnerships in the water sector. Let's face it, there are more than 50,000 water systems in the country and 16,000 different wastewater systems. I have been an executive and a board member of water and electric utilities now for more than two decades, and I can tell you that without economies of scale, it is tough to be viable in the utility business for any length of time.

That is one of the reasons why most environmental agencies and public utility commissions have long ago adopted policies to encourage consolidation of water and wastewater systems. Incentivizing partnerships and consolidation is the partnership we recommend to you today.

I want to acknowledge my colleagues on the panel and across the municipal sector for the fine work they do. There are many well-run municipal systems, particularly in larger towns and cities where economies of scale are apparent. But within those 65,000 water and wastewater systems, there are also many smaller systems that continue to struggle.

Now, the second recommendation that we will make is that the Federal Government mandate effective utility management and require financial viability and accountability for performance. Noncompliant water and wastewater systems not only create a growing financial burden, but they pose significant risks to public health and the environment.

According to the EPA, there are presently thousands of domestic wastewater systems that are in significant noncompliance. These failing systems should not be subsidized with Federal dollars without demonstrating a path toward long-term financial and operational viability.

We recommend that all applicants for public dollars demonstrate that they have fully accounted for the long-term costs of their projects, including any risks inherent in construction, operations, and maintenance costs.

I appreciate the invitation to appear before the subcommittee today, and at the appropriate time, will be happy to answer questions.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Franklin.

Our last witness is Mr. Lawrence Levine from the Natural Resources Defense Council.

Mr. Levine, thank you for being here. You are recognized for 5 minutes.

Mr. LEVINE. Thank you. Good morning, Chairman Graves, Ranking Member Napolitano, and members of the subcommittee. I am Lawrence Levine, a senior attorney with Natural Resources Defense Council. I appreciate the opportunity to testify today.

First-class infrastructure to protect clean water and public health is among our most basic and most important needs as a Nation. Yet in much of the country, our aging infrastructure is simply not up to the twin tasks of providing everyone with access to the safe water and sewer services they need, and keeping our waterways free of harmful pollution.

In too many communities, both large and small, urban and rural, the public is still drinking water with contaminants that pose serious health risks from systems that leak a substantial portion of the water they produce. Meanwhile, sewage and polluted runoff make our waters both unsafe for human use and too degraded to support the fisheries and natural habitat we need for sustenance, recreation, and natural flood mitigation.

The effects of climate change, droughts, floods, storms, sea level rise, all threaten to degrade or damage our water infrastructure

even further, as the devastation caused by Hurricanes Harvey, Irma, and Maria over the last month so drastically illustrates.

To protect our communities and our natural environment, there is a critical need for major new investments in water, wastewater, and stormwater infrastructure. Critically, the scale of the need is so vast that without a large and lasting commitment of new funds from the Federal Government, leveraged with additional funds from the States, our communities simply will not be able to fund the investment they need so badly to bring their water systems into the 21st century.

Major new Federal investments, like all of our Nation's infrastructure investments, can be deployed to simultaneously deliver economic, social, and environmental benefits, spur innovation in clean and efficient water and energy systems, invest in climate-resilient infrastructure projects and smart technology, ensure accountability for every dollar, allocate flexible funding for local and regional planning, and create good, forward-looking jobs beyond the construction phase of infrastructure projects.

For water, wastewater, and stormwater infrastructure funding specifically, NRDC also urges Congress to embrace a number of key principles, including the following:

Expand the State Revolving Funds and leverage additional investment by States and local governments;

Direct new funds to natural and nature-based infrastructure solutions;

Ensure that projects are designed, sited, and built with the full consideration of the future impacts of climate change;

Ensure that communities and families in the greatest need are not left behind;

Amplify benefits to the economy by incorporating "buy American" domestic sourcing requirements, prevailing wage provisions, and green job opportunities.

Based on these overarching points, NRDC offers the following specific priority recommendations to Congress.

First, increase funding and improve use of existing funding. Increase the current annual appropriations to the SRFs to $6 billion, which would mark a return to a similar level, adjusted for inflation, as was appropriated under President Reagan for the Clean Water SRF alone, and it would be the level the President promised during last year's campaign.

Direct the additional funds to water use efficiency, green infrastructure, stormwater capture and reuse, hardship communities, source water protection, nutrient reduction, lead service line replacement, water loss control, and climate resilience.

Provide incentives to States to leverage Federal funds and invest more State dollars in water infrastructure by allowing States that exceed the minimum required match for Federal SRF capitalization grants to distribute a larger share of their SRF funding as grants rather than loans.

Reauthorize and improve the sewer overflow control grant program under Clean Water Act section 122.

Improve implementation of existing requirements, which Congress enacted in 2014, that promote the use of water efficiency, recapture, and reuse strategies in Clean Water SRF-funded projects.

Second, ensure water and sewer service remains affordable for low-income households even as utilities generate additional local revenue to meet clean water needs. This includes:

Prioritizing disadvantaged communities in water infrastructure grant programs;

Creating a Federal low-income water and sewer assistance program, analogous to LIHEAP [Low Income Home Energy Assistance Program] for energy, to help maintain affordable costs at the household level, and using Federal policy to spur creation of complementary State and local assistance programs to promote more equitable water and sewer rate structures;

And to increase utilities' use of asset management, green infrastructure, and water efficiency strategies that reduce costs for all customers.

Third, reinstate the Federal Flood Risk Management Standard to protect the value of Federal water infrastructure investments by reducing the risk of severe damage and flooding disasters, as S. 1798 would do, introduced 2 weeks ago.

Fourth, support tools for effective prioritization of pipe replacement and leakage control, as in title 3 of H.R. 3275.

And finally, preserve and strengthen source water protections, including the Clean Water Rule, to protect health and reduce treatment costs.

Thank you.

Mr. GRAVES OF LOUISIANA. Thank you, Mr. Levine.

I have a couple of quick questions and Mr. Mast and I are going to switch up here. I am curious. We can sit here and talk for hours about the need for Federal resource needs in water and wastewater, and it seems as though the Federal Government's role has continued to grow and evolve over time.

As we focus on building a new infrastructure package, a new infrastructure approach at the Federal level, one of the things that I believe we need to do is we need to determine what the Federal objectives of this infrastructure package is. What are the Federal priorities? And then to develop effective criteria or metrics for us to advance those and actually complete those objectives, as opposed to taking a shotgun-type approach where we throw a nickel at every $10 problem across the country.

I am curious if—Mayor Cooper, could you reflect a little bit on what you view the Federal Government's role is in water and wastewater infrastructure?

Ms. COOPER. Thank you, Mr. Chair. Over the past 10 years in working with integrated planning and looking at what we can do, I believe that in my testimony, in my written testimony, in the suggestions that we can move forward is really work on the SRF funds and free up some more money as far as grants. We have been focused on that as well. I think that would help offset a lot of the affordability.

Also, as far as integrated planning, give the timeframes that many of the members have suggested here. And many times it is about integrated planning, fair and equitable distribution of the funds, and the SRF plan that we are asking to fund, and the other list of recommendations from the U.S. Conference of Mayors.

Mr. GRAVES OF LOUISIANA. Anyone else care to quickly comment on that, on what you see the Federal Government's role being in water and wastewater investment? Mr. Franklin?

Mr. FRANKLIN. Mr. Chairman, I would suggest, as well as you could, encourage partnerships—partnerships within municipals, partnerships between municipal and investor-owned regulated utilities. The more we can bring economies of scale to bear where we can handle these heavy, heavy costs over more people and spread that cost more widely, I think long term we get rate stability.

And certainly there is a role for Federal dollars. Certainly there is a role for the Federal Government. But the encouragement of these partnerships I believe is critical.

Mr. GRAVES OF LOUISIANA. Thank you. Being a recovering non-Federal sponsor with many water projects in south Louisiana, one of the challenges we had was the Federal Government would say, OK, here is an area where we can participate, but the certainty associated with their funding stream was always very unpredictable.

And so, my two cents, it seems as though if we can move in a direction of better prioritizing what the Federal Government's role is and improving predictability of certainty of the funding, that is going to provide a much better situation for folks trying to implement water and wastewater projects at the State and local level.

Mr. Levine, I want to ask you a question. Toward the end, you made reference to the Federal Flood Risk Management Standard. That is something I struggled with.

If you are going to tell communities that they cannot rebuild—for example, Mayor Cooper's State—that they cannot rebuild or invest any Federal funds unless they meet a 500-year standard or the alternatives that were in place, yet FEMA is not allowed to compensate you for that higher or more resilient standard, how do you recover a community that is already challenged with recovery, with perhaps, in the case of Florida, billions and billions of dollars in recovery, loss of taxes, loss of property values, and things along those lines?

It seems like you are actually throwing a curve ball to a community that is already undermined. And this is not a curve ball question. I really am curious about this because I have struggled with this question for over a year now.

Mr. LEVINE. Sure. Thanks for the question. In our view, it is really a commonsense approach. Right? If we are going to—it goes to your question, really, of prioritization and how we are going to spend Federal dollars in the most effective way. Right?

If we are putting Federal dollars towards projects that are likely to see the same damage over and over again from floods, from larger storms that, as we all know, are more likely to occur more frequently over the future, and we have already been seeing that, if we put Federal dollars towards that and do not design those projects in a way that is resilient to minimize or avoid that flood risk damage, that flood risk, it is not a wise use of Federal funds.

And so there is simply a need to find the right projects built in the right way to serve those local needs. But it does not serve either the needs of the Federal Government or the needs of the local community if things are rebuilt in ways that are not going to be

resilient and be continually able to function and provide those basic local services.

Mr. GRAVES OF LOUISIANA. Thank you. My point—I mean, everyone, I think, supports resilience. The problem is that without the corresponding resources for a community that is already dealing with recovery, then you are going to be unable to rebuild your community.

If you are requiring that rebuilding occur at a higher standard, you are going to be unable to rebuild your community without the corresponding resources. So I am just concerned. I am not a town, but I am just concerned about the relationship there, and I think we need to think through this a little bit more.

But with that, I want to thank you all very much. I have some other questions we are going to submit in writing to you and would appreciate your responses there. But I am going to recognize Mrs. Napolitano and am going to switch with Mr. Mast. So thank you very much for being here.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

In my opening statement, I did express some concern about recent trends on how Congress provides Federal assistance to wastewater infrastructure projects. Several of you noted, rightfully, that the Federal share of individual projects has been decreasing over time to a point that, some of you noted, the Government invests less than 10 percent of annual water and sewer capital costs.

Several of you also note that the current mix of federally subsidized loans and leveraged Federal financing does not work for every community. Is it time for Congress to rethink the trend, as my colleague has stated, envision a renewed Federal water and wastewater program, to address the infrastructure needs of communities facing affordability concerns, such as those with lower income populations or smaller or rural communities?

Also, the Federal Government played a significant role in financing the first generation of water and wastewater systems immediately following the enactment of the Clean Water Act. Is it time for us to renew the role for certain communities to implement in the next generation of projects? Mr. Pedersen?

Mr. PEDERSEN. Thank you, Ranking Member Napolitano. Good question, and in California we certainly support efforts to look at affordability for water and also affordability and investment in disadvantaged and economically challenged areas.

We believe that there is a great need for grant programs to continue. We recognize that the funding landscape has changed dramatically, and loans are actually a very valuable tool, the SRF program. But in addition, grants for those economically challenged areas, we think, are very helpful to both fund their capital needs, and perhaps in the future, O&M needs.

With regard to the Safe Drinking and Clean Water State Revolving Fund, as my colleagues on the panel have urged the subcommittee, increased levels of funding are very important. We are really on our third, perhaps even our fourth, cycle of improvement since the adoption of the Clean Water Act, and those improvements are becoming more expensive and more time-intensive to implement. And so that funding is vital to support our local agencies.

Mrs. NAPOLITANO. Mr. St. Pierre?

Mr. ST. PIERRE. So I think lower income concerns are a major issue and a barrier to charging the full price for water services. I think at the Federal level, it really would be helpful for some kind of a program, whether it is a water ratepayer assistance program, to make water affordable.

I think that, at the local level if we could charge full-cost pricing, a lot of these things become a lot more affordable. But that is the issue. It is lower income affordability concerns that really keep water from that full-cost price.

Also, I do believe in partnerships with other communities. Chicago, we do provide grant programs for disadvantaged communities. The economy of scale issue, I have 5 million customers; I certainly can afford a lot more than a system that has 100,000 customers. So I can afford that kind of help.

I think that the economy of scale issue needs to be looked at, and the regionalization of water needs to be considered in a variety of venues.

Mrs. NAPOLITANO. Ms. Cooper?

Ms. COOPER. Thank you, Ranking Member Napolitano. I believe there is a place for public-private partnerships as far as—the one thing that it needs to be looked at is community by community. That is why we have been focused on this integrated planning.

For example, in Florida, we actually share a municipal service with a municipal service district with five other communities, but our water is independent. So when you are looking at this, we have been looking at at least being granted the ability to address it on a local demand need.

As far as affordability, again going back to my statements in the presentation on evaluation, we do not want to displace those costs on the people that can afford. I believe that ties into a grant system, that we should go back to the original, so wisely put in your presentation and your questions, in regards to going back to a mix of grants and State Revolving Fund increases. I do not think there is another way to avoid the displacement of some of those costs without some kind of program, such as you are recommending.

Mrs. NAPOLITANO. Mr. Franklin?

Mr. FRANKLIN. Thank you, Ranking Member Napolitano. I guess I would make one point. I would like to see access to the State revolving loan fund for clean water available to all. A lot of people are under the misconception that companies like mine, utilities, can make money on low interest. And that is a fallacy.

The reality is public utility commissions only allow us to pass through interest. And since all Federal taxpayers pay into these through their taxes, we should allow all Federal taxpayers, including the customers of utilities, to access these low-interest funds.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Mr. MAST [presiding]. Now we are going to go to my friend and fellow bomb technician, Representative Crawford.

Mr. CRAWFORD. Thank you, Mr. Chairman. Appreciate it.

I have a couple of unique challenges. They are not necessarily unique to my district, but it is unique to rural geographies. And that is small towns, rural communities, remote areas, where it is difficult to fund wastewater treatment systems and things of that nature.

I have suggested sort of working collectively with small communities in a given area, and just would like to get some feedback from you on the panel, if anybody wants to weigh in on this. In a municipal area, obviously, a metropolitan area, you have a funding mechanism that exists.

How do we drive funding for a scenario that I just described along the lines of what a metropolitan area has, given the population challenges that we have? I certainly think that consolidation is one approach. But does anybody want to address the funding in the consolidation? Mr. St. Pierre, you look like you have something on your mind.

Mr. ST. PIERRE. Yes. One of the things we are working with U.S. EPA on is a peer-to-peer network for smaller communities. And instead of an enforcement type program with the States, for small communities being able to bring in technical support from larger utilities that can help those utilities really put together a plan for their infrastructure.

Also, be able to access SRF funds, which really, for smaller communities, if they do not have technical expertise, can be quite difficult; and really help put them on a platform. We have a meeting with a lot of utility leaders next Sunday and U.S. EPA to really look at this model and see if there can be a support service that is supported from a national level, created at a State level, where we can provide value to rural communities.

Mr. CRAWFORD. Mr. Gonzalez?

Mr. GONZALEZ. Yes. In the case of El Paso, we have some funding challenges to deal with. During the next 10 years, we expect to spend $1 billion, estimated, in order to serve the residents within the city.

We also have some challenges in trying to help many of the small communities that are located outside the city. We have got a long history of working with various Federal agencies. Many times, some of the regulations that are in place prohibit us from being able to apply directly for funds for some of these small communities.

We have got one specific example that comes to mind, an area that has about 1200 connections or so. The area already receives water service, but has a lot of failing systems. The cost to be able to serve this particular area is well over $30 million or so.

It is impossible for the residents to be able to pay for the needed service. The utility cannot provide the service and the Federal Government is saying that because of the regulations, we are not able to directly apply for funding and serve them. And so they are kind of caught in the middle.

Being able to address those kinds of regulations, and to be able to capitalize, if you will, on utilities such as ours that have a willingness to go out and spend some of our own resources in terms of management and identifying funds and applying for funds, would go a long ways.

Mr. CRAWFORD. Let me ask you this. The population of El Paso, roughly?

Mr. GONZALEZ. We have got about 800,000.

Mr. CRAWFORD. 800,000?

Mr. GONZALEZ. That is within the county.

Mr. CRAWFORD. How far out are you reaching into some of those outlying areas that is reasonably accessible logistically?

Mr. GONZALEZ. Well, we are designated as the regional planner and provider of service, and so we come within a couple of miles from the State line to New Mexico, I would say 5 to 7 miles from the State line. We provide retail service and also have some wholesale accounts.

But those areas that kind of fall, like I said, in between, not being organized and not having the resources, we are willing to help. But again, in dealing with some of the Federal agencies, our hands are tied because we do not qualify for getting the assistance.

Mr. CRAWFORD. What would it take for you to expand that range to 50 miles, 60 miles? Is that possible, logistically feasible? Can you do that?

Mr. GONZALEZ. I do not know if it is feasible going that far. But we are looking at much closer areas, like I said. The area I just mentioned is only probably 5 miles or so from the closest line, and yet we are in need of $30 million or so just to be able to serve this very area.

Overall, like I said, just in wastewater needs, the majority of the funds that are needed are for rehabilitation, with some new infrastructure in place.

Mr. CRAWFORD. So the challenge, I guess, that we face in my district in particular is that many of the small towns, 200 population, less than 1,000, most of the time of the year there are going to be boil orders that are issued just for drinking water, just for use in the home. And it is a quality of life issue, and it is a challenge for us going forward.

So I appreciate your insights and I look forward to working with you in the future with some more ideas how we can address that need. And I yield back. Thank you, Chairman.

Mr. MAST. Thank you, Mr. Crawford.

Ms. Esty, the floor is yours.

Ms. ESTY. Thank you, Mr. Chairman. I want to thank the chairman and ranking member for holding today's important hearing.

Three topics I really wanted to touch on today, one of which I added because of the enlightening conversation between Mr. Levine and the chairman. And that has to do with resiliency of water infrastructure. My State of Connecticut was hit very hard with Superstorm Sandy.

We expended considerable resources in rebuilding and learning about more resilient infrastructure, about how to absorb fast-flowing water, work done in part at the‘ institution that Mr. Levine attended, where he was one of my husband's students at the Yale School of Forestry and Environmental Studies. And that does cost money, and my State spent that money to do so. And so did New York.

And so I think in the interest of saving lives and saving dollars, it is incumbent on us to do that because it is not only a misuse of dollars, but much more importantly, it is not using the best learning about how we save lives and save property going forward.

So I would just say that I think we have to find a way to do that. And it would be wrong for the folks in Texas and in Florida and in Puerto Rico and in the Virgin Islands not to take best practices

forward. And we are just going to have to figure out a way to do it. And we should not lower standards and put people's lives at risk and their property.

So I think that is not only being stewards of the Federal tax dollars, but recognizing other States have figured out a way to do that and did not get extra support. We did it because it is the right thing to do.

The two topics I really wanted to touch on were about public drinking water and about brownfields. On public drinking water, my State is one of the many in the country that has found we have unacceptable lead levels in our schools, in condominiums, in apartment buildings, in State offices buildings. As you may know, we found recently in the Cannon House Office Building that we had unacceptable lead levels and had to shut down all of the water fountains there.

So this is a problem we are going to need to address. And it costs real money, and with aging infrastructure it has to happen. We saw it in Flint. We saw it in Toledo. And as a cochair of the Corrosion Prevention Caucus, I would urge us to look at that.

And I will ask a couple of you specifically about that because there just is too much at stake. We cannot afford to poison our people, especially not our children, and too many of these in our schools, and we will never recoup their lost ability. And it is just wrong. We need to figure out how to do that.

And the other is on brownfields, which is part of this portfolio as well. I want to thank the ranking member and Chairman Graves, who we have been working hard on a bill, have one that passed unanimously out of committee, and we are hoping to get it to the floor soon.

But nearly one-third of the projects do not get funded because EPA does not have sufficient funding. Two of those projects were in my district, and they are important projects. There are 533 that did not make the cut last time, not because they did not qualify, not because they were not good projects, but because, simply, we did not have enough money.

So sometimes, unfortunately, it does take money. We are making some improvements to Mr. Franklin's point and to Mayor Cooper's point about trying to do P3s, public-private partnerships, where appropriate. We have learned from practices, working with the League of Cities and with the mayors to improve the bill. And we would urge your support, and try to get this through to the floor soon. But again, we would like to see more robust funding for EPA for these programs, and then we can leverage the private dollars.

So maybe, Mr. Pedersen, you talked a little bit about—if you can opine both on brownfields with some additional funding, recognizing that every one of those dollars leverages a lot—and on lead, what you are seeing in our water systems on lead. Thanks very much.

Mr. PEDERSEN. Sure, absolutely. Good questions. Lead is a major challenge across the country. Fortunately, on the west coast, we do not have as severe a lead problem because a lot of our pipelines are not lead-based pipes. But I think, absolutely, you are exactly right. We cannot be having lead levels exceeding standards, especially in our schools.

California has been very proactive in this. In fact, the legislature just passed a bill that actually increased the current Federal standards for lead and copper testing whereby community water systems would actually pay to do testing of schools, which is not currently a requirement.

The other thing is corrosion control. It is very effective. It is cost-effective. It does not require necessarily replacement of all the lead pipes, but if you can control corrosion and ensure that you are building that layer of deposit on the pipes and not leaching out lead.

And with regard to the funding, I agree 100 percent. We need more robust funding. The funding can be leveraged at the local level. It should be.

And then with regard to resiliency, in California it is an issue that we are very aware of. We have situations where we face both drought emergencies and flood emergencies simultaneously, and so we need to be thinking of both. And we frequently focus on drought, but flood is also an issue that we need to be very aware of and prepare for. And we are doing that, but we need to do more.

Ms. ESTY. I see my time is expired. Thank you, and I yield back.

Mr. MAST. Thank you, Ms. Esty.

Going to Texas. Mr. Babin, the questioning is yours.

Dr. BABIN. Yes, sir. Thank you, Mr. Chairman. Appreciate it.

I want to thank all the witnesses for being here as well. Water issues are a huge issue. In Texas, it is an enormous issue. And as you know, countless communities across our country, and in my district in particular, nine counties that I represent in southeast Texas, from Houston to Louisiana, have been impacted by devastating hurricane-force winds. And it is not just my district. We had 39 counties impacted, not just my 9. But just to give you a little perspective, Hurricane Harvey set a new continental U.S. rainfall record of 51.88 inches in Crosby, Texas, in Harris County just a few weeks ago.

Can you explain what practices and methods that you all have learned in your collective experiences, especially since Hurricanes Katrina and Rita in 2005, to ensure that our drinking water infrastructure maintains its reliability after the storms like the ones we have just seen where, literally, trillions of gallons of water inundate our communities in just a matter of a few days?

And I would just like to open it up to the entire panel. Mr. Proctor?

Mr. PROCTOR. Yes, sir. Thank you. One of the first things that needs to happen is something I alluded to in my testimony—life-cycle costing and full-cost accounting. Many of the groups that are represented here today joined in something called the "Effective Utility Management Practices Book," which talks about the need to understand what is your full life-cycle cost as you operate a utility. And once you understand those costs, then you can make investment decisions about how best to preserve those assets and make certain that they will serve for a long period of time.

And when you talk about resiliency in the context of storm events and so forth, that is one of the factors that needs to be taken into account. You need to look forward and try and anticipate what the frequency of storms might be, what the impacts

might be, and include that in your cost calculation in designing the infrastructure that you build, and then make certain that when you build that infrastructure, that you build with the most resilient designs, resilient materials, and everything else so that they will withstand those sorts of events.

Dr. BABIN. Thank you very much. Anyone else like to—Mr. Franklin?

Mr. FRANKLIN. Congressman, this is a critical issue and a lot of learnings. We had a lot of customers in your district. Many were on boiled water most recently. And I think there are several things that can be done, especially in serving rural communities, which is largely what we serve in Texas and North Carolina and other States.

But number one, a monitoring system should be installed on as many of these systems as possible so you know when they are down remotely.

Secondly, staging of generators, prestorm work. Right? Generators should be staged to make sure that those wells, those community water systems and wastewater systems are operational as long as possible, even though they are remote and difficult to get to many times.

And third, as many mutual aid discussions that we can have with other utilities to back each other up. The electrics have had it for many years. We do not have quite the same system in place for water and wastewater. But those mutual aid discussions are really important.

I will give you one example, Beaumont, Texas. We sent a team down there, and we were in Beaumont, and that was a very difficult situation. But we were able to put our expertise——

Dr. BABIN. That is my home town. That is where I grew up.

Mr. FRANKLIN. Yes, sir. They had real trouble. Right? One hundred eighteen thousand people out of water.

Dr. BABIN. Absolutely. And many—we lost power and water in many of our communities. And when you talk to folks, they will tell you, "If I had to choose, I would rather lose my electricity than lose my water." And I can agree with that because we experienced that.

Thank you, Mr. Franklin. Anybody else like to add to that? Yes, ma'am?

Ms. COOPER. If I may, I did not get a chance to add, because I did not go back as far, about 10 years ago we actually built a water plant for about $25 million. We have water independence in our city. It was one thing that I was steadfast against. We support, as U.S. Conference of Mayors, all our public-private partnerships.

And I should have started with—I am sorry for your struggles and your losses there.

Dr. BABIN. Thank you.

Ms. COOPER. It is not an easy situation, especially if you are not familiar with it. But there is a lot of lessons learned. As U.S. Conference of Mayors, I assure you we have been working with your mayors, and look forward to working with you if you have any questions on resiliency and building out equipment. Being from Florida, we have a lot of experience in it as well. And our president, Mitch Landrieu, of course, is here to help as well.

Dr. BABIN. Absolutely. Thank you very much.

Mr. Chairman, I think I will yield back the balance of my time. And I want to thank every one of you for your experiences and your advice.

Mr. MAST. Thank you, Mr. Babin.

Mr. Lowenthal, the floor is yours.

Dr. LOWENTHAL. Thank you, Mr. Chair. And first I want to echo the comments of Ranking Member Napolitano and many of the panelists also—and I want to thank the panelists for being here—about how important the Clean Water State Revolving Fund is to water agencies, especially water agencies in California and across.

And I think, as my own two cents, that we should be moving legislation, like H.R. 2510, to reauthorize the vital program and provide direct investment in wastewater infrastructure. But I want to follow up on some things that the panelists said for my own understanding about what are the benefits and maybe some of the problems.

And Mr. Pedersen, I am going to start with you. You advocated in your testimony an amendment to the Clean Water Act to allow for the 10-year permit under the NPDES, I think it was. And you talked about how—some of the rationale why Aqua would like to have it. I would like to hear a little bit more.

But I want to also hear—are there any down sides? I mean, you promoted the up side of why it would be better for investment. But what would be—are there any issues involved that we should be addressing if we go from 5 years to 10 years in those permits? Are there problems that we—are there unintended consequences?

Mr. PEDERSEN. We have looked at that issue. We do not believe that there are, and we have not heard those. And we are open to listening. But we think, really, there are three key benefits of doing this.

One is the longer terms promote, we think, a more efficient regulatory process while recognizing and preserving the water quality protections under the Clean Water Act, which is important. We also believe it encourages longer term planning and thinking, which is something we all need to do now, and every panelist has spoken about that.

And then third, it better aligns the investments that we are making in the 21st century in infrastructure with the timeframes that are needed. And so we think it accomplishes those three things and actually helps to make the process more efficient.

Dr. LOWENTHAL. I am going to follow up with Mr. Levine on that. NRDC has used the NPDES permit system to urge enforcement of the Clean Water Act, to guard against contamination. Talking about that, how would a longer timeframe affect enforcement and contamination safeguards? Because we have to balance these kinds of issues.

Mr. LEVINE. Yes. Thank you for the question. There are some serious down sides, and we very much oppose changing that 5-year term of permits, which has always been a core part of the act, and look back to the legislative history of when the act was first passed, was highlighted by the sponsors by floor statements as really a key thing.

And the reason for that is that standards and technologies and water quality needs do in fact change over timeframes much short-

er than 10 years. The entire scheme of the NPDES permitting program, not only for wastewater treatment plants but for all dischargers, was to recognize and to have EPA focusing on improvements in technology and ensuring that the best pollution control measures are used and that we do not have a 10-year gap between when a permit is written and catching up to the next best technology.

And similarly, our knowledge of water quality, impairments of our water bodies, changes over a period of 10 years. And the plans that we develop to clean up those water bodies changes over a period of 10 years.

So, for example, development of total maximum daily loads under section 303(d) of the Clean Water Act, those are basically pollution diets that identify how much reduction is needed from different pollution sources to a water body. Right? And those plans have consequences for permitting. They require permits to then meet those pollution diets, those pollution load reductions. And if those permit cycles get extended to 10 years, we are going to see substantial delay in making those water quality improvements we needed.

Now, I will add, if I can, just two quick related points. It has been suggested that by allowing for reopeners of permits, that would solve this problem. We do not think that that really solves the problem. If the default is you have got 10 years on a permit and there is no action-forcing mechanism to revisit that permit for 10 years, you are cutting out the public and you are cutting out EPA and undermining EPA's authority.

So whenever there is a permit renewal, the public has an opportunity to come in and seek further protections, which they do not have—the public cannot do a reopener. Right? The State permitting authority has the sole power to do a reopener.

Similarly, EPA cannot come in in the way that they exercise their oversight responsibilities. When a State has a draft permit, EPA has a role and a responsibility to review it, see if it complies with the act, and the authority to object and ensure the State strengthens it.

So if you put these things off for 10 years, you are taking those key safeguards, checks and balances, out of the process.

Dr. LOWENTHAL. Thank you. And I yield back.

Mr. MAST. Thank you, Mr. Lowenthal.

Mr. Weber, the floor is yours.

Mr. WEBER. Thank you, Mr. Chair.

Mayor Cooper, I want to visit with you for a second. I was on city council for 6 years in the little town of Pearland back then, which had like 26,000 people. We had 20 police officers, by the way, and I knew them all. Now Pearland has grown to about 110,000, has 160 police officers, and I do not think anybody knows them all.

But anyway, I have been through that growth spurt. So you are mayor of Hallandale Beach, Florida. I want to come back to your discussion, I think, with Dr. Babin. If I understood you correctly, you said that you all went for water independence 10 years ago and it cost $25 million, and you said you were against that. Did I hear that correctly?

Ms. COOPER. No. I was in full support of it.

Mr. WEBER. You were supporting it. OK. You were for that. Well, I am sorry. I misunderstood that. And how long have you been mayor?

Ms. COOPER. I have been mayor 14 years.

Mr. WEBER. Fourteen years. So you started when you were like in sixth grade?

[Laughter.]

Ms. COOPER. Well, thank you for that kind remark.

Mr. WEBER. Sure. We instituted what is known as an impact fee for people moving into Pearland—we are south of Houston, I am not there now, but that is where I grew up, in that area—at a rapid rate.

Pearland was one of the fastest growing cities in the country. So we realized that the people coming to our little sleepy neighborhood town were going to have an impact on sewer systems, on our water system, on infrastructure—fire, police, EMS, and so on and so on. Do you all use an impact fee?

Ms. COOPER. Well, you are a smart mayor for doing that, and we——

Mr. WEBER. Well, I never said I was mayor. I was city council. Yes, sure.

Ms. COOPER. Oh, I am sorry. Oh, council. Well, we are all equal. We just—I run a meeting, so——

Mr. WEBER. Right.

Ms. COOPER. But we do have impact fees, and we do—any new development pays their fair share of the impacts that they are putting on our community. We are actually in the process—I run a tight ship, so we just did our full evaluation of our basis of design report, which is that $200 million price tag. So if you are going to come up and do business, we want you to be a community partner, and you will be paying your fair share into our community.

Mr. WEBER. I noticed, according to Wikipedia—and you know if it is on Wikipedia or on Facebook, you know it is true——

[Laughter.]

Mr. WEBER [continuing]. But your 2010 census was 37,113 people. Their estimate of 2016 was 39,500 people. So you have grown by just a couple thousand people in the last 6 years. Is that accurate?

Ms. COOPER. Yes. Yes.

Mr. WEBER. OK. Does the State play a role in you all's development in the State of Florida?

Ms. COOPER. We actually have a robust comprehensive plan through the Broward County district. We have a county seat that does planning. And we actually are very involved. I actually put all our growth management tools in the toolbox about 10 years ago, so we are pretty independent when it comes to approving development now.

Mr. WEBER. OK.

Mr. LEVINE. Could I speak to that question about the impact fees real briefly?

Mr. WEBER. Yes, sir. Feel free.

Mr. LEVINE. Thanks. It really speaks to a broader issue about equitable rate structures, right, for the reasons you said. If you have

got folks coming in, development coming in, they should be paying their fair share into that.

The question of affordability of water and sewer service for residential customers, we have got the assistance, the low-income assistance, approach which is necessary, like the LIHEAP type approach, right, that we have talked about that, Federal assistance for that, State assistance for that, to help reduce bills directly.

But you have also got the underlying rate structure. Right? So if you are giving somebody a credit or a voucher to help pay their bill, what was the bill to begin with, right, and what was the rate structure that resulted in that bill?

Mr. WEBER. And who pays that difference?

Mr. LEVINE. Sure. That is right. And that is providing the assistance. Right? But if the rate structure itself is equitable, that is going to mitigate the amount of outside assistance that is needed.

And so just to take an example, what I mean by that, so if you have got tiered rates for water, right, inclining block rates, where those who use enough for their basic needs are paying a relatively lower per-gallon price and those who are profligate water users are paying a higher per-gallon price for those higher increments, that is going to support folks of modest means who use modest amounts of water, and lower their bill simply by changing the way the rate is structured in the first instance.

And you see the same dynamic with the use of stormwater fees, for example, based on impervious area, where you get people paying in corresponding to the contribution of runoff they have into a system. And that will help residential customers quite often.

Mr. WEBER. So it is safe to say, and I am running out of time, that that calculation, that formula, does not take into account two things, perhaps: old, outdated equipment, lead pipes or others, whatever happens; and then, also, disasters like hurricanes and stuff. Is that safe to say?

Mr. LEVINE. Sure. Well, that gets to the full-cost pricing, full-cost accounting issue, right, is making sure that whatever the rate structure is, that it is applied in a way that generates the total amount of revenue needed for the utility. And that in turn links with how much outside assistance the utility is getting for those capital costs, which underscores the need for Federal and State investment.

So it is a set of puzzle pieces that all fit together. Right? The utility needs to be able to generate revenue for its share. It needs to be able to do it in an equitable way. But that share also needs to be not so outsized that it is impossible to do that. And the way to keep it from getting so outsized is to make sure that the financial assistance is coming in from the Federal and State level where it is needed.

Mr. WEBER. Well, we will have that discussion later. Mr. Chair, I will yield back.

Mr. MAST. Thank you, Mr. Weber.

Mrs. Lawrence? It is all you.

Mrs. LAWRENCE. Thank you so much.

As a former mayor, I just really want to say we should listen to our mayors, who are dealing with this issue every day. It is amazing. When there are crises, you always see the mayor as the go-

to person to deal with the crisis. Let's get the mayors involved and make sure their voices are heard to prevent some of these disasters.

So let's talk about the data that we should. We heard my former colleague, Mayor Cooper, talk about the basis of design support. To be able us to truly address the issue of water infrastructure in our country, we need data. It should be mandatory that every city conducts this type of review of their water infrastructure.

So many of us will—as we talk about investment in our infrastructure, water should be a priority. Ladies and gentlemen, I represent Michigan, and what we went through with Flint and across the country, it was a shock to us to understand that water is not a luxury. It is a need to live. And it is not something that should be predicated upon the wealth of your community.

So there are some things that I think we really need to have on point. Water main breaks: People used to ask me as the mayor, "What keeps you awake at night?" It was not things that you think about. Potholes—yes, I did not like the potholes and I got beat up a lot about it. But water main breaks—when you flush your toilet, when it rained was it going to back up in your basement, those things kept me awake at night. It is a quality of life issue.

We have 240,000 water main breaks. And what we are doing, we are wasting 2 trillion gallons of treated drinking water. And there are communities who are struggling right today in America to get clean drinking water, going through the conservation issues that you talked about, Mr. Gonzalez, to just survive and have water quality. And we are wasting it every single day.

The Army Corps of Engineers has a backlog of $56 billion. And what does that include? The levees and the dams that are breaking every time we have these natural disasters, and coastal inlets. These are issues that we must make water infrastructure—so Mr. Levine, I am going to ask you this question, Mr. Levine.

Across the country we are now dealing with this water issue, affordability with low-income communities. How do we create a 21st-century water infrastructure that ensures that we are, in America—as we talk about healthcare and tax structure, that the basic human need of water is being addressed?

Mr. LEVINE. Thanks. So there are many legs to the stool. Right? It is a combination. What we really need in order to make sure that at the level of an individual household, of every individual household, that there is that access to affordable water and sewer and stormwater service. Right? Is to make sure that the cost that is borne locally is a cost that the utility can fairly collect from those who are served. Right?

And so that is a function of knowing what the cost is, identifying what the needs are, what the priority spending is, things like water loss, water——

Mrs. LAWRENCE. Can you include in that, how does encouraging or incentivizing these communities to consolidate? Because while as mayor I loved to have everything on my own, but then a poor community a couple miles down the road, they cannot afford water. But I am doing well. Can you put that in your statement as well?

Mr. LEVINE. Sure. Yes. No, there is absolutely a place for that, and as other witnesses have talked about, you can have literal con-

solidation of the physical plant of different utilities when they are close enough to each other and when that makes sense.

You can also have regionalization in ways that allow utilities to share management expertise and purchasing power to get economies of scale. And those are absolutely important things to look at. They do not by themselves solve the problem, but they help.

And so solving the problem, as I said, there is the Federal money and the State money to make sure that the amount that needs to be spent locally is manageable. There are efficiencies and strategies at the local level to reduce the costs of providing the service. And there is assistance to individual households, equitable——

Mrs. LAWRENCE. Mr. Proctor, before my time runs out, I am a strong, strong proponent of skilled trades. And your company talks all about the jobs that will be created through this investment in our infrastructure, especially water. Can you please, in the time remaining, talk about that?

Mr. PROCTOR. Well, every $1 billion of water infrastructure investment produces about 28,000 jobs, I think the statistics show. So when we invest in our water, not only are we providing something essential for the health of our communities, but we are also helping those communities get off the ground by providing good-paying jobs that they can then put back into those communities.

Mrs. LAWRENCE. It is a win/win. I close with this. We are looking at our tax structure tomorrow, I understand. We cannot take away those tax-exempt municipal bonds. It is critical that we keep that. Thank you so much, and I yield back.

Mr. MAST. Thank you very much.

And the floor is for Mr. LaMalfa.

Mr. LAMALFA. Thank you, Mr. Chairman. Thank you, panelists, for assembling here today.

In California, the State Water Resources Control Board recently released their annual compliance report, and it found that in 2016, nearly 5 million people were affected by their definition of water violations, which is triple the amount affected in 2015.

In my district alone, the First District of northeast California, there were 800 of these what they are defining as violations in that new year, which shows a lot of work to be done to fix these issues and ensure the water is clean and safe, as defined.

Fixing these violations can be quite a challenge in the absence of funding. Again, in NorCal there is a large amount of very small and unincorporated communities that do not have the tax base, do not have the prospering industries that they once had, and so the challenges are huge.

And raising the funds for a project in the short term and maintaining these projects in the long term, it is a great strain on these small towns and unincorporated areas, these villages that do not have the budgets that they once had, even countywide.

When they are able to raise the funds, ensuring that each project that they come forward with, that they comply with a long list, Mr. Chairman, of regulations and redtape from both the Federal level and California's crushing State regulations can be darn near impossible for these small towns.

And the questions I want to pose, Mayor Cooper, and to also Mr. Pedersen: Given the uncertainty of increased Federal funding,

what we are dealing with around here, what are some of the regulatory burdens and other structural issues and problems that this committee could be tackling in order to help the dollars go farther in small, unincorporated communities or counties where, again, industry has been basically run off—to stretch these dollars farther? So would both of you like to take a run at that?

Ms. COOPER. Thank you very, very much for the question. I want to go back to two issues, first address yours.

The regulatory process is something we have been working on as U.S. mayors for the past 10 years. And I do believe that we should go back to address some of the questions. I know Mr. Lowenthal had asked about the 10-year process. I think that is critically important.

We are all stewards of our water. We have come a long way over the past 40 years and the Clean Water Act. So I believe science as well as social equity needs to also be looked at, and that we have to be looking at these regulations as they evolved.

So the 10-year period, I think, is critical so we can implement plans over the time period that we have been working on with Mr. Gibbs' bill. As far as what we——

Mr. LAMALFA. Let me also allow time for Mr. Pedersen, too, so——

Ms. COOPER. I know. I am sorry. And then as far as the monetary, that goes back, I believe, to the grants and a lot of distressed areas. Right now we can borrow money, and some cities have better borrowing capacity than others. In these distressed areas, we will continue to ask for grants and flexibility as far as implementing our plans for the best and most effective utilization of both our financial resources as well as boots on the ground doing the projects.

Mr. LAMALFA. OK. Thank you.

Ms. COOPER. Sorry, sir, for too much time.

Mr. LAMALFA. That is OK. Thank you.

And then please speak a little more to the structural problems that the regulatory burden is causing. Now, in California, again, we have our own problems with the resource control board. There seems to be further definition of these rules, of these laws that are changing and making the burden even higher. As I mentioned in my comments, 2015, the number tripled in 2016 to what they allege are violations.

In the remaining time, please. What should we be doing to help address that?

Mr. PEDERSEN. Thank you, Congressman. Quickly, this is a challenge we face. It is probably the number one challenge following the aging infrastructure issue. As we better understand the science of water, naturally there will be new regulations that we need to meet.

We need to be smart about how we comply with those regulations, looking at things like integrated planning, where we can look at complying with multiple regulations——

Mr. LAMALFA. How you comply. But how reasonable are the regulations to begin with as they evolve?

Mr. PEDERSEN. And that speaks to the public process. As agencies, we need to all weigh in. We do that. And we need additional

opportunities to give our input and feedback and share the science on both sides of the issue so that we develop balanced regulations.

Mr. LAMALFA. I do not believe the public knows what it is paying for as these regulations morph on and on. And I think if they really understood, they would be more up in arms about what it is costing them, to not have this new infrastructure they should have.

So Mr. Chair, I will yield back. Thank you.

Mr. MAST. Thank you, Mr. LaMalfa.

Mr. Garamendi, we are up to you. It is your turn.

Mr. GARAMENDI. Thank you.

There has been a lot of discussion here about what to do with the various hurricanes and the rebuilding of systems. And I note that in August, the President revoked the Flood Risk Management Program. It seems to me that it might be useful to keep that in mind. Much discussion from the witnesses about how to be resilient in the face of floods.

But I guess the Federal Government is not going to require that in funding programs, that we do not pay any attention any longer to flood risk management. It seems to be a rather stupid thing to do, but we ought to pay attention to that. So that ought to go back onto the agenda. And if the President does not want to reinstate that, then perhaps we ought to. Otherwise, we are wasting a lot of money.

Secondly, every one of the witnesses has asked for more money. Correct? Is there any one of you that did not ask for more money? No. All of you did. And we need more money. Tomorrow the Republicans in this House are going to hold a half-day seminar on how to reduce Federal revenues. Now, tell me how that is going to work if you want more money.

I think we ought to keep in mind the totality of the issues that come before us and the way in which they interact. We can do all kinds of tax reduction policy, which is what I am sure will come out of tomorrow's meeting. And you want more money for water systems, for wastewater management, for flood systems, for highways, for new nuclear weapons, on and on.

Just tell me how we are going to do all of that when we are reducing Federal tax revenue. Who would like to answer the question?

Mr. FRANKLIN. Congressman, if I could, let me just give you the art of the possible.

When I joined our company in 1992, we took the amount of pipe that we were replacing every year against the total amount of pipe that we had in the ground. We would have had went on a 900-year replacement cycle. Far from sustainable. Right? It is not going to last that long.

In the 20 years or so that I have been at the company, we have taken that from 900 years down to 90 years. Our main breaks are half of the national standard, AWWA, and we have done it without Federal money. And we have done it on our rates. Our monthly rates are about $50 per month per customer.

That is the art of the possible. It can be done, but it has to be done over larger groups of people. We have 450,000 customers in that particular division. But it can be done.

Mr. GARAMENDI. Excuse me. Was that pipe American-made?

Mr. FRANKLIN. That pipe is American-made by one of the people sitting at the table here.

Mr. GARAMENDI. But you did ask for access to Federal dollars, did you not? Right?

Mr. FRANKLIN. Yes, sir. If we——

Mr. GARAMENDI. Now, my question was not about how you could be more efficient, which is meritorious. But my question was about how do we get more Federal dollars to meet the needs that all of you have when we are actually reducing Federal revenues, or there are many who want to reduce Federal revenues?

Ms. COOPER. If I may?

Mr. GARAMENDI. Yes, please.

Ms. COOPER. Thank you. And I do not want to repeat my whole testimony today. But I believe, really, what municipalities have been focusing on is not just money—and we face money issues, our balanced-budget city, on a daily basis—but really, the encouragement of integrated planning, flexibility, support of public-private partnerships, the bill that is being presented by one of the Members, Mr. Gibbs.

So there are other opportunities. Money is important, the flexibility in the existing funds in the State Revolving Fund.

Mr. GARAMENDI. Excuse me. Excuse me, but you are dancing around the fundamental issue that I have raised. Every one of you have asked for more Federal money for a variety of purposes, all good. And at the same time, the Congress of the United States is in the next—tomorrow and the days following, setting out to reduce Federal revenues.

So how do we deal—and the larger infrastructure issue, a trillion-dollar infrastructure issue. Are you suggesting it does not require Federal money? It can all be done in public-private partnerships? Yes, sir?

Mr. PROCTOR. I am certainly not going to suggest that everything can be done with public-private partnerships. But I think there are three things that could be done that would leverage what we do have.

Number one, when we invest in water infrastructure, that is not a static development. Every dollar of water infrastructure spending generates economic activity, I think another $6 in GDP, that in turn generates additional tax revenues that could help offset that.

Number two——

Mr. GARAMENDI. Excuse me. Are we talking chicken and egg here? Which comes first, the Federal revenue or the growth that occurs without the Federal revenue?

Mr. PROCTOR. Most certainly the growth will—the growth in spending will sustain the growth in tax revenues. So there is perhaps an element of that. But there two other ways to get that, perhaps, that avoids that conundrum.

One is the expansion of the WIFIA program. Right now WIFIA provides a leveraging opportunity through the use of credit insurance that would enable the few Federal dollars that we do have to greatly leverage into additional spending through private sector investment as well, which in turn would generate that economic activity, which would then in turn generate additional revenues.

And then the last thing I would mention is lifting the cap on private activity bonds. The estimates are there—I think the last CBO estimate was——

Mr. GARAMENDI. I am going to interrupt you, sir. But do any of those meet the needs of the infrastructure, water infrastructure? They are a piece of the puzzle. But by themselves, they are totally insufficient.

Mr. PROCTOR. I would agree that none of those things by themselves solves the problem.

Mr. GARAMENDI. That brings me back to the point that I am really raising here, in that we talk about a trillion-dollar infrastructure program. We talk about water, drinking water and clean water and on and on and on.

At the end of the day, it requires Federal resources, which are going to shrink if the current policies being enunciated by the President and by my colleagues on the Republican side, are able to go forward.

Thank you for the extra time. Mr. Mast.

Mr. MAST. Thank you, Mr. Garamendi.

We are going to move to Mr. Gibbs.

Mr. GIBBS. Thank you, Mr. Chairman. I want to apologize for being late. I had another commitment.

First of all, I got a response for my good friend from California. He says we are meeting to reduce Federal revenues. No. We are trying to put policies in place, a tax plan in place, that will create economic growth.

If you believe that reducing the rates will reduce Federal revenues over the long term, then, my friend, we ought to just increase the rates. In that philosophy, the revenue is going to go up then.

And I think most of us can agree increasing the tax rates will not bring in more revenue, but to get the economic growth instead of having the new normal 1 percent, 1½ percent GDP growth, let's get that up to 3 or 4 percent growth by having a tax policy that works for our American families and businesses. And that is where my friend from California is a little misunderstood.

I want to move into my questions here. First of all, Mayor Cooper, I enjoyed working with the Conference of Mayors, and all the kudos—it is the most kudos I have ever gotten in my life from today, I think, on my integrated planning bill. I really appreciate that. And I appreciate the mayor's council support, and also in their written statement, the American Public Works Association.

Mayor, can you maybe elaborate a little bit, if this integrated planning bill goes through, how that will help your community on flexibility? Can you maybe emphasize that a little bit, the flexibility and how it impacts you?

Ms. COOPER. Well, when we are looking at resiliency measures and we are looking at green infrastructure measures, this will give us an opportunity to prioritize the investments of what little dollars that we do have. And I know I hear that through the water council continually across the Nation and the Nation's mayors that are represented on our board.

So going back to the discussion, it is not just about money. Money is important. Investment breeds return on dollars and helps some of the most needy in our community. But your bill and that

process, after working on it for 10 years, and the timeframes, and the flexibility, I think will bring a new era in partnership, in intergovernmental partnerships, to work together to address this need.

Mr. GIBBS. Would you agree—I heard earlier this question from the gentleman, Mr. Levine. The 5-year. My bill keeps the 5-year permitting. It would have been easier to write a 10-year permitting bill for this, it stays at 5 years, and I like to think of it as adaptive management or fine-tuning.

When that 5 years comes up, we can fine-tune it to reach the goals that our local municipalities need to reach in work with the EPA. Would you concur?

Ms. COOPER. Yes. I have been fortunate not to be under consent decrees and not being on the enforcement end of water issues. And those become quite arduous, and what happens is you are paying and spending more money after addressing something that might be not necessarily fundamentally scientific in nature.

And I am certainly not a technician, and I have to at least yield that, that my understanding and working knowledge of water issues, that sometimes they are arduous.

Mr. GIBBS. I agree. I got to move on because my time.

Mr. Proctor, good to see you again. Can you talk—I got a couple points in testimony. Can you explain encouraging full-cost accounting leads to water systems being more efficiently run and help compliance with the Clean Water Act? Can you elaborate on the full-cost accounting?

Mr. PROCTOR. Yes. Good to see you as well. Like any economic activity, understanding your full cost is essential in making certain that you make the smartest decisions possible. And full-cost accounting would go a long way toward doing that.

It would not only perhaps help utilities better price their product, which is something that we have talked a little about here today, but also to find the areas that are driving those costs so they can try and reduce those costs to do more with less.

And so whether you get to full-cost pricing down the road, you may not actually get there, but at least full-cost accounting is an essential first step. And just to state it philosophically, none of us can get a loan from a bank either to buy a car or buy a house or fund a business unless we have a good understanding of what our expenses and costs are. And the taxpayers really deserve the same thing as the lenders in this process.

Mr. GIBBS. I have a theory on this, at least on the public side. We kind of live on depreciation. We do not count for depreciation, where on the private water side they probably are to stay in business. Would you concur that is part of the problem? We do not account for depreciation on the public side?

Mr. PROCTOR. I think, in large part, a lot of utilities do not account for depreciation, which is another word for the future cost of investment in future infrastructure to sustain itself over the long term. That is where life-cycle costing, which is an element of full-cost accounting, would provide a great service to taxpayers, so they understand what it costs to provide this service over the long term.

Mr. GIBBS. My time is expired. I yield back.

Mr. MAST. Thank you, Mr. Gibbs, and also for your insight on decreasing burden as we increase revenue. I think, unquestionably,

one of the biggest things we need to avoid in this institution is the notion that somehow our grade goes up, our grade on the report card goes up, solely based on what we spend; that if we spend one extra dollar, we somehow get a better ranking.

That cannot be the way that this institution functions, especially when we consider it is the fruits of other people's labor that we deal with here. And in that, I want to move to Ms. Brownley. The floor is yours.

Ms. BROWNLEY. Thank you, Mr. Chairman. And Mr. Chairman and Ranking Member, I just wanted to give a little bit of a shout-out to Mr. Pedersen and the Las Virgenes Municipal Water District. They have been recycling water since 1972, and I consider them one of California's pioneers. So thank you for all of your good work.

I had three questions, and I think Mr. Lowenthal really asked the first one. But I do want to comment, and I heard Mr. Levine's response to Mr. Lowenthal's question as well. But I think this notion of an extension of 5 years to 10 years for the NPDES permit is an interesting idea, and I think it is worth exploring to see if we can find a happy medium here in a win/win process, understanding that not every situation is exactly the same across the country. So I certainly would encourage continuing that conversation.

The second question that I have goes back to recycled water. And Mr. Pedersen, you had mentioned in your testimony—you talked about a new project in your district with the Triunfo Sanitation District that would create up to, I think, 5,000 acre-feet of drought-resistant water supplies.

So I wanted to ask you, in putting together the financing package for this, can you tell us which Federal programs you have found to be most helpful and whether you have any suggestions for Congress on how to augment or improve those programs to help spur more of these types of projects?

Mr. PEDERSEN. Sure. Thank you, Congresswoman. The project that you are referring to is our Pure Water Project Las Virgenes-Triunfo. It will ultimately develop 5,000 acre-feet of new drought-resilient water through reservoir augmentation. It is one of only three projects of its type in California.

Certainly we have built up some reserves, to the tune of about $20 million locally to pay for that project, recognizing that local monies need to be dedicated to these projects. But in terms of the Federal framework for infrastructure financing, the SRF program is essential and very important to us.

Granted, it is a loan program. But the low-interest loan provides great value to us and the ability to finance those improvements, which are about $100 million, for an agency that is relatively small, a rate base of about 20,000 customers or, combined with our partner, Triunfo Sanitation District, about 35,000 customers.

The WIFIA program that was recently initiated is a fantastic program. We were 1 of 40-some applicants that submitted a letter of interest. There were many CASA and ACWA members who were invited back to submit full applications, and we think it is a valuable program and will be helpful.

And then of course, the Bureau of Reclamation title 16 program and a variety of research programs and programs for demonstration projects are very helpful for projects of this type. We really think water recycling is the future for resiliency in California, along with other local projects.

Ms. BROWNLEY. Thank you very much, and I will just add that in this particular water district, there is no local water source at all. And now Las Virgenes actually provides 20 percent of the region's demand with recycled water.

The other question, Mr. Pedersen, I wanted to ask, too, is in 2014, our committee requested a report on the Clean Water State Revolving Fund allocation formulas. The report was just finalized earlier this year, and can you comment on the report and the recommendations in it?

Mr. PEDERSEN. Yes, absolutely. So the report—this was a report requested by the subcommittee. It is included as an exhibit to my written testimony. An excellent report, prepared by the U.S. EPA. It is an impartial report that uses data to analyze the distribution of Federal SRF funds to States.

And what the report essentially found, in short, is that those formulas are dated and that they require updating. And the main reason is that those formulas were established based on 1987 data, both for population and demographics of all the States, and also the clean water needs of those States. And we know both of those issues, both of those figures, have changed dramatically in that time, and there is really a need to take a look at updating them.

The report includes a number of options, and any one of those options would be a big step forward. And we would encourage the subcommittee to take a look at that report and to work with the EPA on bringing forward those recommendations for action.

["Review of the Allotment of the Clean Water State Revolving Fund (CWSRF)" Report to Congress issued by the U.S. EPA in May 2016 is available at the EPA's website at https://www.epa.gov/sites/production/files/2016-05/documents/review__of__the__allotment__of__the__cwrsf__report.pdf]

Mr. LEVINE. Could I speak very quickly to two of your questions?

Ms. BROWNLEY. Yes, please.

Mr. LEVINE. On the 10-year extensions, I will not rehash the concerns I raised earlier, but I do believe that they are very valid.

The underlying issue, it seems, of the reasons that this 10-year extension and the integrated planning issue are being raised, is a desire for flexibility in prioritizing and recognizing the time that it takes to implement expensive capital improvements. Right? And that general principle is not something that I think is controversial.

There is a letter submitted, signed not only by NRDC but by a number of other environmental organizations, before this hearing pointing out the values, the virtues of integrated planning as per EPA's framework that was issued a few years ago.

As far as the role of Congress and this committee, what is important, I think, to understand is that the existing Clean Water Act provides that flexibility, and the EPA framework document lays that out.

The issue of the length of compliance schedules is something that Congress has asked the National Academy of Public Administration to look into the financial capability assessment guidance that EPA has that governs negotiations around those compliance schedules. The academy is due out with that study this month. That provides an opportunity for EPA to consider those findings and revisit the guidance.

On WRRDA and recycled water I will just point out, and it is mentioned in my testimony, Congress in 2014 inserted provisions requiring that Clean Water SRF-funded projects used to the maximum extent that they can in a cost-effective way—water reuse, water efficiency—it is not being implemented particularly well. And I urge the committee to support EPA, push EPA to implement that better.

Ms. BROWNLEY. Thank you. And my time is up. Thank you, Mr. Chairman.

Mr. MAST. Thank you very much.

And I just want to open with a couple of questions for the entire panel. Everybody is anticipating a large infrastructure package. It is something we are all waiting for. We are excited about. I see the smiles that it puts on your faces as we even mention it because it is exciting. So that is where I want to get a little bit into the public-private partnerships.

Give me your view. What is your go-to on this? Where do you see it? And it is open to the entire panel. And from there, if you want to, give me what is your favorite? What is your go-to for any sort of consolidation that you see between public and private, and the number one program that you would want to work towards? By all means. Mr. Pedersen.

Mr. PEDERSEN. Thank you. Two important issues to us. We do believe that there is value in public-private partnerships, although we do not believe in any way they are a panacea for infrastructure financing. As a public agency, we have engaged in P3s. We found them to be effective in certain areas of our business—renewable energy, solar, where there are tax credits that the private companies can take advantage of.

But we do not believe that for big infrastructure projects like our recycling project that we can generate more value for our ratepayers and lower rates through public-private partnerships, uncategorically.

With regard to consolidation and regionalization, we do have some concerns with both of those issues. Again, we do think there are circumstances that warrant agency consolidation, and we think that that is currently happening, and we see that happening in California. And there are incentives to do that already.

But we do not think a Federal policy, especially a broad-based Federal policy to push for consolidation, is a good thing. We think that these issues are better handled at the local level where local folks are familiar with some of the nuances involving geography, hydrology, climate differences that really govern these decisions. And so we would recommend that the committee keep that at the local level.

Mr. MAST. Anybody else? Carte blanche. Yes, sir, Mr. Franklin.

Mr. FRANKLIN. I would agree that a lot of these things should be handled at the State and local levels. Often, what we serve, and the million customers or so that we serve, it is small local level, small community well systems, community wastewater systems.

But I will underscore that the $1 billion-plus that we spend every 3 years does not have a single Federal dollar in it. And the expertise we put out there, and the results that we put out there, are put in our proxy, our proxy statement required by the SEC, that would underscore the connection we have made for also pay-for-performance—in other words, how our high standards are what we pay our people for. That is what they are incented to do.

And I guess, in terms of Federal dollars, all I would say from the NAWC standpoint, the access that we would like is access to the existing SRF funds for wastewater. We are not asking for additional, but the existing. Thank you.

Mr. MAST. Yes, ma'am?

Ms. COOPER. Public-private partnerships, I believe, and I do not want to be repetitive, are important, but I do not think there should be a mandate for any public partnership tied to these programs. They are not a one-size-fits-all, and different private-public partnerships fit different circumstances.

In a municipality, we can do it for wastewater. We do have an intergovernmental municipal partnership. Water, we do not. We build buildings; a lot of them are shared public-private. So our main concern is we are learning lessons learned of this new era of public-private partnerships.

But to tie them to mandates also impacts the ability to create local jobs. And that was one of the concerns we faced in Florida this year, even through the State mandates, that they wanted to tie it to—they wanted to tie into our contracts to mandate hiring. And we want to create local jobs as well as regional jobs, so it is——

Mr. MAST. Yes. By all means. Mr. Proctor. And do not worry about being repetitive; this is Congress.

[Laughter.]

Ms. COOPER. I am sorry. I am so sorry.

Mr. MAST. Everything has been said, but not everybody has said it yet.

[Laughter.]

Ms. COOPER. Thank you very much.

Mr. PROCTOR. Our working group very much believes that this decision is a local one, and a voluntary one as well. But there is a difference. One of the things I think we all ought to focus on is, it is one thing to talk about incentives. But it is also another thing to talk about disincentives.

Presently there are some barriers in place that prevent local municipalities and other utilities from even considering partnerships where they would like to—for example, the defeasance penalty if you go into a concession; and also just simply the cost associated with planning, negotiating, then implementing a P3.

For a small utility of 500 people, a legal bill of $50,000, $75,000 may be an actual impediment to even having the conversation about whether a P3 is in their best interest. Now, the Clean Drinking Water SRF does allow some funding for that sort of activity.

But it is perhaps less so on the clean water side. But my point is, make certain that we do not create disincentives as we go through this process.

And then one other thing I would like to mention is this, that we have not really touched on in much detail, and that is non-financial partnerships. I mentioned it in my written testimony.

The opportunities for collaboration among large utilities and small utilities for the implementation of technology that can save money, make the administration and management of these utilities more effective, preserve human health and the environment, are incredible. And there are a lot of things that can be done to help make that happen that fall way short of consolidation or regionalization. They could really move the needle.

Mr. MAST. Thank you. Thank you for those responses.

Mr. LEVINE. If I can?

Mr. MAST. We are actually going to move into a second round of questioning. So I am going to go to Ranking Member Napolitano here, and if we get back to you for an opportunity to respond to that, so be it.

Mrs. NAPOLITANO. Well, you could have gone ahead because we are just you and me and Mr. Gibbs.

It is difficult for me to make sense of how the administration believes the best to address our Nation's water-related infrastructure because as a candidate, he proposed tripling the requests for Clean and Drinking Water State Revolving Funds. But that did not materialize in his budget. It sure did not come through in his fiscal year 2018 budget.

And now we hear that the majority of his forthcoming infrastructure investment proposal will involve leveraged private sector financing rather than infusion of additional Federal capital into the State Revolving Fund programs. In my view, the model leaves behind many mid-sized and small communities, and rural, of course, that may be unable to compete with larger cities and unable to afford the costs of leveraged private capital.

In your view, all of you, if the plan is heavily dependent on leveraged private capital, would this miss the mark in addressing infrastructure needs of many mid-sized and small communities? And if you were to make recommendations to Congress on the appropriate mechanisms to address these needs, what programs would you recommend to fund and what levels? Anybody? Everybody?

Mr. LEVINE. Ranking Member? So yes. As the——

Mrs. NAPOLITANO. A short answer, please.

Mr. LEVINE. Yes, certainly. As others have said, private money is not a panacea, and the bottom line on it is that when private money comes in to invest in a system, there has to still be a revenue stream to pay back that private investment.

And so it ultimately comes down to whether the community, whether the ratepayers, can afford that expense without financial assistance, especially in the form of grants, from the Federal Government and from State government. So private money is simply not a panacea.

Mr. MAST. Go ahead, Ms. Cooper.

Ms. COOPER. Thank you. Definitely, the recommendation for the Internal Revenue Code to remove the State volume caps for private activity bonds as well as preserving our muni bonds.

Mrs. NAPOLITANO. That would help.

Ms. COOPER. Yes. Definitely.

Mrs. NAPOLITANO. Mr. Proctor?

Mr. PROCTOR. And going back to the WIFIA program, right now that program is set up for the most part to deal with $20 million projects, $5 million in a smaller setting. But as it is currently structured, it does tend to favor projects that are probably financed OK to begin with.

If there is a way that program can be tweaked and tap into its leveraging feature so that it could help out more distressed utilities, that would be a positive thing.

Mrs. NAPOLITANO. Mr. Pedersen?

Mr. PEDERSEN. Thank you. I think certainly there is value to leverage private capital. But I think we cannot overlook the importance of continuing to capitalize the SRF program. And we support your bill and your recommendation, and look at even enhancing that program to the $3 billion to $4 billion range.

Mrs. NAPOLITANO. Mr. St. Pierre.

Mr. ST. PIERRE. I will just repeat that. When you are loaning money for 1.75 percent versus 3 percent or 6 percent, what you are doing is you are reducing the amount of work that you can do. Obviously, there is a lot of work to do. A full support of SRF funding is critical.

Mrs. NAPOLITANO. Mr. Gonzalez?

Mr. GONZALEZ. Yes. We have got a history of working with Corps of Engineers, the Bureau of Reclamation, the SRF, and so forth. And most of these funds have dried up. We are looking at pretty significant increases in rates to be able to accommodate some of these projects.

And as I mentioned, the projects we are looking at are in excess of $100 million. And so when you look to a Federal agency and all they can provide is $20 million over a 3- to 4-year timeframe because they are having to compete with other entities, it is not even close to saying it is not going to have a significant impact on ratepayers.

Mrs. NAPOLITANO. OK. Mr. Franklin.

Mr. FRANKLIN. Thank you. Whether municipal or regulated utility, I think there are a myriad of answers to this, not a single bullet. And I think we have all come to that conclusion.

I will say, though, that probably half of the customers we service are in small rural areas. And it is the economies of scale, whether municipal or not, that really come to bear. Even if these systems are not interconnected, they are the same people so they can share employees, share knowledge. And so that ability to reduce this 50,000 water systems in the country to some manageable number that really allows us to bring economies of scale will make us all long term more viable.

Mrs. NAPOLITANO. Thank you very much. And I would ask that if you have those recommendations, please put them in writing so this committee can look at them and take them into consideration. There are lots of impacts to the business community that if you do

not have clean water, you do not have an economy. So it is important for them, too.

Thank you, Mr. Chair.

Mr. MAST. Thank you, Ranking Member Napolitano.

And Mr. Gibbs?

Mr. GIBBS. Thank you, Mr. Chairman.

I just want to elaborate a little bit on the private-public partnerships. If we cannot do it in this area, I do not know where we can do it. I am so hopeful. And I understand what you said about the 1¾ percent and 3 percent. We just got to figure this out.

Now, one thing, Mr. Proctor, you talked about the WIFIA program. I am pleased that the EPA is going to expect the issue in the first round of grants. And I guess can you—to all, but Mr. Proctor I want to start—how can we improve the WIFIA, and the SRF program, for that matter, considering a larger infrastructure package to make this work?

And I would include the private-public partnerships in here because you always can do a blending thing. You get capped off in the money you get from SRF and stuff and you still need more, maybe blend that interest rate to make this thing work.

But my big concern is if we cannot come up with public-private partnerships in this area where we have ratepayers, where you have a stream of revenue coming in, I do not know how you would do it anywhere else in Government.

And so I will just open it up. What suggestions? And maybe we might have to put those in writing and offer them to the committee to get more detail. But just kind of generalize right now.

Mr. PROCTOR. Yes, sir. Thank you. Well, with respect to WIFIA, one of the first things Congress could do would be to extend it. I think it expires as a pilot in 2018. Is that right? So extending it at least another 5 years, but even better, making it permanent so that the markets can react and know what they are going to deal with over the long term would be important.

Obviously, increased funding. I have alluded to it several times over the course of my testimony. But the leveraging feature through credit insurance as a way to bring in private capital is extremely powerful. You can leverage every Federal dollar that goes into the program by almost $65 by utilizing the funds that go into WIFIA for credit insurance as opposed to loans or other grants and that sort of thing. And that is a pretty hefty return on your dollar there.

Mr. LEVINE. Can I speak to that leveraging issue?

Mr. GIBBS. Yes. Go ahead.

Mr. LEVINE. The SRFs as well provide an opportunity for leveraging, which most States do not take advantage of as much as they could. In my written testimony, I get into some extensive detail about a proposal that we offer that would incentivize States to leverage to a greater extent by allowing them to raise the cap on what is called additional subsidization, meaning the use of SRF funds as grants.

To the extent that they leverage and put more State money into their SRF, under our proposal that would allow the States to use more SRF funding as grant funds rather than loan funds. We illustrate how that would work to help States that have already been

investing their own funds and how it would incentivize more States to do so and take advantage of those leveraging opportunities they already have.

Mr. GIBBS. Yes. Mr. Pedersen?

Mr. PEDERSEN. One other quick suggestion. The EPA has done a phenomenal job kicking off the WIFIA program. Kudos to them and their staff. But we think there could be value in coordinating the SRF program that is handled at the State level with the EPA WIFIA program. And there is some interest in the EPA in doing that, and I think that would help local communities.

Mr. GIBBS. Yes. The intent was WIFIA to help supplement the SRF. I know a lot of people are getting heartache thinking that it is going to eliminate SRF. That is not the intent at all of the WIFIA program, to make that clear.

Yes, Mr. Franklin?

Mr. FRANKLIN. Congressman, I would just use as an example, say, for the 300,000 people that we serve water to and wastewater to in Ohio, they are all Federal taxpayers. And to be excluded from the ability to lower the cost of debt for those customers, since we do not have access to the Clean Water SRF, is really a disadvantage to those customers.

So my strong recommendation would be that even the regulated utilities like ours get access to that same so that we could keep that cost down for customers, whether they are municipal or they are investor-owned.

Mr. GIBBS. Yes. Mr. St. Pierre?

Mr. ST. PIERRE. I would just speak to the P3 partnership. I would not discount public-to-public partnerships. The issue here is there is a revenue stream. It is a set revenue stream. And it is economies of scale, and it is efficiencies.

And so you have 75,000 utilities across the country. That model is not working well in rural areas. There is a need to consolidate. There is a need for regionalization, whether that is public-public or public-private. That economy of scale provides a margin and an investment that is needed in communities that cannot support it on their own.

Mr. GIBBS. Well, that is helpful. And if you want to submit any more stuff in writing, examples, we can do that. Because hopefully we will get to infrastructure bill, and this could be a key component because there are so many jobs created and there is so much need out there because this infrastructure, we know, is 80 years old, on average. So we have got to fix it.

So thank you, Mr. Chairman.

Mr. MAST. Thank you, Mr. Gibbs.

If there are no further questions, I would just like to thank each and every one of you for your very thoughtful testimony this morning. It was very informative, very helpful. And without anything else to add, this committee stands adjourned.

[Whereupon, at 12:19 p.m., the subcommittee was adjourned.]

Written Testimony of Mayor Joy Cooper
House Transportation and Infrastructure Committee
Subcommittee on Water Resources & Environment
September 26, 2017

Introduction

Good morning Chairman Graves, Ranking Member Napolitano, and members of the Committee. I thank you for this invitation to give mine and the Conference of Mayors' perspective on water and wastewater infrastructure needs in the United States.

My name is Joy Cooper and I have been the Mayor of Hallandale Beach, Florida since 2011. I also serve as a Trustee of the US Conference of Mayors and I co-chair the Mayors Water Council.

Let me start by commending this committee for holding this hearing on this important issue.

The United States Conference of Mayors has brought mayors together to craft recommendations to assist Congress as it develops a national infrastructure plan that addresses our water and wastewater infrastructure challenges along with energy, transportation, ports, and other infrastructure needs. The American Society of Civil Engineers estimates that there is a $4.6 trillion shortfall in infrastructure investment in America, and failure to adequately address the needs will result in a reduction in the standard of living and global competitiveness of America.

I would like to present information on the water and overall infrastructure needs of Hallandale Beach to offer some perspective. Then, I would like to summarize some suggestions for how a recalibrated intergovernmental partnership including local-state-federal government and Congress can work together to rebuild an infrastructure that Americans need and deserve to ensure long-term economic vitality.

THE HALLANDALE BEACH STORY

Hallandale Beach is in Southeast Florida within Broward County and was incorporated 90 years ago. We are a midsize city of 4.4 square miles with a population of 38,000 that increases to over 50,000 during the winter months. Our annual city budget is $120 million with a general fund of 70 million.

A full evaluation of our infrastructure needs was conducted during our 2014 budget process; and a "basis of design report" (BODR) was generated which identifies priority projects. The report included underground assets including water, wastewater and storm water, roadways,

landscape/hardscape, and sidewalks. The BODR's price tag is well over $200 million for our small area city which is only 4.4 square miles.

I believe this puts in perspective the challenge many cities around the nation face. The true costs of repairing and replacing our aging infrastructure is tremendous, and it scales to size. For example, the challenges Fort Lauderdale faces, Broward County's largest city, are much more expensive.

It is obvious cities cannot address infrastructure capital investment needs combined with daily operating costs on their own. We need a robust plan with our partners on the national level to help us meet these challenges for our constituents.

More and higher charges and fees for local services are falling on our residents because of property tax limitations and dwindling shared revenues. These charges and service fees are increasing faster than our resident's household incomes, and are becoming unaffordable. The proposed FY17/18 City budget has increased various service fees from 10 to 51 percent to cover projected expenditures. In the case of storm water management alone the increase is 220 percent.

With a median income of $24,000 in our city, and 15% of our residents living on $15,000 a year the rising fees are difficult to afford, and there is concern in the water and sewer fees that those households that are unable to make payments will place a greater rate burden on those who can afford the service.

Another problem is that while we are investing substantial amounts on public water and sewer services and infrastructure we have a glaring need to invest in resilience measures to save lives, private and public property/infrastructure and, natural resources. As a coastal city, our resilience needs have been compounded with sea-level rise.

Recently, Hurricane Wilma-related flooding impacted numerous main roads and resulted in damages to many homes. Flood management requires us to pump our storm water down into groundwater aquifers, not out to the sea or other water body. The pumping system for two targeted areas with repetitive flood-related losses cost over $25 million.

We are currently constructing phase two of this drainage project. This project could not have been possible without the help of the Federal Emergency Management Agency (FEMA) government both in financial assistance and technical consultation. This model of intergovernmental partnership works best. To complete the project and maintain it result in the before mention 220 percent increase.

Briefly, local governments in Florida (cities, counties, independent water/sewer authorities) have invested over $88 billion in water and sewer infrastructure and services from 2000 to 2014. Local governments invested $7.1 billion in water and sewer in 2014; and, that amounts to investing $19.5 million every day. Sewer revenues (fees for service) increased 116 percent from 2000 to 2013; and, water revenues increased 88 percent over the same period.

Over the past five years the city has committed over $12,000,000 for investment in our water supply and treatment system. In addition, we will be spending over $30,000,000 in the next five years on improvements to the sanitary sewer system. On the storm water system, we plan on spending, in addition to the SW drainage project, approximately $1,000,000 per year in upgrades to deal with sea level rise.

The United States Conference of Mayors (USCM)

The USCM has recently released ***Leadership for America: Mayors' Agenda for the Future,*** a framework for addressing the nation's local infrastructure, public safety, and workforce needs with the goal of building equitable communities with opportunities for all, ***(see usmayors.org)***. The framework includes existing and new policies adopted by consensus of the nation's mayors. The ***Mayor's Agenda*** identifies some principles and key priorities and the recommendations in this testimony focus on those principles and priorities associated with local water and sewer (short, for sewer and wastewater) infrastructure.

Rather than describe the already well-known benefits of clean water (e.g., public health, environment, ecosystems, supporting the economy), we urge the Committee to recognize that 95 percent of investment in water and sewer infrastructure and services is local investment, and that the state and federal governments have added costly mandates. These mandates with no accountability and inadequate financial assistance have impacted a constantly growing portion of American households with unaffordable rising rates. We also urge the Committee to recognize that cities are the true environmental stewards in our communities as practitioners of clean water technology. With this long-term experience, cities have an educated understanding of key local priorities- and we want to share those priorities with the EPA in a more productive intergovernmental partnership through local integrated planning.

Our comments to the Committee include a discussion of the public water and sewer infrastructure needs and how they are estimated. This is followed by comments on how much local government is now spending on water and sewer infrastructure. The recommendations to the Committee are listed in a section on guiding principles, and a list of key local water/sewer and port priorities.

What are the Infrastructure Needs?

Capital needs are substantial, there is consensus on that point. But capital investments create systems that must be operated and maintained to deliver the public service. Any discussion on capital investment must be mindful of its relation to long-term, annually recurring O&M costs. These O&M costs are expenditures, and therefore they can be considered investments made by local government. Looking at one side of the investment (capital or O&M) does not adequately address the cost to society (households) for access water and sewer over the long term. O&M costs are generally 60 percent of annual all-in investments.

EPA surveys on investment needs in drinking water over a 20-year period is $384 billion, and sewer/wastewater investment needs are $271 billion. Joel Beauvais, former Acting Assistant Administrator for the Office of Water, suggested in 2016 that these are underestimates of the real need to modernize the nation's water infrastructure inventory. The combined need of $655 billion is calculated by including only capital investments eligible for State Revolving Fund Loan assistance. Two things to point out: first, this financial assistance involves loans that are paid back by local governments with interest; second, the capacity of the SRF programs in America to help local government is limited to about 5 percent of annual capital investments. The program is helpful to some but clearly inadequate as a progressive force for increased investment. The

Congressional Budget Office (CBO) estimates that about $50 billion in capital investments in water infrastructure is needed per year.

It is time to be critical of these traditional Government estimates because they do not represent a full picture of local needs.

EPA estimates needs only for capital investments for eligible SRF water and wastewater systems that are required to comply with current law. Traditional federal financial assistance does not normally include Operations and Maintenance (O&M) cost to provide water and sewer services. While this is existing policy, it is a major flaw in policy strategy to ignore all-in (capital and O&M costs) to estimate real needs.

Since the mid-1980s public water and sewer O&M costs have surpassed Capital investment expenditures, (approximately 60 percent on O&M, 40 percent on Capital). An analysis of 2013 Census data indicates the ratio of O&M to capital:

- $2.31 O&M per $1 Capital investment for water
- $1.55 O&M per $1 Capital investment for sewer

If past investments are indicative of future investments, and they are in this case, local governments spent $115 billion on water and sewer infrastructure investments and service provision. From 2000 to 2014 local governments invested $1.38 trillion: $770 billion on water, and $616 billion on sewer. Federal financial assistance to local government during this period has been about $30 to $35 billion in the form of State Revolving Fund loans, repayable with interest- they are not grants.

Local Investment Trends – A Countdown to Zero Growth

A review of local government investment in public water and sewer from 1956 to 2014 indicates a robust 7 percent year over year growth rate for water and sewer. Annual growth continued to rise until 2010, then flattened out. Combined water and sewer spending is trending down on a year over year and long-term basis. For example, the long-term average annual growth rate of 7.2 percent was down to 4 percent on average for ten years 2005 to 2014, (see Table). When the year over year or short-term annual growth rate approaches the inflation factors for Capital and O&M we will have begun to enter no-growth or declining investment.

Investment Annual Growth Rate	%
58 Year Average Annual Growth	7.2
30 Years 1985-2014	5.5
20 Years 1995-2014	4.7
10 Years 2005-2014	4.0
1 Year 2013-2014	2.2

The investment trend is problematic because the greatest drinking water and water quality challenges for cities lie ahead, and our past achievements are no guarantee of future success.

Clean water laws have produced cleaner water in America. The laws have trigger-forcing action provisions that are intended to renew and expand water quality and drinking water standards. These activities have produced safer water in America. The regulatory programs have focused on chronic stress to the environment and public health. The tools EPA uses to estimate risk often involves theoretical assessments of cancer risk over a lifetime of exposure to a substance or mix of substances.

Local governments are experiencing a series of acute natural and social shocks, and the must rely on local resources to address them. The direction of investments should place local priorities first. Future investments must consider the following headwinds:

Population Growth and Infrastructure Capacity:
The Census projections suggest the U.S. population will reach 400 million by 2051. For perspective, the population growth of 80 million more than the current 320 million Americans today is equivalent to 2 times the population of California. California spent $22.1 billion on water and sewer in 2014- 19% of national investment and 12% of the population. Accommodating the capacity to service 400 million Americans or even 80 percent of them will require an enormous investment.

An Aging Physical Plant Requires Replacement and Expansion:
Local experience suggests that the experiment with modernizing water and sewer infrastructure began in the 1970s, starting with matching federal grants, was a good start to a job that never stops, even though the federal help does. There is no set calendar schedule for replacing or expanding physical plant. Local investment decisions to repair and replace infrastructure are influenced by many factors. One way to look at it is that it all needs to be replaced, eventually. And, it will cost a lot more to do it again than it cost the first time. So, if local government invested $1.37 trillion in water and sewer from 2000 to 2014, that same amount will be required to replace it. The Capital portion will be about 35-40%; and O&M needs will make up the rest. Inflation for water and sewer capital and maintenance will continue to increase adding to the replacement cost.

Several Resilience Issues are in Urgent Need of Investment to Manage Acute Natural Shocks:
The USCM recommends that Congress recognize local government's need to address and manage threats from: Drought; Earthquake; Flooding; Wildfire; and Coastal Surge Hazards, which is mine and many others most prominent threat. Every community faces one or more of these challenges.

Affordability Burdens Have Already Reached the Middle-Class
Case studies conducted on over 30 central California cities demonstrates that the current cost per household for water, sewer and stormwater fees place a disparate financial burden on the lower income 20 percent of households. (Reference USCM Report) Some cities in the study found that high cost burdens were reaching into the middle-class income households.

Mack and Wrase, researchers at the University of Michigan applied economic geography tools to analyze water and sewer rate affordability for the nation. They conclude that, "...while water rates remain comparatively affordable for many U.S. households, this trend will not continue in the future. If water rates rise at projected amounts over the next five years, conservative projections estimate that the percentage of U.S. households who will find water bills unaffordable could triple from 11.9% to 35.6%. This is a concern due to the cascading economic impacts associated with widespread affordability issues." (Reference: Mack EA, Wrase S (2017) A Burgeoning Crisis? A Nationwide Assessment of the Geography of Water Affordability in the United States. PLoS ONE 12(1): e0169488. doi:10.1371/ journal.pone.0169488)

Some Guiding Principles for Congressional Solutions

The most pressing need is for Congress to pass a major infrastructure package that addresses all local public infrastructure, and begins to help cities rebuild the $4.6 trillion in aging infrastructure. We urge Congress to pass an infrastructure package that promotes an increased role for direct federal to local financial assistance, and paves the way for Public-Private-Partnerships to bring expertise and financing capacity to public water and sewer infrastructure. We urge Congress to include federal financial assistance in the form of matching grants to local government to make the investments necessary to maintain and grow the technical capacity to provide safe and adequate water and sewer services at affordable rates.

Prevent any efforts to cap or limit tax-exempt municipal bonds: Mayors depend on tax-exempt municipal bonds to finance critical infrastructure, such as water and sewer facilities, schools, hospitals, roads, mass transit systems, and public power projects. Proposals to cap, limit, or eliminate the deduction of interest earnings from tax-exempt bonds would significantly increase the cost on state and local government for borrowing on these critical projects.

Allocate resources directly to cities and counties for priority water and sewer infrastructure projects that will support low- and moderate-income neighborhoods, and provide the resilient infrastructure improvements residents and businesses require.

Support the use of public-private partnerships to bring modern efficiencies to plant operations and save ratepayers money. Private investment in public water and sewer systems can be an innovative way to rebuild some of our nation's water and sewer systems; and, Congress can modify the tax code to allow public debt and private investment to coexist in projects involving a public service nature. If Partnerships are not appropriate in some regions for some types of infrastructure, we urge Congress to recognize that water and sewer Partnerships do work well; and they have rate controls built into their contractual arrangement as a service provider.

Amend the Internal Revenue Code of 1986 to remove the state volume caps for Private Activity Bonds (PABs) used to finance public purpose water and sewerage facilities.

Direct at least $5 billion in additional funding to low- or no-interest grants to State Revolving Fund loans for local priorities. Direct and flexible funding will allow cities to

leverage more private sector partners and address the most critical infrastructure needs of our communities.

Codify Integrated Planning and Affordability legislation and, in particular, Mr. Gibbs' bill HR 465, the Water Quality Improvement Act of 2017. Although not an infrastructure bill, it provides the needed changes to the local-federal intergovernmental dynamic that is necessary to balance national goals and local priorities.

HR 465 provides the flexibility that would allow local governments to prioritize their wastewater and stormwater investments in an affordable manner based on that community's public health, environmental needs, and economic capability.

Build infrastructure that helps increase resiliency. Many communities are facing common threats: droughts, floods, coastal storm surges, earthquakes, and wildfires. We need to direct investments to address and manage these acute threats that endanger life, property and natural resources.

Increase the Army Corps of Engineers funding to upgrade and modernize the nation's inland waterway system and spend the full amount of the annual Harbor Maintenance Trust Fund on port modernization and maintenance activities. The Trust Fund now has a $9 billion surplus. These funds should be taken off budget to provide significant resources to port infrastructure.

I again want to commend the committee for addressing this important and vital issue and for giving me this opportunity to share the positions of the nation's Mayors on rebuilding our nation's infrastructure.

Before the House Transportation and Infrastructure Committee
Subcommittee on Water Resources and Environment
Hearing on

"Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives."

September 26, 2017

Testimony of
James M. Proctor II
McWane, Inc.
Senior Vice President and General Counsel

Chairman Graves, Ranking Member Napolitano, and members of the subcommittee:

Thank you for the opportunity to testify about an issue vital to our nation's health, economy and security. Water is our most precious resource, one that is essential to human life and health. Access to water depends upon a reliable water infrastructure system and sanitary services that preserve, treat, and deliver safe drinking water to our nation's communities. For almost 200 years McWane, Inc. has proudly provided the building blocks for our nation's water infrastructure, supplying the pipe, valves, fittings and related products that transport clean water to communities and homes across the country and around the world. In the process we employ more than 6000 team members who work in 25 manufacturing facilities in fourteen states and nine other countries.

Despite its obvious importance, "out of sight, out of mind" best describes the nation's attitude toward water infrastructure. Potholes, train wrecks, and delayed flights are much more

visible; thus, transportation needs often crowd out our attention to water as a serious infrastructure need. But the reality is that much of America's drinking water, wastewater, and storm water infrastructure, including the more than one million miles of pipes beneath our streets, is nearing the end of its useful life and must be replaced. Many communities strain to maintain and operate their water treatment systems. According to the U.S. Census Bureau, nearly half a million U.S. households still do not have access to safe drinking water or a working toilet. As much as 25-30% of the treated water that goes into our distribution systems leaks into the ground as it flows through pipes installed as many as 150 years ago. Those losses not only squander a vital and sometimes scarce resource; they represent a massive waste of the energy and associated capital required to treat and pump that water. As much as 19% of our nation's electricity consumption and 30% of our natural gas consumption is related to water treatment, pumping, and recovery. The energy used to treat water that leaks into the ground is simply wasted, which in turn increases energy prices for consumers and greenhouse gas emissions associated with its production. And as noted in a Wall Street Journal article last week, the recent hurricanes in Florida, Texas and Puerto Rico also spotlighted two concerns: the vulnerability of our water systems to natural disasters and a problem that occurs regularly across the country: sewage overflows from overburdened and underfunded wastewater systems that are overwhelmed during major storm events.

Safe drinking water, a clean environment, jobs and vibrant local economies depend upon resilient and sustainable water and wastewater infrastructure. Federal capitalization grants during the 1970s and 1980s, and low-interest federal loans made since the 1990s (which cannot be used for operation and maintenance), have encouraged the build-out of our nation's

regionalized wastewater infrastructure, but have not provided for the maintenance and rehabilitation of those aging systems. In contrast, drinking water systems, particularly larger systems, have been built primarily on a community's rate base resulting in a much more fragmented industry centered around cities and towns. As a result, significant fragmentation in the drinking water sector (with 53,000 community water systems), underpricing of water and sanitary services, and increased federal regulatory mandates with no commensurate federal financial support, the condition of the nation's water infrastructure in many parts of the Nation is in need of repair and renewal.

Compounding the problem, our shifting population brings significant growth to some areas of the country requiring larger pipe networks to provide water service, while population decreases in other areas deplete budgets necessary to sustain water systems built for larger customer bases.

Water is also a vital national security issue. U.S. security experts expect that within ten years, countries of strategic interest to the U.S. will face significant water challenges and more and more will come to the U.S. for expertise.

Over $1 trillion is needed over the next 20 years to begin to rebuild and rehabilitate water systems. But every challenge presents an opportunity, and water infrastructure is no different. Investment in water infrastructure means more jobs: every $1 billion invested in infrastructure creates or supports 28,500 jobs, and every dollar invested in water and wastewater infrastructure adds $6.35 to the national economy. Moreover, the investment is largely self-sustaining. Studies have shown that with the increase in GDP, every dollar of water infrastructure investment generates $1.35 in tax revenue to the federal government and $.68 to state and local

governments, tax revenues to help pay for the investment. Water also offers a unifying opportunity to make progress at home, while also projecting American leadership and boosting exports of U.S. solutions, products, and services abroad.

Bringing these macro statistics down to the level where our company lives, building water infrastructure requires manufacturing capacity, and companies need market and funding certainty to ensure that investments in building that capacity will not be wasted. A long-term, high level of annual authorization for WIFIA and the DWSRF will provide that market signal and spur increased use of the capacity that already exists and, potentially, the development of even more capacity as the market dictates. The obvious benefit of this – and one that is top-of-mind for all of us – is that this will create good, family-supporting manufacturing jobs. But another benefit is that as American manufacturers ramp up production, they can harness economies of scale and that make American products more affordable and more competitive. There are several ways that this program can be tweaked and improved, but in the end there is no substitute for a strong, long-term, stable funding stream.

But our water infrastructure challenges cannot and will not be solved simply by providing more federal funding. Rather, a fundamental shift away from the traditional approaches must occur, through a combination of new sources of funding and changed behavior through incentives, greater accountability, and improved governance.

For the past 9-10 months a group of prominent associations in the water and infrastructure sector have been working together to discuss and develop a set of ideas that could provide this positive and transformative change. The participants in these discussions include the spectrum of publicly- and privately-owned systems, rural and urban communities, and

drinking and wastewater systems, such as the American Water Works Association, the National Association of Clean Water Agencies, the American Public Works Association, the National Association of Water Companies, the U.S. Water Partnership, the American Metropolitan Water Association, the Water Environment Federation, Association of Regional Water Organizations, the American Public Works Association, and others. The Environmental Protection Agency and the White House Council for Environmental Quality have also been consulted. The ideas that I will outline today reflect the results of those discussions. While not all of the groups I mentioned have formally endorsed everything that I will discuss, all have had input and I think it safe to say that the vast majority of these topics enjoy their unanimous support.

The package of ideas this group has discussed are broadly organized around three areas: (1) removing barriers to investment and better management; (2) funding; and (3) innovation. I will discuss each in turn.

I. **Remove Barriers To Investment And Achieving Effective Scale In The Delivery Of Water And Wastewater Service, And Improve Operational Performance.**

As I noted previously, water and wastewater services in the United States are delivered by more than 70,000 entities, over 80% of which serve fewer than 10,000 customers. In fact, a large segment of these small utilities serve as few as several hundred households. With such a limited service and rate base, these small operators cannot achieve the scale of operations and expertise necessary to meet the regulatory, operational, technical and financial challenges they face. As a result, thousands of such small systems struggle to maintain and replace their antiquated systems and meet even minimal performance and health-based standards, and frequently fall into significant non-compliance (SNC) status with EPA. These and other systems should be

incentivized to enter into voluntary partnerships with other entities who can help them scale up to develop the necessary financial, operational and technical capacity to operate and maintain these systems. There are many paths to such partnering arrangements, including public-to-public, public-to-private, private-to-private, and public-to-private partnerships, concessions, operating agreements, peer-to-peer, or consolidation or regionalization of assets or services. Let me emphasize, nothing I say today should be construed as favoring one path over another. All paths should remain available at the discretion of the local entity, but partnerships or consolidation should be encouraged by, among other things:

- *More financial incentives.* The SRF's could be amended to provide set asides and expand SRF funding exclusively to fund partnerships and consolidation. For example, California currently provides up to $5M for systems that wish to explore and implement consolidation.
- *A regulatory safe harbor to the acquirer or partner.* Frequently, the risk inheriting legacy regulatory and other liabilities arising from past non-compliance discourages potential partners. To encourage financially sound and well-managed water systems or other partners (public or private) to assist distressed systems, the government must provide some form of liability protection and enforcement forbearance except in the case of intentional misconduct. As an example, the new partner would be required to present a detailed plan to achieve compliance within a certain timeframe, and if the partner fulfils that plan it would enjoy a grace period from enforcement action during its implementation and liability protection upon completion.

- *Remove debt defeasance penalty.* A simple way to accelerate partnering and private investment is the elimination of the need to "defease" public bonds as a result of a merger, asset purchase or grant of a concession. Current regulations discourage many municipalities from entering into cost-saving and efficiency-driven partnerships with private water companies for the operation of municipal water supply and treatment facilities. Specifically, IRS regulations impose a significant financial penalty on municipalities who sell or lease their water system to a private company if it was originally financed with tax-exempt debt, adding up to 15-20% of the total value of the transaction. Removing tax inefficiencies for lease and sale of municipal water systems will provide greater options and opportunities for communities to attract more private investment and expertise to rehabilitate and restore failing water infrastructure.
- *Encourage Effective Utility Management (EUM) and best practices, including full-cost accounting.* To succeed, every utility must have an accurate understanding of their financial condition, including the cost of providing water and waste water services. Potential partners will also require such information before committing their capital and resources to the rehabilitation of a failing utility. A recent survey found that only one-third of water utilities operate under rate structures that fully cover their costs. This undervaluation of water as a commodity creates severe constraints on the ability of utilities to finance their operations or outside investment.

A number of major water and wastewater associations (AMWA, NAWC, NACWA, AWWA, WEF, WERF, WRF, ASDWA and ACWA) and EPA have endorsed the ten attributes

of Effective Utility Management[1], one of which is financial viability. Financial viability includes an understanding of the full life-cycle cost of utility operations and value of water resources. Current SRF funding eligibility is contingent upon the preparation of a plan of financial viability, including managing accounts in accordance with accepted accounting procedures. However, too often this financial viability requirement is not enforced with SRF loans and grants. These accounting requirements should be enforced such that applicants for federal support are required to assess the total costs associated with constructing, operating, and maintaining their water, wastewater and storm water systems, including long-term capital costs. Moreover, this information must be made more transparent and readily available for public review.

II. Provide More Federal Funding Through The State Revolving Funds, The Water Infrastructure Financing Innovation Act (WIFIA), Private Activity Bonds, And Technical Assistance.

The Clean Water State Revolving Fund (DWSRF), the Drinking Water SRF, and the Water Infrastructure Finance and Innovation Act (WIFIA) Program play key roles in delivering investment efficiently to communities throughout the nation. WIFIA, a relatively new program, has created great opportunities for leveraging federal funds to incent private capital to finance large projects. However, the amounts authorized and appropriated to those programs fall short of the need.

[1] Effective Utility Management, A Primer for Water & Wastewater Utilities, http://dev.watereum.org/wp-content/uploads/2017/04/Effective-Utility-Management-A-Primer-for-Water-and-Wastewater-Utilities.pdf

- *Increase WIFIA funding from its current level of $20M to its authorized level of $45M.* WIFIA is emerging as an extremely effective and cost-effective tool for addressing financing needs in the water sector. WIFIA funds 49% of a project's cost, and the balance must come from a non-federal share. As a result, it harnesses the power of leveraging the federal component with private investment. When used to provide credit enhancements, every dollar provided by WIFIA will generate $65 in additional, private capital. Fully authorized, at $45 million the WIFIA program would fund $3 billion in infrastructure investment.
- *Increase annual capitalization of the SRFs.* The recommended levels: DWSRF at $3 billion and CWSRF at $3 billion.
- *Provide more technical assistance to small and rural systems.* In some cases, systems are so small or geographically isolated they have no viable partnership or consolidation options. In such cases, more technical assistance, in the form of peer-to-peer assistance and circuit-riders provided by neighboring utilities or third parties, can help those systems better manage their assets.
- *Remove tax-exempt water infrastructure private activity bonds from state volume caps.* Congress should amend the Internal Revenue Code of 1986 to remove the volume cap for private activity bonds used to finance water and sewage facilities. These bonds are a form of tax-exempt financing for state and municipal governments that want to collaborate with a private entity to meet a public need. This partnership approach makes infrastructure repair and construction more affordable for municipalities and ultimately for users or customers, but the amount of such bonds that a state can issue is capped.

According to the Congressional Budget Office, over ten years this policy change could infuse $50 billion in private capital investment at a cost of only $354 million in lost tax revenue, increasing jobs, GDP, and tax revenues while solving a tremendous public need.

- *Retain Tax Exemptions for Municipal Bonds.* Tax-exempt municipal bonds are the primary means by which utilities and municipalities raise capital for water infrastructure projects. The market for these bonds provides an established, reliable, and efficient mechanism for public utilities to raise low cost capital. The tax-exempt feature of these bonds should be preserved in any tax reform measures adopted by Congress.
- *Expand eligibility of SRF loans to private water providers.* Interpreting the statutory language, EPA has long maintained that the Clean Water SRF is available only to the publicly owned utilities. Because the Drinking Water SRF contains different authorizing language EPA has determined that private water systems are eligible for Drinking Water SRF funds, but numerous states disallow such funds for private entities. This disparity prevents the private sector from leveraging federal investment to benefit the same communities (and rate payers) otherwise eligible for federal funds. Congress should amend both authorizing acts to allow private utilities access to the SRF's on a consistent basis.
- *Modernize and streamline the SRFs.* Eliminate federal/state application redundancies and streamline the application process and paperwork to make it easier for smaller systems to seek assistance.

III. **Accelerate the adoption of innovative technologies and improved management practices.**

Congress should encourage actions that will unleash America's know-how, strengthen the technical and managerial skills of our workforce, improve the efficiency and resiliency of our water systems, and promote the development, deployment, and diffusion of 21st century solutions throughout the United States and around the world.

- *Establish the National Water Test Bed Network.* There are countless innovative technologies waiting to come to market that could improve efficiency and drive down costs of water services. For example, wireless technology and new sensing and metering capabilities create opportunities for remote but inexpensive real-time flow and quality monitoring. Studies indicate that digital water networks can save utilities up to $12.5 billion a year. However, due to the risk averse nature of municipalities and market barriers, such innovations are not being deployed quickly enough. To accelerate the deployment of these technologies requires a new approach to evaluate, demonstrate and approve innovative technologies. Unless utility operators have the confidence that new technologies will work, they are reluctant to adopt or deploy them. But few are willing to serve as the pilot program because of the demands on time and budget, and even those pilot programs that do proceed can take years to complete. As a result, the deployment of workable, cost-saving and efficiency- creating technologies is unnecessarily delayed.

  Congress should authorize and fund the creation of a "National Water Infrastructure Test Bed Network" (TBN), to coordinate and accelerate the water industry's deployment of new technologies. It would bring together the broader water community

(i.e., regulators, operators, consulting engineers, etc.), and engage them in piloting and demonstration efforts to raise confidence in innovative technologies. The TBN's process would reduce the number of pilot projects otherwise needed and would also shorten the time needed to achieve commercial acceptance.

- *Establish a national program for collaboration and sharing of Best Practices.* A national program should be developed with a central focus on sharing best practices would enable urban and rural utilities, regardless of size, to share best practices, develop joint partnerships with public and private utilities, engage private sector expertise and technology and access private capital markets and funding. In addition, this network would provide small and distressed water systems with the technical capacity to comply with regulations and to undertake projects to improve or expand their services.
- *Develop a Water Workforce for the 21st Century.* Attracting and training the next generation of water and wastewater system operators is critically important, particularly for small and disadvantaged communities. Many water and wastewater utilities undertake the complex challenge of consistently delivering safe drinking water with a small and under-resourced staff with limited technical skills and training. Even large utilities will soon face loss of talented workers with the skills essential to the effective operation of their systems, and the introduction of new technologies will aggravate this problem because the operators of the future will need greater technological skills than are common today.

The Safe Drinking Water Act includes several set-asides related to operator certification and training for water systems from the funding authorized for the state

revolving funds. Congress should buttress that authority by tasking the U.S. Department of Labor with developing a workforce development program helping American workers get the skills and credentials needed to support the operation, maintenance, and improvement of water and wastewater systems of tomorrow.

- *Empower Local Decision Making.* For too long Washington has imposed unfunded, one-size-fits-all mandates that have increased burdens and costs on local utilities without regard to the diverse water and wastewater infrastructure needs of local communities, who must evaluate numerous factors when considering the proper design and materials for their community and water projects. Although Congress should hold communities accountable for results, they should encourage federal agencies to defer to local communities and their engineers of record in the means employed. Encouraging and supporting local governance allows those closest to the problem to determine the best solutions, which stimulates innovation and saves money as local communities can hold those in their community more accountable.

These ideas have all been discussed by the various water constituencies mentioned above, and with a few exceptions they are supported by all. But I should point out that to the extent the participants support this package, generally that support is the product of compromises and the resulting the premise that the various components are linked. These compromises balance diverse political, historical, socio-economic, and practical realities and perspectives among publicly- and privately-owned systems, rural and urban communities, and drinking and wastewater systems. Those perspectives include the role and extent of federal

subsidies to support local water systems, unfunded federal mandates and the economic impact on small and rural communities, the role of private sector participation, market competition, accountability, standards setting affecting operations, and competition for limited federal resources at a time when needs are growing and resources are shrinking.

As an example, while full-cost pricing and effective utility management are prudent measures that virtually all agree upon, they are integrally tied to affordability, because many small and financially distressed communities simply cannot bear the full cost of water service or do not have the technical capacity to implement such an approach. However, all agree that good management necessarily includes a basic understanding of the full cost of providing water and sanitary service. A requirement for full-cost accounting for access to federal funding might serve as an appropriate interim reform, but many smaller or distressed utilities might still need assistance in preparing such an analysis. Therefore, for some groups support for full-cost accounting is contingent upon additional federal assistance and financial support for economically distressed and disadvantaged communities.

As another example, while there is broad recognition of the general value of private sector participation, lack of access to the SRF's is sometimes a barrier. Although allowing more private entities greater access to the SRFs would remove that barrier, it might also create greater demands for already limited SRF resources. Thus, public sector support for private sector participation is dependent upon private sector support for increased SRF funding.

Conclusion

These are only a few of the issues and solutions that merit discussion. The key takeaway, however, is that the scope and scale of America's water infrastructure needs demand a massive, coordinated, forward-thinking, and creative response. Water infrastructure is not a partisan or even a bi-partisan issue. It is and must be a non-partisan issue. With that cooperative spirit in mind, reform and reauthorization of Safe Drinking Water Act and Clean Water Act programs like the SRF's are crucial to that effort, and we at McWane are glad to have the opportunity to contribute to that process.

Thank you for your time and consideration.

TESTIMONY OF

DAVID PEDERSEN
GENERAL MANAGER
LAS VIRGENES MUNICIPAL WATER DISTRICT

ON BEHALF OF

CALIFORNIA ASSOCIATION OF SANITATION AGENCIES
ASSOCIATION OF CALIFORNIA WATER AGENCIES

SUBMITTED TO

SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C.

HEARING ON BUILDING A 21st CENTURY INFRASTRUCTURE FOR AMERICA: WATER STAKEHOLDERS' PERSPECTIVES

SEPTEMBER 26, 2017

I. Introduction

Chairman Graves, Ranking Member Napolitano and Members of the Subcommittee on Water Resources and Environment:

On behalf of the California Association of Sanitation Agencies (CASA) and the Association of California Water Agencies (ACWA), I would like to thank you for the opportunity to testify today. We appreciate your leadership and the ongoing efforts of the Subcommittee to focus on the challenges associated with improving the nation's vital water resources infrastructure.

I am David Pedersen, General Manager of the Las Virgenes Municipal Water District (LVMWD) in Calabasas, California. In this role, I serve as the chief executive responsible for providing drinking water, recycled water and sanitation services to approximately 100,000 people in the westernmost portion of Los Angeles County. Previously, I served as the Executive Director of Operations for the Irvine Ranch Water District (IRWD) in Orange County, California, which serves about 300,000 people. In that role, I managed the operation and maintenance of IRWD's domestic water, recycled water, wastewater and natural treatment systems. I am a Professional Civil Engineer and received a Bachelor's Degree in Civil Engineering from the University of California, Irvine and a Master's Degree in Business Administration from the California State University, Long Beach. In addition to my professional responsibilities, I serve on the Scientific Advisory Board of the Association of Environmental Health and Sciences Foundation and the Board of Trustees for both the Southern California Water Committee and WateReuse California.

I appear before you today as a water/wastewater agency manager and a member of both CASA and ACWA. These two state associations collectively represent hundreds of local agencies in California on water quality and drinking water needs. Together, we serve 90% of the nearly 40 million people in California. Our core mission is the protection of public health and the environment through water distribution and effective wastewater collection, treatment and reuse. We provide safe and reliable water supplies to California's cities, farms, businesses and ecosystems. I would also note that LVMWD is a member of the National Association of Clean Water Agencies (NACWA).

By way of background, LVMWD is uniquely challenged with no local sources of water; all of its drinking water is imported by and purchased

from The Metropolitan Water District of Southern California. Fortunately, LVMWD was an early adopter of water recycling and initiated service to its first customer in 1972. Today, recycled water is used to meet 20% of the agency's overall demands, reducing its dependence on imported water. However, California's recent five-year, record-setting drought was a stark reminder that more needs to be done. LVMWD, together with its joint powers authority partner, Triunfo Sanitation District, is proposing an ambitious $95 million project to purify its excess recycled water, currently released to the ocean, and produce a new source of drinking water. The *Pure Water Project Las Virgenes-Triunfo* would create up to 5,000 acre-feet of local, drought-resilient water supplies; reduce reliance on imported water sources; and nearly eliminate discharges to receiving waters.

In addition to demands for new infrastructure, agencies face significant problems associated with aging water infrastructure. These needs are mounting with each coming year and becoming increasingly expensive to address. Further, agencies in California and much of the nation face increasing costs for regulatory compliance, unpredictable weather conditions and general population growth. With these issues in mind, we appreciate your consideration of our recommendations to ensure continued progress on improving water quality, enhancing water supply and addressing the emerging challenge of resiliency. Please accept my testimony and the related documents as part of the formal record.

Today, I will outline four important issues for CASA and ACWA, as well as my own agency.

- First, we ask the Subcommittee and Congress to recommit robust levels of federal funding for water infrastructure. CASA and ACWA strongly support the State Revolving Fund (SRF) Loan Programs, Water Infrastructure Financing and Innovation Act (WIFIA) Program and other programs to provide federal funds for water infrastructure projects. Additionally, we ask that Congress update the allocation formula used to distribute Clean Water SRF Program funds to states.

- Second, we request that National Pollutant Discharge Elimination System (NPDES) permit terms be extended from five to ten years, while retaining existing U.S. Environmental Protection Agency (USEPA) and delegated state authority to reopen permit terms based on current law. This proposed change to the Clean Water Act would

provide significant benefits to states and local public water/wastewater agencies and would better reflect the technological and administrative realities of the modern era.

- Third, we recommend that Congress support integrated planning as an effective means for public agencies to address multiple Clean Water Act requirements. We believe integrated plans support more comprehensive water planning and lead to the implementation of water quality improvements to address the most serious threats, while stretching limited local resources.

- Fourth, we request that Congress avoid any potential inclusion of consolidation or reorganization of local water and wastewater agencies as a criterion for federal funding assistance or ranking projects for funding. Any consideration of consolidation or reorganization must recognize the purpose for which the agency was formed and the important role it serves in the community.

II. Water Infrastructure Assistance

Adequate and Reliable Federal Funding is Essential

CASA and ACWA support a robust infrastructure funding partnership between the federal government and local communities to protect the integrity of our receiving waters, deliver safe and reliable drinking water and enhance our ecosystems. We recognize and thank the Subcommittee for its decades of support of the State Revolving Fund programs. From inception, the SRF programs have proven to be an effective and efficient means to help meet the significant needs of local communities.

In California, the SRF programs provide vital support for a variety of water infrastructure needs. We have used the programs to support core water quality treatment functions, develop recycled water capacity, build resilient water supplies and capture sustainable energy from treatment processes. During the past several years of extraordinary drought conditions, the SRF programs served as a lifeline to construct water recycling facilities and other critical infrastructure. Without these funds, the impact of the drought would have been significantly more severe.

California, along with much of the nation, faces deteriorating infrastructure, increased regulatory compliance costs, unpredictable weather conditions

and general population growth. At the same time, financial support has declined for the key federal partnership offering direct assistance through the SRF programs, which CASA and ACWA agencies have relied on for decades. In California alone, estimates show a $26 billion need for new wastewater infrastructure over the next twenty years; drinking water needs are estimated to exceed $44 billion. These figures are in addition to the funding required to continue operation and maintenance of existing facilities and programs.

CASA and ACWA believe that the SRF programs should continue to serve as the backbone of water and wastewater infrastructure financing at the state level and call upon Congress to provide the programs with increased funding. The loan programs provide the most important and effective water infrastructure financing tools available today and should be viewed as an investment in the nation's health and its economy. Loan payments create the revolving aspect of the programs, meaning that outgoing monies come back to the states to be loaned again for additional projects. The SRF programs are the engine that allows CASA and ACWA member agencies to continue their mission of protecting human health and the environment.

CASA and ACWA appreciate the Subcommittee's support to create the new WIFIA Program. Several of our members were recently invited by USEPA to submit full applications for qualifying projects and are eager to utilize this new water infrastructure financing tool. With its focus on large projects, we believe that WIFIA complements the SRF programs. CASA and ACWA look forward to working with Congress and the USEPA to ensure that this new program is successfully implemented.

We also see an important role for direct grant assistance. In many cases, smaller communities or segments of a service area lack the resources necessary to secure loans. In these circumstances, we strongly encourage Congress to authorize grants for such communities and service areas to serve as a catalyst for long-term water quality improvements. The financial commitment through grant assistance is a significant component of maintaining public investment to improve public health and the environment.

CASA and ACWA greatly appreciate your work on the Water Infrastructure Improvements for the Nation Act or WIIN. This new law includes provisions that will help ACWA member agencies work with the U.S. Army Corps of Engineers (Corps) to facilitate stormwater capture and groundwater

recharge projects. Additionally, it provides direction to the Corps to engage in environmental infrastructure projects, including water recycling, and directs the Corps to prioritize updating its water control manuals to better manage storage facilities, while recognizing increased variability in precipitation. We also look forward to working with the Congress and the Corps to ensure these new programs are successfully implemented.

We also urge continued and enhanced funding for the Corps Section 219 Environmental Infrastructure Program. This program, authorized through the Water Resources Development Act of 1992, helps communities construct needed water supply projects, wastewater treatment facilities and water recycling projects. It is an essential part of the solution needed to continue addressing our urgent water infrastructure issues.

Other federal programs also play an important role in helping water agencies finance infrastructure projects and compliment the goals and objectives of the SRF programs. For example, the U.S. Bureau of Reclamation's Water Recycling and Reuse Program and WaterSMART Program help western states stretch their limited water supplies. CASA and ACWA strongly support these programs and others to help water agencies continue to provide safe, reliable water to Californians. We need a diverse portfolio of solutions to addresses the full range of water and wastewater infrastructure challenges. A variety of financing tools, including a WIFIA-like program for other federal agencies, are needed to fund water projects.

The Clean Water SRF Allocation Formula, Unchanged Since 1987, Should be Updated

The Clean Water Act allocation formula determines the amount of SRF capitalization grant assistance provided to each state. The formula, which is based on a variety of factors including census population and capital needs, has not been updated since 1987. Meanwhile, the population in California and throughout the nation has dramatically changed. Additionally, water infrastructure needs have grown substantially beyond the levels identified in 1987.

As part of the Water Resources Reform and Development Act (WRRDA) of 2014, Congress directed the USEPA to conduct a study to examine the allocation formula and identify options to more accurately address current needs. In a May 2016 report (copy attached) entitled, *Review of the*

Allotment of the Clean Water State Revolving Fund (CWSRF): Report to Congress, the USEPA concluded, "most States do not currently receive appropriated funds in proportion to their reported needs or population, which demonstrates the inadequacy of the current allotment."

The Subcommittee is commended for seeking the report, as it provides a data-driven analysis of the current formula's impacts on states, particularly how it disadvantages states where needs have grown since 1987. The report documents that the current 30-year-old allocation formula fails to equitably address the clean water infrastructure needs of today in an equitable state-by-state basis. Specifically, the current allocation formula fails to provide adequate funding assistance to the states based upon current water quality needs or population. For example, the report illustrated that SRF allocations to California should be 18% higher if they were based on a 2012 water quality needs survey. Alternatively, if 2010 population data was used, California's equitable share should be 60% higher.

The report presented three options to more accurately gauge needs and set allotments for the states in the future. In each instance, California would gain significant allotment, increasing from 14.7% to 24.9% over its current 7.3% allotment. These percentage changes were based on the 2012 needs survey and 2010 census data, while applying constraints on the maximum increase or decrease to states. CASA and ACWA request that Congress update the Clean Water SRF allocation formula to reflect the findings of the USEPA's May 2016 Report.

Expanded Private Sector Access to the SRF Program Would be Counterproductive

In the past, proposals have been made to allow for private sector use of Clean Water SRF resources. CASA and ACWA strongly oppose any initiative to open access to the SRF programs to the private sector for several reasons. First, a source of tax-exempt financing for private sector needs already exists in the form of private activity bonds (PABs). Moreover, diluting the purchasing power of already oversubscribed programs designed for the delivery of "public works" is counterproductive. Public entities that rely on traditional public financing for water infrastructure cannot afford the diversion of limited resources to privatize systems that were constructed with public monies. Recent infrastructure proposals circulated by the Administration have focused on privatization

and public private partnerships (P3s) as a means to spur investment. This approach could best be achieved by amending the tax code to allow for increased utilization of PABs, not through limiting the capacity of the SRF programs for essential public infrastructure by admittance of private entities.

III. Extension of NPDES Permit Terms

The extension of NPDES permit terms from five to ten years is our top priority for any non-funding related infrastructure response. Congress has an opportunity to modernize the Clean Water Act permitting process to reflect the realities of today by making a straightforward change to this important environmental statute.

The Clean Water Act requires publicly owned treatment works to secure a new permit to discharge highly treated wastewater every five years. These relatively short permit terms were predicated on the priority for agencies to upgrade treatment facilities to secondary standards and conformed to technology lifecycles and infrastructure expectations of the era. More than 40 years later, water quality needs are increasingly complex and require new methods and technologies to support innovation in making water quality improvements.

The existing five-year renewal cycle results in unnecessary financial and technical burdens on local agencies and the state permitting authorities that must prepare and issue the permits. NPDES permits are becoming increasingly complex and restrictive, and the treatment technologies necessary to meet permit limits have become more expensive and time intensive to implement. As a result, many local public agencies have not completed the upgrades necessary to comply with their prior permit when they are faced with negotiating new terms and requirements. The five-year term, established in 1972, does not reflect the realities of addressing today's clean water challenges and restricts state and local flexibility to address the highest clean water priorities. Additionally, the short permit term does not encourage long-term thinking that is essential to implement innovative solutions that produce the greatest benefits.

Examples of the policy disconnect between the realities of today's water treatment needs and an antiquated five-year permitting cycle abound. Project construction timelines can extend more than a decade, as public agencies seek to implement very large clean water infrastructure projects

that must meet extensive environmental, tribal, historical and antiquities reviews, not to mention considerations for labor agreements, project design, scheduling and technology acquisition. This means local agencies must expend time and money to prepare for permit renewals even as they try to comply with existing permit requirements. At the same time, state and federal permitting agencies devote an overwhelming amount of resources to the administrative reviews and approvals necessitated by a constant treadmill of permit applications. The work diverts limited resources away from more pressing issues, such as non-point sources and other water quality improvement programs. Further, the workload can create a permit backlog, leading to administrative extensions that are discouraged by the USEPA and lack certainty for the permitted entity and public alike.

Ten-year permit terms would facilitate the effective use of limited water quality resources, allowing local agencies and permitting authorities to focus on and address today's water quality needs, which have moved beyond the traditional point sources that were the focus in 1972. This change would benefit local public agencies, states and the public. Local water and wastewater agencies would be afforded adequate time to comply with existing regulatory requirements before the imposition of new ones, and could better plan and more efficiently construct new facilities using the latest technology. States could direct more resources to non-point sources and watershed-based solutions. Further, existing permit reopener provisions currently provided for by law would allow new conditions to be addressed in NPDES permits during the 10-year term, if necessary, to protect water quality.

My agency, Las Virgenes Municipal Water District, serves as a prime example to illustrate the advantages of a ten-year permit term and the associated financial and environmental benefits. In July 2013, the USEPA established the *Malibu Creek and Lagoon TMDL for Sedimentation and Nutrients to Address Benthic Community Impairments*, creating some of the toughest nutrient standards in the nation for our discharges to Malibu Creek. Upgrades to our Tapia Water Reclamation Facility to meet the requirements were estimated to be up to $160 million, only to continue releasing the very highly treated water to the creek. Rather than focusing on the short-term, we organized a stakeholder group in 2015 to evaluate the long-term options to address the challenge. Born from the process was the *Pure Water Project Las Virgenes-Triunfo,* a surface water augmentation

project that provides both a new source of drinking water and a regulatory compliance solution. The $95 million project is estimated to take 13.5 years to complete and served as the key element of the NPDES Permit issued by the Los Angeles Regional Water Quality Control Board for the Tapia Water Reclamation Facility on June 1, 2017.

There are numerous other examples, including the Sacramento Regional County Sanitation District, which was required to spend more than $1 billion to upgrade its treatment facilities and faced another permit renewal while in the middle of construction of the project required by the prior permit. These are individual examples to illustrate the need for 10-year permit terms, but there are hundreds of other agencies in California alone that could potentially benefit from this change in federal policy.

We urge the Subcommittee to amend the Clean Water Act, Section 402(b)(1)(B) to allow for 10-year permit terms.

IV. Integrated Plans

Another promising option to stretch limited water infrastructure resources and maximize the achievement of water quality benefits is the concept of integrated planning. These plans would enable agencies to work with the USEPA and states to develop strategic compliance approaches. The process creates efficiencies by allowing local agencies to take a holistic look at their clean water environmental priorities and obligations and prioritize investments in a way that makes the most sense. It is important to re-emphasize that such a process would be undertaken working in collaboration with both USEPA and state regulatory authorities, utilizing adaptive management approaches that can be re-evaluated to ensure the most efficient and beneficial water quality outcomes. Integrated planning provides a flexible framework for addressing local agency obligations, while best managing overall compliance costs.

CASA and ACWA are supportive of proposals recognizing the value of integrated plans, particularly those developed by our colleagues at NACWA in coordination with the USEPA. The Subcommittee is commended for its priority to support development of a consensus approach that would facilitate the use of integrated plans. We appreciate the Subcommittee's continued consideration of integrated planning as a valuable tool for CASA and ACWA members, and our equivalents, across the country.

V. Consolidation of Public Facilities

Over the years, questions have been posed as to whether consolidation and reorganization of certain water systems could improve the delivery of water services. We are currently aware of proposals that would make review of consolidation options a condition of securing federal assistance. Consolidation might be appropriate to consider in certain limited instances. However, a broad-based, federally driven push for the consolidation of water systems runs counter to the decades of policy agreement that such decisions are best left to policy makers at the local level.

California may be unique in terms of the breadth of its special districts and the scope of their responsibilities, but we can provide some lessons as to the potential pitfalls of large-scale consolidation efforts, particularly those that do not originate at the local level. In California, we rely primarily on local agency formation commissions (LAFCOs) to review the role of special districts and evaluate needs for special district formation and/or consolidation. While not a perfect system, these LAFCOs represent the larger communities served and focus on local interests at the ground level. The established process takes into account local concerns with regional stakeholders and has the best interests of the communities served at its core. When consolidation is appropriate, the LAFCO process provides the best mechanism for evaluating and structuring the reorganization.

In addition, because of California's geographic and hydrological diversity, most water and wastewater systems, and the local districts that operate them, were created to address specific geographic and watershed-based needs. Efforts to pursue consolidation, particularly from the federal level, can be disruptive to local communities and the role of local water and wastewater agencies providing essential public health services. Most local agencies have invested tens or hundreds of millions of dollars in their infrastructure and communities. The value of any move toward consolidation depends entirely on the desired goals and outcomes of the effort, which must be clearly stated and understood. Before Congress or the Administration proceeds with specific initiatives related to consolidation, a study into the issue should be the first step to ensure informed decisions are made with goals and expectations that are adequately articulated.

VI. Conclusion

I appreciate the opportunity to provide testimony on behalf of my agency, CASA, ACWA, and California's greater water and wastewater community.

In closing, we urge the Subcommittee to ensure that any water infrastructure policy preserves and enhances the federal commitment to provide financial assistance going forward. The SRF programs are central to achieving our mission of protecting human health and the environment, and a key component of our agencies' plans to enhance our clean water infrastructure. The importance of the SRF programs cannot be overstated, and we urge Congress to make a clear, dedicated commitment to fully funding the programs for years to come. These resources help fund essential projects in California, including badly needed infrastructure improvement, as well as recycled water production and distribution facilities. Additionally, the extension of NPDES permit terms from five to ten years would provide a significant opportunity for efficiency and modernization of our clean water regulatory approach, and we hope the Subcommittee, Congress and Administration will champion this change.

Thank you for the opportunity to testify. I would be pleased to answer any questions from Members of the Subcommittee.

David W. Pedersen, P.E.
General Manager
Las Virgenes Municipal Water District

NACWA
A Clear Commitment to America's Waters

Building a 21st Century Infrastructure for America:
Water Stakeholders' Perspectives
September 26, 2017

WRITTEN TESTIMONY OF:

David St. Pierre
Executive Director
Metropolitan Water Reclamation District of Greater Chicago
On Behalf of the National Association of Clean Water Agencies

BEFORE THE:

Water Resources & Environment Subcommittee
Transportation & Infrastructure Committee
United States House of Representatives

Rep. Garret Graves, Chairman
Rep. Grace F. Napolitano, Ranking Member

Chairman Graves, Ranking Member Napolitano and members of the Subcommittee, thank you for the opportunity to appear before you today. My name is David St. Pierre and I am the Executive Director of the Metropolitan Water Reclamation District (MWRD) of Greater Chicago. I also serve as Vice President of the National Association of Clean Water Agencies (NACWA), which is a not-for-profit trade association that represents the interests of public clean water agencies nationwide.

I sincerely thank the Subcommittee for holding this important hearing to gather input from communities and utilities working to advance our nation's water infrastructure. At MWRD, I manage a staff of nearly 2,000 individuals working to ensure public health and safety, protect and improve water quality, and prevent flooding of homes in our 900-square-mile service area.

NACWA is an advocacy organization headquartered in D.C. and has nearly 300 public utility members from across the U.S. who share a common responsibility to provide wastewater and/or stormwater treatment services for their communities in compliance with the Clean Water Act.

The need for greater investment in our nation's infrastructure, including water, is well known. Nationally, our nation's clean water infrastructure has received a D+ grade from the American Society of Civil Engineers', and the EPA calculates national investment needs just to fully comply with the Clean Water Act under current conditions at approximately $271 billion over the next 20 years. Those of us who work in this sector understand that the true investment needs are likely much higher.

No one in the room today will be surprised that one of the most common challenges utilities face is how to fund the critical work that they do, while keeping rates affordable for the residents and businesses they serve. In fact, NACWA's annual "Cost of Clean Water" survey of its members has found that utility rates have increased above the rate of inflation for 15 consecutive years. And while local clean water investments are often driven by federal statute or enforcement actions, over 90 percent of water investment in the U.S. is funded by local dollars.

In the 1970s and 80s, many communities including Chicago benefitted from wastewater treatment plant construction grants authorized under the Clean Water Act. However, the federal role in supporting water investment has now shifted to low-cost financing through loan programs like the Clean Water State Revolving Fund (CWSRF) and now the Water Infrastructure Finance and Innovation Act (WIFIA). This has placed more and more responsibility on local governments to fund water infrastructure investment, while at the same time the federal government has imposed increasing environmental mandates without any additional funding.

Earlier this year, then-President-elect Trump called for a tripling of federal funding to the SRFs to help address water infrastructure investment needs. NACWA applauds this

recognition of the important and successful role of the SRFs. We are grateful for the work this Subcommittee has done to support strong SRFs. As discussions advance regarding federal infrastructure investment, it is imperative that the SRFs play a prominent role and that real investment dollars for water are on the table to ensure clean water gains continue to be made.

As we look to advance clean water infrastructure NACWA is engaged in discussions across the water, municipal, and private sectors, including with other organizations and witnesses on the panel today. We have enjoyed participating in very productive dialogue with many of the organizations and coalitions represented here today, and appreciate everyone's efforts to try and forge consensus solutions. While different entities in the water sector do not always agree on the best solutions, NACWA is committed to advancing the conversation and building consensus on the problems and potential solutions.

NACWA is happy to see agreement that additional federal investment must be a part of any infrastructure package along with sound regulatory reform. In conjunction with increased federal funding, the private sector is interested in having access to the Clean Water State Revolving Fund. NACWA firmly believes that any broadening of the eligibilities for Clean Water SRF dollars, including private sector eligibility, should only be considered if funding levels are significantly increased. It is important to remember that there has not been a similar interest to privatize wastewater treatment systems as there has been with drinking water utilities. Private investments facilitated by the CWSRF may be appropriate in certain situations, but should not come at the expense of financing for publicly owned systems which serve the overwhelming majority of the U.S. sewered population.

Another very timely area of interest to NACWA and its members is the potential for regionalization, public-public, and public-private water utility partnerships to help advance clean water, particularly in areas where there are opportunities for economies of scale or sharing of resources and expertise.

In the Chicago region our agency provides technical and financial support to 125 communities in Cook County to address infrastructure needs and build resilient communities. These efforts have encouraged local community investment and collaboration and increased efficiency in addressing infrastructure needs. Our agency obtained "FEMA" type buy out authority allowing local communities to submit project buy outs for homes in flood plains before disaster strikes. These regional efforts allow solutions to problems to local communities and decrease state and federal liabilities.

There is broad agreement across the sector that any federal efforts on consolidation should strive to preserve the autonomy of local communities to make a choice that is right for them; in short, a carrot rather than stick approach that ensures communities can consider a broad suite of options and not find the playing field tipped in any one direction. And because larger utilities will incur costs in providing technical or financial

assistance, we support financial incentives as part of a larger call for more funding to help utilities work through voluntary regionalization efforts. These types of investments may help stretch investment dollars further and position utilities to be on a sustainable path.

Another element of sustainable long-term financial footing is moving toward full-cost accounting, a complex assessment of the total cost to providing clean water services. NACWA supports this as a goal for all clean water utilities, but given the complex and dynamic nature of this calculation do not support it as a barrier to the SRFs.

Further, any federal efforts toward going beyond full cost accounting to full cost pricing cannot come without a true federal strategy to address water affordability. Municipalities face enormous pressure to maintain rates based on the abilities of low-income households to pay, which can inhibit charging the full cost of the service provided or lead to deferred investments. A safety net for the lowest-income households would better position utilities to charge rates that fully reflect the true cost of service and address the infrastructure investment gap. NACWA is exploring the concept of a Water Ratepayer Assistance Program to both address low-income household affordability challenges while incentivizing utilities to move towards full-cost pricing.

NACWA is also very supportive of other "tools in the toolbox" to facilitate investment in clean water. These include EPA's WIFIA Program, tax-exempt municipal bonds, leveraging private investment where appropriate through public-private partnerships, and innovative efforts – including through WIFIA – to further leverage the SRFs. Any approach that helps "grow the pie" of available funding and financing options for water infrastructure is worthy of serious bipartisan consideration.

Yet for all this discussion of funding and financing, this is just one part of the puzzle in ensuring communities can continue to meet their clean water obligations. Just as important is that the public clean water sector be viewed as equal partners with the state and federal governments in advancing clean water and afforded a great degree of flexibility in how best to advance clean water objectives in their communities. This approach is well-earned. Since enactment of the Clean Water Act in 1972, clean water agencies have been one of the most unequivocal and consistent environmental success stories of the past 45 years.

However, the Clean Water Act takes a heavy command and control approach to utility regulation and enforcement and was written when the drivers of remaining water quality impairments and emerging concerns were not well understood. For example, given the success in addressing point source discharges, non-point sources of pollution which are not regulated under the Act are often now the largest contributors to water quality impairments. Similarly, modern concerns like emerging contaminants, nutrients and increased extreme storm events were not envisioned at the time the Act was written.

These challenges underlie why the clean water sector is encouraged by the USEPA's Integrated Planning Framework. The Integrated Planning approach provides communities an opportunity to consider their clean water obligations holistically; to develop compliance schedules that can maximize each ratepayer dollar; focus first on the investments that are of top priority for the community and environment; and ensure the greatest possible net environmental benefit is achieved. This approach can also help communities find efficiencies and facilitate innovative approaches and bring new technologies to market. It would also move EPA from a posture of enforcement to one of compliance assistance as a partner in helping the municipality's plan succeed.

We greatly appreciate the work the Subcommittee has done to date on integrated planning and to address affordability concerns. We recognize Rep. Gibbs, former Chairman of the Subcommittee, who sponsored H.R. 465, the *Water Quality Improvement Act*. Similarly, we recognize several members of the Transportation & Infrastructure Committee, including Subcommittee Ranking Member Napolitano, Rep. Bustos and Rep. Smucker, cosponsors of H.R. 2355, the *Water Infrastructure Flexibility Act*. These efforts signify nothing less than trying to bring the Clean Water Act into the 21st century and we look forward to continuing to work with the Committee in hopes of advancing bipartisan legislation to codify the Integrated Planning approach, encourage the use of green infrastructure, and improve how EPA and municipalities make affordability determinations.

Another important flexibility tool that has been raised with this Subcommittee and discussed today is extended National Pollutant Discharge Elimination System (NPDES) permit terms. NACWA is supportive of extended permit terms and believes that, when done appropriately, the concept can assistant utilities to plan, develop and implement successful long-term strategies necessary to make rational technical and financial decisions to meet the requirements of the CWA. The environmental value, if any, of requiring utilities to prepare permit applications and complete the permitting process every five years often does not justify the time and expense necessary. Moreover, NPDES permits can always be modified if new information or conditions arise that necessitate mid-term changes to protect the environment.

In closing, I would like to thank the Subcommittee, Congress, and the Administration for their focus on clean water infrastructure investment. I believe that investment in water is a non-partisan issue which protects public health and the environment, creates jobs, and is essential for economic development. As Congress looks to advance 21st Century infrastructure for America, clean and safe water must be a top investment priority, supported by a true local/state/federal partnership.

I thank you for holding this important hearing and look forward to answering any questions.

TESTIMONY OF HECTOR GONZALEZ

Government Affairs Manager of El Paso Water and

Board member of the Association of Regional Water Organizations

Before the

Subcommittee on Water Resources and the Environment

Committee on Transportation and Infrastructure

U.S. House of Representatives

10:00 a.m., September 26, 2017

Rayburn House Office Building, Room 2167

Good morning, Chairman Graves and members of the Sub-Committee. My name is Hector Gonzalez. I am the Government Affairs Manager for El Paso Water (EPWater). I also am a Board member of the Association of Regional Water Organizations (ARWO), which has a mission to support policies and infrastructure funding programs that will help regional water and wastewater systems to thrive and to provide services to unserved and underserved communities.

Thank you for the opportunity to share my insights on recommended infrastructure priorities based on perspectives from the West Texas area and from my involvement on the ARWO Board. I'd like to highlight two primary areas where I think infrastructure legislation could either fill gaps and/or spur innovation:

1) Prioritizing infrastructure programs that take a regionalized approach that would particularly benefit rural and other underserved communities that have been left behind from a water and wastewater service standpoint.
2) Incentivizing resource recovery from wastewater, stormwater and impaired waters. With drought and growing challenges from declining freshwater resources, it's important to invest in innovative projects and research that make use of these waste streams to meet fresh water needs.

Toward the end of my testimony, I'll also offer some additional recommendations.

El Paso: the unexpected leader in water innovation

As background, El Paso Water provides water, wastewater, reclaimed water, and stormwater services to the City of El Paso. Through various retail and wholesale water contracts, the City has been able to partner with the County and others to extend water service to about 97

percent of the County, or approximately 800,000 of the county's residents. Wastewater service has proved more challenging since there are more funding and financing opportunities for water projects.

EPWater also provides approximately 26 percent of the needed water supply to Fort Bliss and treats 100 percent of the military base's wastewater needs.

The El Paso region, known as the Borderplex, is comprised of two countries (U.S. and Mexico) and three states (Texas, New Mexico and Chihuahua, Mexico). We all share the same water resources with common aquifers and the river (Rio Grande). Jurisdictional issues are sometimes challenging as we each have an eye to the future and seek to ensure a water supply that enables economic growth while providing water security for future generations.

Just 30 years ago, water scarcity alarm bells were going off in El Paso with concerns over rapidly depleting aquifers. Urgency brought about ambitious and innovative water supply strategies that shaped a long-term diversified water plan. Culminating in the early 1990s, El Paso Water became a pioneer in water conservation, water reclamation and aquifer replenishment. Now, the City of El Paso and Fort Bliss have confidence in our long-term, sustainable water supply. Federal agencies, including the U.S. Army Corp of Engineers and the U.S. Bureau of Reclamation, have been, and continue to be, important partners in new innovations and infrastructure projects.

Priority 1: Regionalization approach to infrastructure planning and spending

As I mentioned at the outset, I serve on the Board of the Association of Regional Water Organizations (ARWO), which is a newly formed coalition supporting such efforts. Our group has been grappling with how best to help rural water systems and their customers receive better service and at a lower cost. Any support from federal agencies could help our efforts to address growing concerns.

There are nearly 52,000 community water systems across the country. Many of these touch the same watersheds with no coordinated planning. All but the largest have a difficult time accessing capital, posing particular challenges with infrastructure improvements. ARWO sees regionalization through both private-public partnerships and public-public partnerships as a solution to improve water resource planning and increase access to capital. While some communities have policies that restrict involvement in public-private partnerships, appropriate infrastructure funding incentives may help remove this barrier.

In the outlying areas beyond the El Paso city limits, we have unincorporated communities that are not connected to a public water or wastewater system. Regionally, these areas are referred to as "Colonias", and in Texas they are officially recognized by the state. On many occasions, El Paso Water has been asked to play a role in helping deliver services to these communities. While we are prohibited by law from using ratepayer money to help communities outside our service area, we have loaned expertise and have been a willing partner in many cases to help

identify federal funding, manage projects, or even take over existing systems in an effort to provide basic essential services.

A great deal of progress and success has been achieved in extending water service to the rural parts of El Paso County thanks to the U.S. Department of Agriculture among others. Challenges are particularly pronounced when it comes to wastewater service, since state revolving funds and many programs are limited to water services without regard to wastewater service.

Such has been the case in providing wastewater service to an area in El Paso County known as "Montana Vista". Due to partnership efforts with El Paso Water, most of the residents in this area are now connected to receive potable water service. However, the provision of wastewater treatment has not been possible. Homes in the area have failing septic systems that have been deemed a nuisance by the Texas Health Department.

Efforts to extend wastewater service have been a challenge since the closest wastewater line(s) are several miles away and cost estimates exceed $30 million dollars in order to provide service to approximately 1200 households.

Efforts to secure federal funding have run into dead end after dead end. The U.S. Dept. of Agriculture (USDA) indicates that EPWater's financial portfolio renders the utility ineligible for funding to assist Montana Vista, yet the unincorporated community does not have sufficient resources to apply on their own.

The cost for providing wastewater service to many outlying areas within El Paso County continues to exceed grant funding thresholds.

Beyond just the Montana Vista example, current estimates show approximately 35,000 people within El Paso County are not connected to a public wastewater system, which represents a need for approximately $500 million to provide such service. The residential connection cost ranges from a few thousand to hundreds of thousands of dollars per connection, and is affected by distance from existing services, low population density, and other obstacles.

This issue is not limited to our border town. There are hundreds and thousands of similar stories across rural America where communities are underserved by a threadbare utility or where they have no wastewater service at all and must rely on inadequate septic systems.

These challenges could be taken head on if the new infrastructure bill encouraged regionalization, and provided incentives for public-private partnerships and public-public partnerships to work on filling the many gaps in wastewater service across the country while spurring infrastructure investment. With a federal funding matching program, such partnerships could invest in needed infrastructure, which could result in economic benefits to local economies and the realization of new water resources for areas not currently served.

In contemplating the needs across rural areas and those unincorporated areas outside of El Paso, I am also concerned with proposed Administration budget cuts to EPA and USDA water program funding, since these agencies often provide what little funding is currently available to these rural areas. EPA and USDA could both play a role in the new infrastructure bill in helping fund water and wastewater projects that would improve the quality of life for many in rural communities, while also having positive environmental and economic benefits. Grant funding for rural and underserved areas is critically needed.

Priority 2: Incentivizing resource recovery from wastewater, impaired groundwater, and stormwater.

With the frequency of drought and growing challenges from declining freshwater resources, it is becoming increasingly important to invest in innovative projects and continue research that makes use of waste streams – to include wastewater, impaired groundwater and stormwater – to meet fresh water needs across the country.

Having faced water scarcity fears decades ago, El Paso has been a leader in water resources innovation. I'd like to touch on three areas of great promise.

Direct Potable Reuse: El Paso Water's most ambitious project to date is taking wastewater that has been reclaimed, treating it to drinking water standards, and putting it directly into the drinking water system. El Paso Water conducted a successful pilot program and has received a permit from the Texas Commission on Environmental Quality to move forward with our Advanced Water Purification project.

Currently in design, the project will be one of the largest direct potable reuse projects in the country at 10 million gallons per day (mgd). This project will be very expensive with construction costs likely to exceed $100 million, but it is an important, drought-proof part of El Paso's diversified water supply strategy for the future. Many other communities are looking at advanced water purification projects to meet future water needs, but given the expense, such projects will only be realized if federal funding is made available.

In El Paso's case, we are working closely with the Bureau of Reclamation to make sure we meet criteria to qualify for Title XVI funding programs. We applaud congressional authorization of the Water Infrastructure Improvements for the Nation Act of 2016 or WIIN as it is referred to, since the funding program is dedicated to these type of reuse projects. However, national demand will outstrip the limited authorizations that were provided. Given this subcommittee's focus on wastewater, I would encourage a closer examination of water reuse infrastructure solutions to include providing the Bureau of Reclamation with the needed resources to adequately address the construction of significant reclamation and reuse projects.

Desalination: El Paso currently owns and operates the Kay Bailey Hutchison (KBH) Desalination Plant, the largest inland desalination plant in the world (27.5 mgd), which was opened in 2007, in part, with federal funding assistance from the U.S. EPA, which provided $26 million for the

plant's $100 million construction. The plant also sits on Fort Bliss property. The plant enables the utility to tap into vast brackish portions of one of our aquifers and it provides a drought-proof water supply for El Paso. Expansion of this plant is an important part of El Paso's future water supply strategy.

Inland desalination holds tremendous promise. But desalination plants like other conventional plants are expensive, and there are significant regulatory hurdles to overcome. As such, we are working with the Bureau of Reclamation and plan on exploring possible partnership opportunities with the Department of Defense in order to expand our desalination plant. But again, competition is stiff for very limited dollars. The infrastructure bill presents an opportunity to expand the WIIN program or provide other federal funding match opportunities that could lead to wider adoption of desalination, which would also help solve water scarcity challenges in some parts of the country.

Key barriers to greater adoption of inland desalination include: membrane technology limitations, the overall cost (compared to traditional water supply options drawn from freshwater), relatively high energy demands, and limited options for managing the brine concentrate.

El Paso Water has formed a partnership with a new company, Environmental Water Minerals (EWM), which will take the brine concentrate, extract salts and minerals, and return an additional two million gallons of potable water back to the utility. The salts and minerals are then processed into industrial grade commercial products that can be sold. This is a state of the art facility that is being looked at by communities across the country and is a model for resource recovery.

Aquifer Storage and Recovery (ASR): In considering resource recovery from wastewater, there is a tremendous opportunity to capture and treat stormwater or other wastewater streams for purposes of aquifer replenishment. El Paso has been cleaning wastewater to drinking water quality standards and using it to recharge a local aquifer for 30 years. We see the opportunity to significantly expand these efforts in the future with wastewater, stormwater or even river water. ASR has the potential to restore aquifer levels and meet fresh water needs for many utilities across the country.

Research: El Paso Water has also taken the lead in in conducting water related research in an effort to achieve efficiencies and save costs in our water reuse and other water resource initiatives. The research to date, for example, has allowed us to increase our water resources by extracting additional amounts of water from the salt concentrate. We have also found more efficient and less costly ways to replenish the aquifer and improved our water production processes to reduce chemical use. I would urge that the new water infrastructure legislation include some funding to continue to drive innovation and bring down costs.

Other Recommendations for Water/Wastewater Infrastructure Legislation

Beyond the specific areas outlined above, there are a series of recommendations that are worth considering with new infrastructure legislation.

As many of you have probably heard from your local water utilities, aging infrastructure is a problem across the country. In El Paso, the average age of our pipelines is 44 years old, and we expect that number to rise despite major rate-payer-funded investments in capital improvements.

According to our latest capital improvement plan, El Paso Water expects to spend well over a billion dollars during the next ten years to address its water and wastewater needs. Roughly half is expected to go to wastewater projects. The lion's share of wastewater investment will go to rehabilitation of infrastructure while only about a third will go to line expansions to serve growing parts of the city.

With rising infrastructure costs across the country, utilities will continue to raise rates, and you may hear from constituents about the rising costs of water and wastewater services. By authorizing funding to help with rehabilitation of water and wastewater projects, Congress can play a role in helping fund these needs and helping to manage the rate burden for customers.

Additional specific areas for consideration include the following:

- The U.S. Army Corp of Engineers should continue the oversight and maintenance of significant infrastructure to include dams, hydroelectric power, and flood control systems. New areas of focus could include the capture and treatment of stormwater for aquifer replenishment. The Corp should be given resources to more aggressively renew and replace canals, gates, valves, and related facilities.
- Infrastructure legislation should contemplate options to streamline regulatory requirements – especially related to water resource recovery – and simplify the bureaucratic processes to expedite federal funding opportunities. Excessive delays could be removed with a new "one-stop shop" clearinghouse where utilities can be pre-qualified based on a master application and a single comprehensive review, including documented regulatory compliance and a record of demonstrated success.
- Federal government financing for wastewater projects should factor into criteria or incentives for enhanced innovation and community benefit. Innovation could lead to energy efficiency improvements and improved leak detection systems that alert the utility and prevent major line breaks. A community benefits criteria could enable funding for odor control programs that often plague neighborhoods near wastewater facilities.
- Supporting partnerships between local water utilities and the Department of Defense (military installations) could ensure that military bases have diversified water resources in

place as part of the country's national security strategy and in collaboration with regional partners to ensure fully coordinated long-term water and wastewater planning strategies.

In closing, El Paso Water continues to be recognized as an innovative utility, but an essential component of our innovation success has been the ability to partner with the federal government and obtain funding assistance for major projects.

El Paso Water stands ready to be a resource for this Subcommittee if we can be of any further assistance.

Testimony of Chris Franklin

President and CEO – Aqua America

President-elect – National Association of Water Companies

"Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives"

Presented on behalf of the National Association of Water Companies

House Transportation and Infrastructure Committee

Water Resources and the Environment Subcommittee

September 26, 2017

Good morning, Chairman Graves, Ranking Member Napolitano, and Members of the Subcommittee. I am Chris Franklin, President and CEO of Aqua America and the current President-elect of the National Association of Water Companies (NAWC) – the association that represents the regulated private water service industry, as well as professional water management companies. I am pleased to join you today on behalf of NAWC to talk about water infrastructure and the actions the federal government can take to unleash innovative and sustainable solutions to meet this nation's water infrastructure needs. NAWC believes that by embracing the powerful combination of public service and private enterprise - we can improve water infrastructure in communities across the country.

NAWC applauds you, Mr. Chairman, and this Subcommittee, for highlighting America's water infrastructure needs and the solutions that will best address them. Effective removal and treatment of wastewater is important to the health and well-being of communities across the country. As we've witnessed in the aftermath of Hurricanes Harvey and Irma, resiliency planning and infrastructure improvements are critical to minimizing the impacts of these kinds of events.

NAWC members are located throughout the nation and range in size from large companies that own, operate or partner with hundreds of systems in multiple states to individual utilities serving a few hundred customers. Through NAWC's various innovative business models, private water and wastewater professionals serve more than 73 million Americans, nearly a quarter of our country's population.

Aqua America is a water and wastewater company that proudly serves over 3 million customers in eight states across the country. Aqua America's employees have one mission – to protect and provide Earth's most essential resource.

How Regulated Water Companies Work

Regulated water systems have existed in the United States for well over 100 years. The regulated water utility sector is highly regulated both by the state public utility commissions (PUCs), which set the water and wastewater rates that may be charged, and by the EPA and the states for water and effluent quality. Regulated wastewater utilities serve approximately nine million Americans every day, providing a range of innovative solutions for safely and effectively protecting public safety and protecting the environment.

The regulated water utility sector is uniquely positioned to offer input to this committee because private water utilities, as regulated bodies, prioritize long-term planning. Investing in long-term infrastructure and implementing strategic planning processes are required by public utility commissions in the ratemaking process throughout the United States.

As a result of these investment and management strategies, regulated water companies are well positioned to take advantage of economies of scale, creating a more cost-effective utility.

Being able to spread costs of improvements that benefit customers - such as replacing aging infrastructure, customer billing services, fleet management, engineering, and other necessary business operations - over multiple systems across states or regions creates incredible efficiencies.

For example, Aqua America spends a significant amount of capital on replacing aging water and wastewater distribution pipe. In 2016, Aqua replaced over 130 miles of aging water infrastructure. Due to the large amount of pipe replacement, Aqua is able to buy distribution pipe in bulk at a lower price and has the expertise and knowledge to manage replacement projects in a safe, efficient and strategic manner. Not only is Aqua able to see cost efficiencies, replacing this aging infrastructure in a prudent and systematic way lowers the number of main breaks in the winter and ultimately, water quality customer complaints. All of this leads to cost savings and efficiencies.

As a result of oversight and business efficiency, it should not be a surprise that regulated water companies have a proven track record of consistently meeting the water and wastewater needs of communities in many areas of the country.

Regulated Utility Role in Investing in Clean Water Needs

NAWC's members are working tirelessly to serve the public and communities across the U.S. through a variety of partnerships, ranging from regulated utilities and concessionaire arrangements to providing expert technical assistance and operating wastewater treatment plants under contract with the community.

Ensuring the high standard of quality the private water sector delivers requires extraordinary amounts of capital investment. NAWC estimates that its six largest members are collectively investing $2.7 billion each year in their water and wastewater systems – and these six companies provide service to about six percent of the U.S. population. This is significant when one notes that the current total federal appropriation for the clean water and drinking water state revolving fund (SRF) programs are approximately $2 billion annually.

Aqua has been a leader around the country in investing in water and wastewater systems. For example, at the request of our state regulators, Aqua purchased a wastewater system in Pennsylvania that was in significant neglect. The wastewater treatment plant was out of compliance and the Pennsylvania Department of Environmental Protection had conducted a stream study which indicated the small receiving stream was "dead" for three quarters of a mile downstream of the discharge location. After Aqua's purchase of the system and infrastructure improvements, the stream had recovered and within six months, minnows where seen in the stream downstream of the plant discharge.

NAWC's Recommendations for Water Infrastructure Investment

In May of this year NAWC hired Pricewaterhouse Coopers (PwC) to execute a study which reported that overall, if a few changes were made to federal law, it could lead to an additional $43 billion incremental private drinking water infrastructure investment; $15-25 billion incremental private wastewater infrastructure investment; and generate $20 billion investment potentially from public-private partnerships (not including any potential public sector investment).

This report validated what many of us in the regulated water sector already know – there are ways to identify and realize efficiencies and increased investment in the water infrastructure sector. Today, I'm going to focus on a few of the identified policies that would lead to these efficiencies for the Committee to consider. Those policies are:

1) Incentivize partnerships in the water sector
2) Lower barriers to regulated water company investments
3) Encourage effective utility management that requires financial viability and accountability for performance

Incentivize Partnerships and Consolidation

While not a purely private water solution, incentivizing partnerships and consolidation in the water sector may be the policy change with the greatest impact – particularly in changing how communities invest in water infrastructure. Therefore, one recommendation I'd like to make is that Congress should consider helping systems that struggle by encouraging them to pursue partnerships and consolidation across systems.

There are over 50,000 drinking water systems in the U.S. and nearly 15,000 wastewater utilities. Many of these highly-fragmented drinking water and wastewater systems face numerous challenges, including:

- Limited access to capital
- Operational inefficiencies
- Challenging compliance with EPA regulations
- Reduced purchasing power

Traditional enforcement tools are not always appropriate or practicable as regulators strive to help systems come in to compliance. Therefore, I believe that encouraging them to partner with regional, state, or national groups that can help them is an appropriate step. Rather than punish these systems through forced compliance and coercion, they should be encouraged to be better stewards for the communities they serve.

While engaging a private water provider is often an efficient and cost-effective solution, there

are numerous impediments to more P3s, including the legal and financial liabilities of distressed systems. For example, liabilities for past noncompliance, which can range in the hundreds of thousands and millions of dollars, can be a "poison pill" to prospective new partners, owners, or operators of distressed systems. To solve this problem, Congress should consider providing a robust legal "safe harbor" to encourage more consolidation and partnerships, including investment.

Lower Barriers to Private Water Investments

A second set of recommendations would be to lower barriers to regulated water company investments. All wastewater and drinking water systems in the country – whether they are government- or privately-owned – are ultimately public service providers and their customers are taxpayers that fund programs such as the SRF program. Despite this, there has been a long-standing prohibition against private entities being eligible for Clean Water SRF funding for treatment works and, although the EPA does not prohibit such access to the Drinking Water SRF, no less than 12 states have adopted such blanket prohibitions. Congress should seek to correct this imbalance by amending the Clean Water Act to ensure all wastewater utilities, regardless of their ownership model, are eligible for the Clean Water SRF and hold states accountable for granting all utilities equal access to these programs that every taxpayer helps support. Given the extent of the needs, it makes absolutely no sense to limit the private sector's role in helping communities achieve their clean water needs. The fact is that funding for the Clean Water SRF program is paid for by all federal taxpayers including customers of private wastewater utilities and all federal taxpayers should have access to the cost savings the SRF program generates. Ownership structure—public, private, co-op—should be irrelevant.

To be clear, rate-regulated wastewater utilities' debt is a direct pass-through cost to customers. Therefore, a low-interest SRF loan subsidized by federal taxpayers delivers a direct benefit in lower rates to the utilities' customers exactly as it does with a municipal or other public system.

While we recognize that tax issues are not the jurisdiction of this Committee, NAWC has two priority tax issues that we want to highlight for you today. One of the most effective financing tools of the federal government for long-term, capital-intensive infrastructure projects is the private activity bond (PAB) – tax exempt financing for public-purpose projects, like water, that involve private sector participation. Congress should allow for greater use of PABs for water infrastructure projects.

Another area in the tax code where Congress can help spur more investment is in eliminating the "defeasance penalty". In short, most municipal infrastructure projects are financed by tax-exempt municipal bonds and, as a general rule, the tax exemption on such bonds is lost if a private-sector business acquires a long-term interest in the project. The Internal Revenue Service has issued rules meant to give state and local governments a reasonable path for

preserving the tax-exempt status of these bonds in such an event – governments can take certain prescribed remedial actions to preserve the tax exemption. Unfortunately, as currently drafted, these remedies are not practicable for water or wastewater utility projects and, thereby, deter beneficial water consolidation and partnership projects.

Effective Utility Management (EUM) Requires Financial Viability and Accountability for Performance

Finally, NAWC and its members support EPA's ten attributes of effective utility management endorsed by all major water and wastewater associations, including the American Water Works Association (AWWA), National Association of Clean Water Agencies (NACWA), Water Environment Federation (WEF), Association of Metropolitan Water Agencies (AMWA), Association of Drinking Water Agencies (ASDWA), and the Association of Clean Water Administrators (ACWA). These attributes insist upon practices such as financial viability, infrastructure stability and operational resiliency, which reflect the basics of financial, technical and operational capacity of sustainable utility management. And they are attributes that everyone agrees must be followed.

Failing and noncompliant water and wastewater systems not only create a growing financial burden, but they pose great risks to public health and the environment. According to EPA's compliance database, there are presently thousands of domestic wastewater systems that are in significant noncompliance. These rates of noncompliance are unsustainable. If we are to change the status quo, we must offer more "carrots and sticks" in the regulatory toolbox.

Utilities that receive federal assistance should be expected to develop and implement a financial plan that covers not only capital costs, but operation and maintenance, and rehabilitation and repair costs. In addition, it is reasonable for taxpayers providing federal assistance to expect performance in terms of meeting federal and state standards, protecting public health and the environment, and providing cost-effective services – not continuing noncompliance. Failing systems should no longer be subsidized without an expectation of financial and operational viability.

Full-cost pricing helps to ensure the financial viability of utilities, which then enables them to undertake needed maintenance of and upgrades to their facilities, both of which play a critical role in the systems' ability to provide safe and high-quality service to customers.

Therefore, our third recommendation would be that applicants for public dollars should demonstrate that they have fully accounted for the long-term costs of their projects, including any risks inherent in construction, operations, or maintenance, and have selected the delivery model that provides the best value. For a community to maintain and enhance the condition of its infrastructure long-term, water and wastewater utilities should be expected, at a minimum, to manage their assets based on a process where adequate repair, rehabilitation, and replacement are fully reflected in management decisions, including appropriate customer rates.

Conclusion

In conclusion, NAWC recommends the following actions for Congress to take:

1) Incentivize partnerships in the water sector
2) Lower barriers to regulated water company investments
3) Encourage effective utility management that requires financial viability and accountability for performance

I sincerely appreciate your invitation to appear before the Subcommittee today and, along with my many colleagues in the National Association of Water Companies, look forward to continuing our work with you to ensure that all Americans benefit from improving this nation's water infrastructure, which is essential to our economy and quality of life. Thank you and I would be happy to respond to any questions you may have.

TESTIMONY OF
LAWRENCE M. LEVINE
SENIOR ATTORNEY
NATURAL RESOURCES DEFENSE COUNCIL

BEFORE THE
U.S. HOUSE OF REPRESENTATIVES
TRANSPORTATION AND INFRASTRUCTURE COMMITTEE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

HEARING ENTITLED
"BUILDING A 21ST CENTURY INFRASTRUCTURE FOR AMERICA:
WATER STAKEHOLDERS' PERSPECTIVES"

SEPTEMBER 26, 2017

Good morning Chairman Graves, Ranking Member Napolitano, and members of the Subcommittee. I am Lawrence M. Levine, senior attorney in the Water Program at the Natural Resources Defense Council (NRDC). I appreciate the opportunity to testify today on behalf of NRDC.

Summary of Testimony

In my testimony today, I will emphasize the critical need for major, new federal investment in water, wastewater, and stormwater infrastructure, in order to protect human health and the environment. In much of the country, our aging infrastructure is simply not up to the twin tasks of providing everyone with access to the safe water and sewer services they need and keeping our waterways free of harmful pollution. The scale of the need is so vast that, without a large and lasting commitment of new funds from the federal government – leveraged with additional funds from the states – our communities will not be able to fund the investment they so badly need to bring their water systems into the 21st Century.

Specifically, NRDC offers the following top recommendations:

- Increase the current annual appropriations to the Clean Water and Drinking Water State Revolving Funds (the SRFs) to $6 billion, which would mark a return to a similar level, adjusted for inflation, as was appropriated under President Reagan for the CWSRF alone.

Direct the additional funds to water efficiency, green infrastructure, hardship communities, source water protection, nutrient reduction, lead service line replacement, water loss control, and climate resilience.

- Provide incentives to states to leverage federal funds and invest more state dollars in water infrastructure, by allowing states that exceed the minimum required match for federal SRF capitalization grants to distribute a larger share of their SRF funding as grants, rather than loans.

- Reauthorize and improve the sewer overflow control grant program under Clean Water Act Section 122.

- Improve implementation of existing requirements, enacted in 2014, that promote the use of water efficiency, recapture, and reuse strategies in CWSRF-funded projects.

- Ensure that water and sewer service remains affordable for low-income households, even as utilities generate additional local revenue to meet clean water needs.

    - Prioritize disadvantaged communities in water infrastructure grant programs.

    - Create a federal low-income water and sewer assistance program (analogous to the Low Income Home Energy Assistance Program) to help maintain affordable water and sewer costs at the household level.

    - Use federal policy to spur creation of complementary state and local customer assistance programs; promote more equitable water and sewer rate structures; and increase utilities' use of asset management, green infrastructure, and water efficiency strategies that reduce costs for all customers.

- Reinstate the Federal Flood Risk Management Standard, to protect the value of federal water infrastructure investments by reducing the risk of severe damage in future flood disasters.

- Support tools for effective prioritization of pipe replacement and leakage control.

- Preserve and strengthen source water protections, including the Clean Water Rule, to protect health and reduce treatment costs.

Finally, NRDC urges Congress to ensure that all federal infrastructure funding, including water infrastructure funding, is guided by principles that maximize the benefits of public investment.

* * * * *

Federal Infrastructure Funding, Including Water Infrastructure Funding, Should Be Guided by Principles that Maximize the Benefits of Public Investment

As the Transportation and Infrastructure Committee prepares to consider federal infrastructure investment – including, but not limited to, water infrastructure – I would like to share the broad principles for infrastructure investment that NRDC urges the nation to follow:

- Use public funds in ways that simultaneously deliver economic, social, and environmental benefits;
- Spur innovation in clean and efficient water and energy systems;
- Invest in climate-resilient infrastructure projects and smart technology;
- Ensure accountability for every dollar, including robust public input and review through compliance with the National Environmental Policy Act requirements;
- Allocate flexible funding for local and regional planning; and
- Create good, forward-looking jobs, beyond the construction phase of infrastructure projects.[1]

For water, wastewater, and stormwater infrastructure, specifically, we also urge Congress to embrace a set of key principles: We must increase federal investment now to address the enormous outstanding needs – which I discuss at length below – by expanding existing State Revolving Funds, leveraging additional investment by states and local governments, and exploring new and innovative funding sources. This additional funding should encourage natural and nature-based infrastructure solutions for water system needs, including source water protection, floodplain restoration, water use efficiency, and stormwater retention and infiltration – all of which offer wide-ranging and cost-effective benefits to communities. It should also support infrastructure projects that are designed, sited, and built with the full consideration of the future impacts of climate change.

Further, water infrastructure investments must ensure communities and families in the greatest need are not left behind. Federal funds should assist communities facing large gaps between their infrastructure needs and their ability to raise or repay funds from local sources. Federal funds and policies should also support customer assistance programs and equitable rate structures that help maintain affordable water and sewer costs for low-income households. In addition, we can amplify benefits to the economy by incorporating Buy American domestic sourcing requirements, and prevailing wage provisions, and green job opportunities.

Finally, increased funding should not support extending service in ways that facilitate sprawl development. It should not come at the expense of reductions in federal funding for other environmental investments or regulatory programs. Nor should this funding be linked to reduced environmental protections under the Clean Water Act, Safe Drinking Water Act, Endangered Species Act, National Environmental Policy Act, and other statutes.

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[1] These principles are laid out more fully on NRDC's website here: https://www.nrdc.org/experts/shelley-poticha/infrastructure-works-america-not-just-wall-street.

The United States Must Significantly Increase Public Investment in Municipal Water Infrastructure to Protect Public Health and the Environment

First-class infrastructure to protect clean water and public health is among our most important – and most basic – needs as a nation. Across the country, America's municipal wastewater and stormwater infrastructure is outdated and failing due to decades of deferred maintenance and a failure to implement up-to-date pollution control technologies. Far too often, all across the country, untreated or insufficiently treated sewage and polluted runoff from cities and suburbs makes our rivers, bays, beaches, estuaries, and other inland and coastal waters both unsafe for human use and too degraded to support the fisheries and natural habitat on which we all depend for sustenance, recreation, and natural flood mitigation. Water quality in and downstream of urbanized areas is too degraded to meet water quality standards established under the Clean Water Act to protect drinkable, fishable, and swimmable waters.

Likewise, in regard to drinking water infrastructure, although many utilities have substantially improved treatment in recent years, our failure to invest adequately in water infrastructure means that, in too many cases, the public is still drinking water containing contaminants that pose serious health risks.[2] We remain at risk from lead, arsenic, bacteria and other pathogens, cancer-causing disinfection byproducts, the rocket fuel component perchlorate, and many other regulated and unregulated contaminants. One very visible manifestation of failing drinking water infrastructure is the estimated 240,000 water main breaks per year.[3] Even more water is lost to unseen leaks and breaks that never reach the surface. This not only wastes enormous amounts of precious water and causes serious damage to roads and property, it also can pose significant public health risks. Particularly when water mains are close in proximity to sewer lines, fecal contamination can get into the drinking water after a rupture or pressure loss, posing a threat of causing a waterborne disease outbreak. Drinking water treatment plants, too, suffer from outdated infrastructure. Far too many continue to rely solely upon outdated treatment technologies such as coagulation, sand filtration, and chlorination. These can work well to remove some basic contaminants, like certain microorganisms, but cannot remove many of the modern contaminants, such as pesticides, industrial chemicals, pharmaceuticals, and other chemicals that are widespread in water.[4] Further, there are an estimated 6-10 million lead service lines in the U.S. that need to be replaced.[5]

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[2] For further detail on drinking water infrastructure needs, see Testimony of Erik D. Olson, NRDC, Before the Committee on Energy and Commerce, Subcommittee on Environment, U.S. House of Representatives, Hearing Entitled "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems" (March 16, 2017), http://docs.house.gov/meetings/IF/IF18/20170316/105711/HHRG-115-IF18-Wstate-OlsonE-20170316.pdf.

[3] American Society of Civil Engineers, *2013 Report Card for America's Infrastructure*, http://www.infrastructurereportcard.org.

[4] NRDC, "Report Finds Deteriorating Infrastructure, Pollution Threaten Municipal Drinking Water Supplies," 2003, https://www.nrdc.org/media/2003/030611; Erik Olson et al., NRDC, "What's on Tap?" 2003, https://www.nrdc.org/sites/default/files/whatsontap.pdf; Brian Cohen and Erik Olson, "Victorian Water Treatment Enters the 21st Century," NRDC, 1995.

[5] Cornwell, David A.; Brown, Richard A.; Via, Steve H., "National Survey of Lead Service Line Occurrence," April 2016, Journal of the American Water Works Association, vol. 108, no. 4, pages E182-E191, available online at http://dx.doi.org/10.5942/jawwa.2016.108.0086.

Based on data from the states, which was self-reported in 2011-2012 by local governments and utilities responding to a voluntary survey, the Environmental Protection Agency identified more than $660 billion that must be invested in water, wastewater, and stormwater infrastructure over the next 20 years to meet current environmental protection and public health needs ($271 billion for sewage systems and stormwater and $384 billion for drinking water).[6] EPA's reports acknowledge that these are under-estimates, due to incomplete survey responses and limitations in the survey methodology. The Value of Water Coalition – which includes drinking water and wastewater utilities and their national associations – estimates a far greater need: at least $123 billion per year over the next decade to achieve a good state of repair.[7] These numbers do not include the $30 to $40 billion that the American Society of Civil Engineers has estimated it would take to replace lead service lines around the country.[8]

These numbers also do not include the cost of additional improvements needed to make the nation's drinking water, wastewater and stormwater systems more resilient to the challenges posed by climate change. The national associations representing wastewater and drinking water utilities estimate that impacts of climate change could add between $448-$944 billion to the nation's water infrastructure needs through 2050.[9] These impacts include disruption of water supplies from drought; potential for damage to treatment facilities and collection and distribution systems from floods, hurricanes, and coastal storms; and the growing threat of inundation and resulting loss of facilities attributable to rising sea levels.[10]

An increasing risk of flooding, especially in coastal areas, is extremely problematic, as water and sewage treatment plants often are built in low-lying areas, close to a water supply source or a receiving water for treated effluent. Between 1998 and 2014, the Federal Emergency Management Agency, alone, spent $10.3 billion to repair flood-damaged public utilities.[11] Within just the last month, Hurricanes Harvey and Irma overwhelmed many drinking water and wastewater treatment systems in Florida and Texas, illustrating the sorts of damage that climate change continues to make increasingly likely. After Irma, millions of gallons of treated and untreated wastewater poured into Florida's waterways, streets, and neighborhoods as sewage

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[6] EPA, *Drinking Water Infrastructure Needs Survey and Assessment, Fifth Report to Congress* (Apr. 2013), available at https://www.epa.gov/sites/production/files/2015-07/documents/epa816r13006.pdf; EPA, *Clean Watersheds Needs Survey, Report to Congress* (Jan. 2016), available at https://www.epa.gov/sites/production/files/2015-12/documents/cwns_2012_report_to_congress-508-opt.pdf.

[7] Value of Water Campaign, *The Economic Benefits of Investing in Water Infrastructure* (2017), available at http://thevalueofwater.org/sites/default/files/Economic%20Impact%20of%20Investing%20in%20Water%20Infrastructure_VOW_FINAL_pages.pdf.

[8] American Society of Civil Engineers, *Failure to Act: Closing the Infrastructure Investment Gap for America's Economic Future* (2016), available at http://www.infrastructurereportcard.org/wp-content/uploads/2016/05/ASCE-Failure-to-Act-Report-for-Web-5.23.16.pdf.

[9] National Association of Clean Water Agencies (NACWA) and Association of Metropolitan Water Agencies (AMWA), *Confronting Climate Change: An Early Analysis of Water and Wastewater Adaptation Costs* (2009), available at http://www.amwa.net/galleries/climate-change/ConfrontingClimateChangeOct09.pdf.

[10] For example, see American Society of Civil Engineers, 2017 Infrastructure Report Card, https://www.infrastructurereportcard.org/cat-item/wastewater/.

[11] NRDC, "The Need for Flood Protection Standards" (Nov. 30, 2015), https://www.nrdc.org/resources/need-flood-protection-standards.

treatment plants were submerged. Miami's South District Wastewater Treatment Plant reported that 6 million gallons of sewage spilled into Biscayne bay.[12] Hurricane Harvey impacted multiple drinking water systems, resulting in 166 declaring boil-water notices and 50 shutting down.[13] In Beaumont, Texas, over 118,000 people were without safe drinking water for several days after floodwaters knocked out the city's water supply.[14] While Hurricanes Harvey and Irma were extreme events, climate change makes such events more likely, as rising sea levels allow storm surge to travel farther inland and a warmer atmosphere increases the likelihood for intense rain storms. Investing today to protect against these threats can save billions of dollars in avoided future damages.

Despite the staggering need to improve our water infrastructure, **aggregate capital spending at the local, state, and federal level is currently just $41 billion per year – far short of the total need.**[15]

Moreover, as the need for investment has grown, **the share of federal contribution to water infrastructure spending has fallen significantly over the past 30 years.**[16]

We must increase federal water infrastructure investment now to address this enormous outstanding need. This will yield both environmental and economic benefits for our communities. It is estimated that $188.4 billion spent on water infrastructure investments over a 5-year period would yield $265 billion in economic activity and create 1.9 million jobs.[17] EPA found similar results for economic stimulation and job creation, determining in 2010 that the Clean Water State Revolving Fund had leveraged more than $74 billion in water infrastructure investment, creating 1.4 to 2 million jobs for the U.S. economy since 1988.[18] And a more recent analysis found that investing the estimated $82 billion per year in water infrastructure needed to fix the nation's pipes and water treatment plants could create $220 billion in annual economic activity and result in 1.3 million jobs annually.[19]

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[12] J. Dloughy and A. Natter, "Cities Swimming in Raw Sewage as Hurricanes Overwhelm Systems," *Bloomberg* (Sept. 13, 2017), https://www.bloomberg.com/news/articles/2017-09-13/cities-swimming-in-raw-sewage-as-hurricanes-overwhelm-systems.

[13] EPA, "Status of Water Systems in Areas Affected by Harvey" (Sept. 3, 2017), https://www.epa.gov/newsreleases/status-water-systems-areas-affected-harvey.

[14] Debbie Elliot, "With Flooded Streets And No Tap Water, Unknowns Face Beaumont, Texas, Residents," *National Public Radio – Morning Edition* (Sept. 1, 2017), http://www.npr.org/2017/09/01/547774586/beaumont-texas-is-without-running-water; City of Beaumont, "Public Information: Boil Water Notice to Rescind," (Sept. 9, 2017), http://beaumonttexas.gov/public-information-boil-water-notice-rescind/.

[15] Value of Water Campaign, *The Economic Benefits of Investing in Water Infrastructure* (2017).

[16] *Id.*

[17] Rockefeller Foundation, American Rivers, and Economic Policy Institute, *Water Works* (2011) at 24, available at https://www.epi.org/publication/water-works-infrastructure-report/.

[18] EPA, *Clean Water State Revolving Fund Programs Annual Report* (June 2010), available at http://water.epa.gov/grants_funding/cwsrf/upload/2009_CWSRF_AR.pdf.

[19] Value of Water Campaign, *The Economic Benefits of Investing in Water Infrastructure* (2017).

We cannot meet our most basic water infrastructure needs without a huge increase in direct **public** investment by the federal and state governments. Private investment can play, at most, only a modest role in solving these problems. Private investors require a return on their investment, which, in the case of water, wastewater, and stormwater infrastructure, is derived from rate revenues. Yet, in many places across the nation, the scale of investment needed to fully solve water infrastructure problems is greater than local ratepayers can support alone. A federal infrastructure policy that relies principally on private investment would simply fail to meet our nation's massive water infrastructure needs, particularly in rural states and poor communities.

For example, of the 53,000 community drinking water systems in the United States, thousands are currently unable to comply with basic drinking water standards.[20] This is especially the case in lower income communities in rural areas, as well as many cities that are having financial struggles. The communities that are having the largest challenges providing safe water are not attracting private infrastructure investment and will not be able to do so. They lack the economies of scale that can attract investors (in the case of small troubled systems), or lack the income levels among many of the customers to support sufficient revenue to pay for private investment (in the case of both rural and urban systems in areas like Flint, Michigan or San Juan, Puerto Rico, that are financially challenged).

Congress Should Triple the Size and Improve the Deployment of State Revolving Fund Appropriations, Reestablish a Grant Program for Sewer Overflow Control Projects, and Provide Incentives for Larger State Investments in Water Infrastructure

The federal government provides critical support to help communities meet their water infrastructure needs through the Clean Water and Drinking Water State Revolving Funds (hereafter "CWSRF" and "DWSRF," or collectively "the SRFs"). Since their inception, the SRFs have provided $138.9 billion to local communities, almost all of which has been in the form of low-interest loans.[21]

Both increased SRF and related water infrastructure funding and better deployment by states of available funds are necessary to meet our water infrastructure investment needs. NRDC recommends a major increase in annual SRF appropriations, with a priority on providing more financial support to meet low-income communities' water infrastructure needs, increasing investments in environmentally innovative projects, and preparing our water systems for the uncertainties of operating in a future defined by the impacts of climate change. We recommend changes in federal SRF rules that would spur states and communities to take advantage of the full range of financial assistance that the SRFs are able to provide. We also support proposals to reauthorize the sewer overflow control grant program, which would complement the SRF. And we recommend more effective implementation of SRF policies that Congress adopted in 2014,

[20] NRDC, "Threats on Tap: Widespread Violations Highlight Need for Investment in Water Infrastructure and Protections," (May 2, 2017), https://www.nrdc.org/resources/threats-tap-widespread-violations-water-infrastructure.

[21] Since 1987 the CWSRF has provided $111 billion to communities. See https://www.epa.gov/cwsrf. Since 1996 the DWSRF has provided $27.9 billion to communities. See https://www.epa.gov/drinkingwatersrf/how-drinking-water-state-revolving-fund-works#tab-1.

which were intended to maximize the use of water efficiency, recapture, and reuse strategies that allow federal water infrastructure investments to achieve more "bang for the buck."

Congress Should Increase SRF Funding and Establish Priorities for Use of Additional Funds

Congress should increase its long-term commitment to federal water infrastructure funding by reauthorizing and increasing appropriations to the SRFs. NRDC recommends that Congress increase combined funding to the SRFs to $6 billion annually, which would mark a return to a similar level, adjusted for inflation, as was appropriated under President Reagan for the CWSRF alone. We note that the President, during his election campaign last year, pledged to do just that.[22]

Congress should dedicate the approximately $4 billion in new federal funding, which would result from such an increase, to the following priorities that are currently under-represented in the states' portfolios of SRF assistance:

- Water efficiency, water reuse, and water recycling;
- Green infrastructure;
- Source water protection;
- Reducing nitrogen and phosphorus pollution from wastewater and stormwater;
- Removing lead service lines that endanger the health of 22 million Americans;[23]
- Reducing the amount of water that is wasted due to old, leaky water mains;
- Fixing deteriorating and outdated drinking water infrastructure, especially in disadvantaged communities that cannot ensure that safe water is provided to their residents; and
- Ensuring that our water infrastructure is designed to withstand the increased risk of droughts, floods, and other impacts of climate change.

Congress should revise the SRF cap on "additional subsidization" to encourage states to leverage their SRF programs

Congress should amend policies governing states' use of the SRF in ways that encourage states to leverage their SRF programs. Congress appropriates funding each year, which is distributed by EPA to states according to a needs-based formula. States are required to provide a minimum

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[22] Sharon Verbeten, "What Will the Trump Administration Mean for the Water, Wastewater Industry?," *Municipal Water & Sewer* (Jan. 24, 2017), http://www.mswmag.com/online_exclusives/2017/01/what_will_the_trump_administration_mean_for_the_water_wastewater_industry.

[23] Cornwell, David A.; Brown, Richard A.; Via, Steve H., "National Survey of Lead Service Line Occurrence," April 2016, *Journal of the American Water Works Association*, vol. 108, no. 4, pages E182-E191, available online at http://dx.doi.org/10.5942/jawwa.2016.108.0086.

20 percent match to the annual federal contribution. Many states only invest the minimum match each year, relying on their share of annual federal appropriations to incrementally grow their SRFs' financial capacity. This approach is insufficient to meet the growing water infrastructure needs of communities in those states. But some states do much more to leverage their existing SRF programs and provide more assistance to communities, simply by making use of the full range of financing mechanisms the SRFs are authorized to support under state and federal law. As shown below, these states include Indiana, Texas, Ohio, New York, and Massachusetts, among others.

The SRFs can provide financial support through a variety of mechanisms including:[24]

- low-interest or no-interest loans,[25]
- the purchase of debt,
- loan guarantees or municipal bond insurance if this would improve the credit for the local obligation,
- revenue or security for state issued bonds that are deposited back into the SRF,
- loan guarantees to establish local revolving funds that are used for purposes identical to the state's CWSRF,[26] and
- loans where the principal and interest can be forgiven, effectively allowing the SRFs to issue grants, also known as "additional subsidization" or "subsidized assistance."[27]

If existing SRF financing mechanisms that are currently authorized in statute, like the ability to issue bonds and provide loan guarantees, were more widely deployed by the states, new capital could be mobilized to meet the nation's water infrastructure needs.

To realize this untapped potential, Congress should create incentives for more states to contribute additional resources to their SRFs, beyond the money given to them by the federal government and their minimum 20 percent state match. NRDC wants to see states use their SRFs more creatively, by investing more of their own resources, by providing assistance in the form of loan guarantees, and by distributing more funding as grants to low-income communities and for environmentally innovative projects, like green infrastructure and water efficiency.

This could be accomplished by changing the cap that Congress places on the amount of assistance that states can distribute as grants, known in SRF circles as "additional subsidization." Under the Drinking Water SRF, hardship communities are eligible for additional subsidization.[28]

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[24] For CWSRF see 33 U.S.C. 1383(d) and for DWSRF see 42 U.S.C. 300(j)-12(f).

[25] Loan terms can be for up to 30 years under the CWSRF and 20 years under the DWSRF.

[26] Local revolving loan funds are not eligible for support from DWSRFs.

[27] States are allowed to provide "additional subsidization" to SRF applicants in the form of forgiveness of the principal and interest on SRF loans, grants, or negative interest rate loans. The amount that states can provide in additional subsidization is capped at 30 percent of a state's annual share of Congressional SRF appropriations.

[28] 42 USC 300j-12(d).

Under the Clean Water SRF, those communities, as well as communities that will use SRF funds to promote green infrastructure, water efficiency and reuse, and climate resiliency, are eligible for additional subsidization.[29] Under current law, states can only provide subsidized assistance (e.g., grants) up to an amount that equals 30 percent of their annual federal SRF funding and they are barred from providing more, even if they have the financial capacity to do so. [30] In some states, the cap effectively may keep SRF programs from deploying 100 percent of their available funds, whether by grants or loans; funds available for loans can go unclaimed when municipalities lack the credit to borrow even at SRF-subsidized interest rates.

NRDC recommends amending the SRF statutes to base the cap on additional subsidization on a 10-year rolling average of how much states have invested in their SRF above and beyond their minimum (20 percent) federal match requirements. This reform would provide incentives for states to contribute more funding to their SRFs and allow them to distribute most of those dollars to hardship communities and communities that want to promote green infrastructure, water efficiency and reuse, and climate resiliency. We also recommend that eligibility criteria for additional subsidization under the DWSRF be amended to reflect similar project-specific criteria as currently exist in the CWSRF.[31]

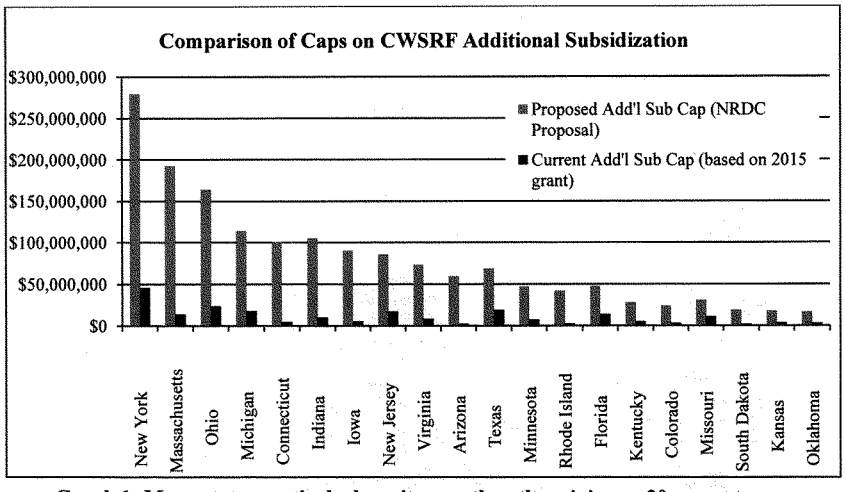
Twenty states could immediately benefit from changing the cap, including Ohio, Indiana, Texas, New York, and Massachusetts. These twenty states have contributed, on average, nearly $70 million per year over the last ten years, on top of the minimum 20 percent SRF match required to receive new federal funding. Currently those states can, on average, only provide $11.2 million of grant assistance each year. Under our proposal, these states would be able to distribute, on average, an additional $69.3 million per year as grants or other forms of subsidized assistance for eligible projects.

The graph below shows how states that have a history of contributing more than the minimum 20 percent match to their CWSRF could benefit from a statutory change in the definition of "additional subsidization" envisioned by NRDC.

[29] 33 USC 1383(i)(1).

[30] 42 USC 300j-12(d)(2) and 33 USC 1383(i)(3).

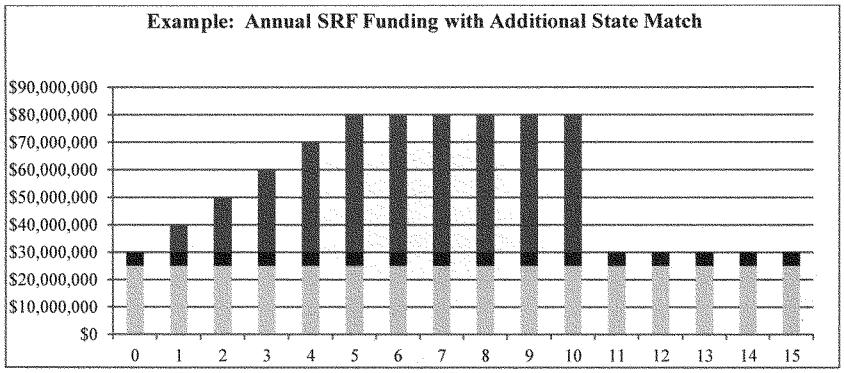
[31] 33 USC 1383(i)(1)(B).



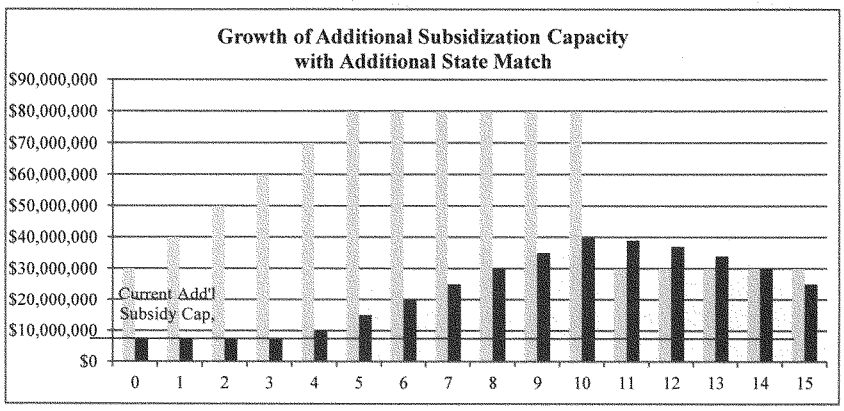
Graph 1: Many states routinely deposit more than the minimum 20 percent match to their CWSRF. The states above have deposited revenues from bond sales, growing their CWSRF's financial capacity. These states could immediately be able to provide more in subsidized assistance to eligible SRF projects.

Even states that have not regularly made increased SRF contributions would be able to benefit in short order. A theoretical state that received a $25 million capitalization grant each year from EPA would provide a minimum $5 million match. If that state contributed an additional $400 million over ten years (the dark gray bars in the graph below) through bonding or direct appropriations, it would not only grow its SRF's overall financial capacity, but under NRDC's proposal, would be able to provide more grant funding to eligible recipients.

Significantly, this ability to provide more grants to communities – not just loans – can provide a valuable incentive for states to use their SRFs as a source of revenue or security for state-issued bonds, the proceeds of which would be deposited back into the SRF to support water infrastructure projects. A state's SRF has a credit rating that is independent of (and may often be higher than) the state's own bond rating, which means that bonds issued against the SRF can be a low-cost way for the state to raise funds for water infrastructure investment. With an increased cap on additional subsidization, states would be able to borrow against the SRF at low cost and use the proceeds for grants to eligible projects – not only for loans. The ability to offer grants makes such bonding a more politically attractive proposition, while enabling states to provide more assistance to communities that have limited financial capacity to take on new SRF loans.



Graph 2: A simple model of how a state might add $400 million over ten years to an SRF. Light grey represents the annual EPA capitalization grant, black is the state's minimum 20 percent match, and the dark grey represents additional state investments.



Graph 3: How that $400 million (light grey bars) could increase the amount of subsidized assistance under NRDC's proposal, which would base the cap on a 10-year rolling average of state contributions that exceed the 20 percent minimum SRF match. The cap on subsidized assistance would be based on either the existing cap (30 percent of the EPA capitalization grant) or the proposed cap based on the 10-year rolling average, whichever is higher.

Congress should reauthorize and improve the sewer overflow control grant program under Clean Water Act Section 122

Section 202 of H.R. 2510, the Water Quality Protection and Job Creation Act of 2017, would not only reauthorize the Clean Water State Revolving Fund, it would also reauthorize the separate – but complementary – sewer overflow grant program under Section 122 of the Clean Water Act (33 USC § 1301). That grant program was originally authorized only for two years, from 2002-2003. H.R. 2510 authorizes $500 million per year for the next five years and expands the program to include stormwater capture and reuse projects. It also creates within the program a 20 percent set-aside for "green infrastructure, water and energy efficiency improvements, and other environmentally innovative activities," comparable to the successful set-aside for this purpose in the American Recovery and Reinvestment Act of 2009. It would retain the existing language in the statute that creates a priority for "financially distressed communities." NRDC supports this proposal. It provides an avenue for increasing grants (rather than loans), in sizeable amounts, to disadvantaged communities that need major infrastructure upgrades to protect water quality and human health. By including stormwater reuse as an eligible use of the funding, and providing a set-aside for green infrastructure and efficiency, it would also support cost-effective projects that provide multiple benefits beyond water quality improvement.

Congress should improve implementation of existing requirements, enacted in 2014, that promote the use of water efficiency, recapture, and reuse strategies in CWSRF-funded projects

In the Water Resources Reform and Development Act of 2014 (WRRDA), Congress made several changes to the law governing the CWSRF, including a new provision to spur greater use of water efficiency, recapture, and reuse strategies that provide communities with an array of benefits and cost savings. By making the best use of these approaches, utilities can achieve clean water goals at lower cost, thereby allowing Congress to achieve more "bang for the buck" with federal water infrastructure investments.[32] However, over the last several years, EPA has not followed through on Congress's intent. We urge Congress to ensure that that the new provision is implemented effectively, and we call the Subcommittee's attention to a technical resource that NRDC developed specifically to support that goal.

In particular, WRRDA added a new Section 602(b)(13) to the Clean Water Act, which requires all CWSRF applicants to certify that they have "studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the project or activity

[32] Water efficiency measures (e.g., water-efficient fixtures and appliances, installation and upgrades of meters, volumetric water and wastewater pricing) not only save water, they also help to reduce both capital and operating costs associated with drinking water and wastewater systems by helping to avoid, minimize, or defer the need for expanded conveyance, collection, and treatment capacity, and by reducing energy needs for pumping and treatment. See NRDC, *Waste Less, Pollute Less: Using Urban Water Conservation to Advance Clean Water Act Compliance* (2014), https://www.nrdc.org/sites/default/files/clean-water-act-urban-conservation-IB.pdf. Likewise, recapture and reuse methods are often more cost-effective than relying exclusively on expanding "gray" infrastructure capacity, as cities across the country are demonstrating through their use of green infrastructure techniques (such as porous pavement, green roofs, parks, roadside plantings, rain gardens, and cisterns) to prevent the discharge of polluted runoff and sewage overflows and mitigate flood risk. These techniques keep rainwater out of overburdened sewers and treat it as a resource, rather than a waste, allowing it to infiltrate into the soil for groundwater recharge or be harvested and used as an alternative water source for onsite purposes.

for which [SRF] assistance is sought," and have "selected, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation." EPA, in its guidance on the WRRDA changes to the SRF, failed to develop specific criteria and/or guidance for an analysis that would meets these minimum statutory requirements. Instead, EPA recommended that each state CWSRF program develop such criteria and/or guidance for applicants in conducting this analysis.[33] In the absence of substantive EPA guidance, we believe most states are doing little to ensure that SRF-funded projects actually maximize the use of cost-effective water efficiency, reuse, and recapture techniques, and that they are therefore wasting money.

To help fill this gap and assist states and program applicants, NRDC worked with Stratus Consulting to develop guidelines for conducting the kind of assessment that Congress required.[34] These guidelines provide a general framework and methodology that states and utilities can easily adopt to evaluate the benefits and costs associated with different project options, and that states can use to confirm the consideration of such options by all CWSRF applicants. The guidelines' overall objective is to help applicants develop and analyze a range of project alternatives when evaluating potential CWSRF projects, including both traditional and non-traditional infrastructure alternatives (i.e., efficiency, reuse, and recapture project elements), and select the option or mix of options that best meets the needs of the utility and the community it serves.

Congress, State and Local Governments, and Utilities Should Work Together to Ensure that Water and Sewer Service Remains Affordable for Low-Income Households, Even as Utilities Generate Additional Local Revenue to Meet Clean Water Needs

We do not want to have in this country a two-tiered system where the wealthy get water that is clean and safe for their families, and the less well-to-do get second-class water, wastewater, and stormwater systems that pose risks to their health and environment.

Rather, we need to create a system that ensures that all communities can afford to upgrade their water infrastructure and that everyone has affordable access to clean, safe, and sufficient water and sanitation for their families.

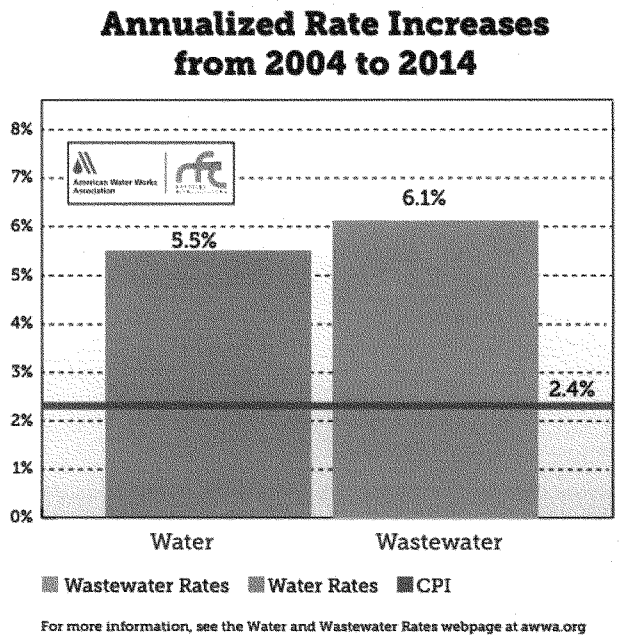
For all of the reasons explained above, universal access to safe water, wastewater, and stormwater services is not within reach absent a major increase in federal (and state) funding for water infrastructure projects. Nonetheless, even if federal and state infrastructure funding were to increase significantly, utility rate revenues will almost certainly remain a major source of new funding for water infrastructure investments. In order to sustainably generate the necessary local

[33] EPA, "Interpretive Guidance for Certain Amendments in the Water Resources Development Act to Titles I, II, V, and VI of the Federal Water Pollution Control Act" (Jan. 6, 2015), https://www.epa.gov/sites/production/files/2015-04/documents/water_resources_reform_and_development_act_guidance.pdf.

[34] *Guidelines for Assessing the Cost and Effectiveness of Efficiency, Reuse, and Recapture Projects for the Clean Water State Revolving Loan Fund*, Prepared for NRDC by Stratus Consulting (December 2015). Available at https://www.nrdc.org/sites/default/files/wat_16012504a.pdf.

rate revenues, policies and programs must be put in place to ensure that water and sewer service remains affordable for those least able to pay, notwithstanding overall increases in rates.

Water and wastewater utility rates already have been increasing at about twice the rate of inflation for approximately the last 15 years.[35] It is anticipated that rates will continue to increase as the bill for overdue investment in our water infrastructure comes due. At the same time, real growth in income has been relatively stagnant and income inequality has increased in recent decades. As a result, water and sewer costs are becoming increasingly expensive – as a share of household income – for many lower-income people.



(Graphic from American Water Works Association.[36])

There is a growing acceptance within the water industry that effective affordability policies must be adopted if urban water infrastructure is to be upgraded to protect water quality for people and the environment. And advocates for social, economic, and environmental justice have

[35] American Water Works Ass'n and Raftelis Financial Consultants, *2016 Water and Wastewater Rate Survey* (2017), p.89, available online at https://www.awwa.org/store/productdetail.aspx?productId=61841567.

[36] https://www.awwa.org/resources-tools/water-and-wastewater-utility-management/water-wastewater-rates.aspx

increasingly called attention to the harms of unaffordable water bills – including water shutoffs that can lead to loss of housing and even temporary loss of custody of children.

Although "low-income customer assistance programs" are fairly common for electric and gas utilities, they are much less common for water and sewer utilities. Additionally, while there is federal funding to support low-income assistance in the energy sector (the Low Income Home Energy Assistance Program, or LIHEAP), no analogous federal funding exists for the water sector, and no state has established either a statewide customer assistance program or state financial support for local programs.

In response to this challenge, some water and sewer utilities – though by far a minority – are adopting low-income customer assistance programs. In a review last year of 795 water and wastewater utilities,[37] EPA found that 29 percent of them offered at least one type of low-income assistance program. But 71 percent of the utilities surveyed offered no customer assistance program whatsoever, sidestepping responsibility to provide a basic safety net to ensure that the most vulnerable populations continue to receive an essential service. Moreover, of the customer assistance programs identified, about half offered only short-term relief for customers facing temporary financial hardship, or "flexible" payment terms to customers in arrears or customers wishing to adjust the timing of future bills. Other programs offered "bill discounts" or "lifeline rates," which provide a long-term reduction in low-income customers' bills, similar to programs that are commonplace among energy utilities. A small number provided targeted water efficiency assistance to help customers reduce bills by using less water; percentage-of-income payment plans that charge for water and sewer service on a sliding scale; means-tested utility bill discounts; targeted assistance for leak repair and other water efficiency retrofits; and various flexible payment terms or temporary assistance when low-income customers fall behind on bills or have short-term hardship.[38]

Additionally, since EPA published that report, Philadelphia's municipal water and sewer utility this year became the first in the nation to adopted another type of low-income assistance program, known as a "percentage-of-income payment plan," which charges for water and sewer service on a sliding scale based on a percentage of household income, for customers up to a certain percentage of the federal poverty line.

NRDC believes that more widespread use of customer assistance programs, as well as complementary approaches, are needed to maintain affordability for the most disadvantaged

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[37] EPA, Office of Wastewater Management, *Drinking Water and Wastewater Utility Customer Assistance Programs* (April 2016), available online at https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf.

[38] Most of these types of programs were documented in a 2016 EPA survey of low-income water and sewer customer assistance programs nationwide. EPA, Office of Wastewater Management, *Drinking Water and Wastewater Utility Customer Assistance Programs* (April 2016), available online at https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf. Additionally, the "percentage of income payment plan" approach, which is an established model in the energy utility sector, was adopted for the first time by a water utility in 2017, in Philadelphia. T. Nadolny, "For low-income residents, Philadelphia unveiling income-based water bills," *Philadelphia Inquirer* (June 19, 2017), http://www.philly.com/philly/news/politics/city/for-low-income-residents-philadelphia-unveiling-income-based-water-bills-20170620.html.

members of our communities. A combination of federal, state, and local actions is needed to reconcile the utilities' need to raise sufficient revenue with the need to maintain the affordability of essential levels of water and wastewater service.

To secure the infrastructure improvements needed to provide safe water, while maintaining affordability at the household level, NRDC recommends a suite of policies that work together:

1. *Prioritize disadvantaged communities in water infrastructure grant programs:* New federal (and state) water infrastructure investments should include a significant increase in grant funding, not only loans. Grant programs should emphasize aid to communities with low median household incomes, as well as communities with high income inequality and large numbers of low-income households. In addition, SRFs should help utilities with limited technical capacity more easily access existing financial assistance programs for capital projects.
2. *Create a federal low-income assistance program and spur creation of state and local assistance programs:* At the local, state, and federal levels, there is a need for increased use of (and dollar amounts dedicated to) customer assistance programs. NRDC strongly supports H.R. 2328, which would create a pilot Low Income Water and Sewer Assistance Program, similar to the existing Low Income Home and Energy Assistance Program, to help low-income households pay for essential water, wastewater, and stormwater services. However, such a program should be nationwide, not only a pilot, consistent with the long-standing recommendation of EPA's National Drinking Water Advisory Council's Affordability Work Group, comprised of representatives of utilities, cities, state water agencies, tribes, academia, and consumer, public health, and environmental organizations.[39] If Congress starts out with a pilot program, H.R. 2328 should be refined to include more details on the structure of the pilot and the substantive requirements for local assistance programs that would receive funding. The pilot should be designed to maximize the effectiveness of local programs that receive funding and facilitate reporting back to Congress with lessons learned, to inform follow-up legislation to create a nationwide program. The pilot should also promote experimentation with low-income assistance programs that help tenants of multi-family buildings, where rising water and sewer rates can put upward pressure on rents. In urban areas, a substantial portion of low-income households are renters, typically in multi-family buildings. In the water sector, unlike the energy sector, multi-family buildings typically are not sub-metered, and therefore the tenants are not direct customers of the utility. A recent report by the Water Research Foundation provides some potential strategies to address this challenge in local

[39] National Drinking Water Advisory Council, *Affordability Work Group, Recommendations of the National Drinking Water Advisory Council to the U.S. EPA on its National Small Systems Affordability Criteria* (July 2003), available online at https://www.nclc.org/images/pdf/energy_utility_telecom/water/recommendations_july2003.pdf.

customer assistance programs.[40] NRDC would welcome the opportunity to discuss with the Committee and the sponsors ways to strengthen H.R. 2328.

3. *Promote more equitable rate structures:* Utilities should adopt rate structures that raise revenue with greater equity among users, such as seasonal or tiered rates for water, volume-based pricing for wastewater, and stormwater charges based on the burden a customer places on the public storm sewer system. Investor-owned drinking water utilities are subject to rate regulation by state public utility or public service commissions or boards, which can use their authority to drive the use of these equitable rate structures. The majority of drinking water utilities, and nearly all wastewater and stormwater utilities, are not subject to rate regulation by the states. Federal and state policies should promote and provide incentives to adopt these equitable rate structures, which allow communities to generate revenues needed for water infrastructure investment without unduly burdening low-income households.
4. *Improve EPA's approach to "financial capability assessments" under the Clean Water Act:* EPA and states, in their roles as Clean Water Act permitting and enforcement authorities, should insist that municipal CWA permittees take advantage of opportunities to improve affordability for low-income households before EPA and states will consider cost "burdens" on low-income residents as grounds for extending compliance schedules.
5. *Increase utilities' use of asset management, green infrastructure, and water efficiency strategies that reduce costs for all customers:* Sound asset management practices hold costs down for everyone in the long run, since preventive maintenance/repair on a regular cycle is far cheaper than reactive maintenance/repair when something breaks or greatly exceeds its useful life. Likewise, maximizing the use of cost-effective green infrastructure and water efficiency strategies, rather than relying exclusively on costly "gray" infrastructure investments to meet water supply and water quality needs, helps to mitigate costs for all customers. In addition to incentivizing these approaches with funding, EPA and states should make better use of Clean Water Act permits, enforcement orders, and/or regulations to promote or require these strategies.

Congress Should Reinstate the Federal Flood Risk Management Standard to Protect the Value of Federal Water Infrastructure Investments by Reducing the Risk of Severe Damage in Future Flood Disasters

Congress must ensure funds appropriated for water and sewer systems are spent responsibly, and that includes ensuring such systems are more resilient to flooding. Among the various impacts of climate change discussed above, an increasing risk of flooding is extremely problematic for water and sewage treatment plants, which are often are built in low-lying areas, close to a water supply source or a receiving water where treated effluent is discharged. Between 1998 and 2014, the Federal Emergency Management Agency, alone, spent $10.3 billion to repair flood-damaged public utilities (including but not limited to water and sewer utilities).[41] Within just the last

[40] Water Research Foundation, *Customer Assistance Programs for Multi-Family Residential and Other Hard-to-Reach Customers* (Aug. 2017), http://www.waterrf.org/Pages/Projects.aspx?PID=4557.
[41] NRDC, "The Need for Flood Protection Standards" (Nov. 30, 2015), https://www.nrdc.org/resources/need-flood-protection-standards.

month, Hurricanes Harvey and Irma overwhelmed many drinking water and wastewater treatment systems in Florida and Texas, illustrating the sorts of damage that climate change continues to make increasingly likely. After Irma, millions of gallons of treated and untreated wastewater poured into Florida's waterways, streets, and neighborhoods as sewage treatment plants were submerged. Miami's South District Wastewater Treatment Plant reported that 6 million gallons of sewage spilled into Biscayne bay.[42] Hurricane Harvey impacted multiple drinking water systems, resulting in 166 declaring boil-water notices and 50 shutting down.[43] In Beaumont, Texas, over 118,000 people were without safe drinking water for several days after floodwaters knocked out the city's water supply.[44]

While Hurricanes Harvey and Irma were extreme events, climate change makes such events more likely, as rising sea levels allow storm surge to travel farther inland and a warmer atmosphere increases the likelihood for intense rain storms. Investing today to protect against these threats can save billions of dollars in avoided future damages.

The Federal Flood Risk Management Standard, which President Trump revoked in August,[45] was established to ensure federal agencies account for current and future flood risk when using taxpayer dollars to fund the building or rebuilding of infrastructure in floodplains.[46] The flood protection standard required federally-funded infrastructure, like drinking water and wastewater treatment facilities, to be built with a higher margin of safety against flood disasters.

The standard provided flexible options for federal agencies to account for future flood risk when funding construction projects, for example, the option to protect critical infrastructure to the level of a 500-year flood event, which has .2% chance of occurring in any given year.[47] While such events may sound rare, Houston experienced three flood events of this magnitude in the last three years.[48] The flexibility of the federal flood protection standard would have allowed taxpayer-funded infrastructure to be constructed or rebuilt in a manner to account for the uncertainty of these major flood events occurring. As extreme flood events happen more frequently, this flexibility was important for minimizing the associated damage costs.

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[42] J. Dloughy and A. Natter, "Cities Swimming in Raw Sewage as Hurricanes Overwhelm Systems," *Bloomberg* (Sept. 13, 2017), https://www.bloomberg.com/news/articles/2017-09-13/cities-swimming-in-raw-sewage-as-hurricanes-overwhelm-systems.

[43] EPA, "Status of Water Systems in Areas Affected by Harvey" (Sept. 3, 2017), https://www.epa.gov/newsreleases/status-water-systems-areas-affected-harvey.

[44] Debbie Elliot, "With Flooded Streets And No Tap Water, Unknowns Face Beaumont, Texas, Residents," *National Public Radio – Morning Edition* (Sept. 1, 2017), http://www.npr.org/2017/09/01/547774586/beaumont-texas-is-without-running-water; City of Beaumont, "Public Information: Boil Water Notice to Rescind," (Sept. 9, 2017), http://beaumonttexas.gov/public-information-boil-water-notice-rescind/.

[45] Trump Executive Order revoking flood protection standards: https://www.whitehouse.gov/the-press-office/2017/08/15/presidential-executive-order-establishing-discipline-and-accountability.

[46] Obama Executive Order 13690 establishing flood protection standards: https://obamawhitehouse.archives.gov/the-press-office/2015/01/30/executive-order-establishing-federal-flood-risk-management-standard-and-

[47] U.S. Geological Survey, "The 100-Year Flood – It's All About Chance," https://water.usgs.gov/edu/100yearflood-basic.html.

[48] C. Ingraham, "Hurricane Harvey is the third '500-year' flood in Houston in 3 years. How is that possible?" *Washington Post* (Aug. 29, 2017), https://www.washingtonpost.com/news/wonk/wp/2017/08/29/houston-is-experiencing-its-third-500-year-flood-in-3-years-how-is-that-possible/?utm_term=.314bcf2f39f0.

If left in place, and fully implemented,[49] the standard would have helped reduce the vulnerability our nation's water infrastructure being knocked off line during future flood disasters—protecting human health, lowering disaster costs, and saving taxpayer dollars. The federal flood protection standard, created from the lessons learned rebuilding in the Northeast after Superstorm Sandy, would have ensured infrastructure damaged or destroyed by flooding was rebuilt safer—not to the status quo. Unfortunately, President Trump's revoking of the standard means drinking and wastewater facilities built or rebuilt with American tax dollars will remain susceptible to major flood events.

Earlier this month, a bill was introduced in the Senate, the Federal Flood Management Act of 2017 (S. 1798), to codify the federal flood protection standards revoked by President Trump. This would require federal agencies to better account for future flood risk when using taxpayer dollars to fund construction projects and ensure that federally-funded infrastructure projects—including water infrastructure—are built to withstand more extreme flooding disasters.

Congress should enact this legislation to demonstrate its commitment to protecting people and property from major flood events and responsibly investing American tax dollars.

Congress Should Support Tools for Effective Prioritization of Pipe Replacement and Leakage Control

When considering new strategies to effectively support additional investment in water, wastewater, and stormwater systems throughout the country, the committee should take note of several complementary proposals in Title 3 of H.R. 3275 that would encourage additional investment and support informed choices. NRDC supports each of the following provisions:

- Sec. 3001. Water leak control technology study. This provision authorizes a three-year study and report on advanced technologies and practices for managing pressure and identifying water loss and leaks in aging water infrastructure, along with recommendations for economically feasible criteria for effective pressure management and water loss control by public water systems.

- Sec. 3002. Water main break data clearinghouse. This provision directs EPA to establish a national data clearinghouse for information on water main breaks. Utilities would submit information on water main breaks and repairs, much of which is already on hand, to be compiled into a nationwide database that would support research and analysis of pipe materials, installation practices, and other spatial and temporal factors that contribute to water main breaks, and the costs incurred by utilities to address them. Over time, the database will highlight important trends in main break occurrence and remediation, and lead to improved strategies for the stewardship of our buried infrastructure.

[49] Multiple agencies, such as FEMA, HUD, and EPA, were in the process of incorporating the standard into their regulations and operating procedures.

- Sec. 3003. Sustainable Water Loss Control Program. This section would authorize a targeted program of technical assistance for water systems serving disadvantaged communities to undertake a standardized water loss audit and establish a later loss control program. Water losses, in the form of real losses due to leakage from the distribution system, serve to increase operating expenses, while apparent losses stemming from measurement and billing errors reduce system revenues and undermine the financial viability of the water system if unchecked. These burdens are especially problematic for systems serving disadvantaged communities with limited local financial capacity. Technical assistance, informed by standardized auditing, can help such systems identify cost-effective loss reduction strategies.

Congress Should Preserve and Strengthen Source Water Protections, Including the Clean Water Rule, to Protect Health and Reduce Treatment Costs

We need a greater focus on source water protection. Ben Franklin's aphorism that "a penny saved is a penny earned" was never so true as it is in this case. Uncontrolled or poorly-controlled source water pollution from polluters remains a serious problem. Unregulated or poorly-controlled sources that can pose substantial pollution threats include agricultural runoff and factory farm pollution, groundwater and surface water pollution from oil and gas exploration and development, coal and mineral mining, certain industrial sources, and spills and leaks from above-ground hazardous substance tanks. State authorities and EPA could substantially reduce the public health and environmental threats from such polluters, and could reduce the costs of drinking water treatment, by better controlling these pollution sources.

The experience of Des Moines Water Works, which serves 500,000 Iowans with their tap water, is illustrative of how state or EPA intervention to ensure that source water is protected from upstream agricultural pollution could help to keep rates more affordable. As a recent statement from Des Moines Water Works notes:

> Des Moines Water Works meets or exceeds regulatory requirements for drinking water established by the United States Environmental Protection Agency.... However, the costs and risks in doing so are increasingly high as Iowa's surface waters demonstrate dangers levels of pollutants.
>
> The increase in river nitrate levels is attributable to upstream agricultural land uses, with the largest contribution made by application of fertilizer to row crops, intensified by unregulated discharge of nitrate into the rivers through artificial subsurface drainage systems.
>
> "Iowa's political leadership, with influence from industrial agriculture and commodity groups, continue to deny Iowa's water quality crisis," said Bill Stowe, CEO and General Manager, Des Moines Water Works. "Defending the status quo, avoiding regulation of any form, and offering the illusion of progress and collaboration, places the public health of our water consumers at the mercy of upstream agriculture and continues to cost our customers millions of dollars."

> Des Moines Water Works seeks relief against upstream polluters and agricultural accountability for passing production costs downstream and endangering drinking water sources. In addition, Des Moines Water Works is actively planning for capital investments of $80 million, a cost funded by ratepayers, for new denitrification technology in order to remove nitrate and continue to provide safe drinking water to a growing central Iowa.[50]

While Des Moines may be unusual for its candor, its problems with unregulated or poorly-regulated upstream pollution are hardly so. Problems ranging from routine spills of industrial pollutants on the Ohio River that have led Cincinnati and Louisville to install advanced water treatment facilities at significant expense to ratepayers, are also illustrative.

Similarly, EPA has failed to effectively regulate runoff of the widely-used herbicide atrazine which has caused drinking water systems across the country to find the chemical in their water, often at levels in excess of EPA's standard during peak runoff season.[51] In light of EPA's and states' failure to control this problem, a large group of water suppliers sued Syngenta, the manufacturer of atrazine, because they were routinely being required to spend significant amounts to remove the chemical from their tap water.[52] They reportedly settled the case for $105 million dollars, and according to lawyers involved, as many as 3,000 water utilities may be eligible to recoup at least some of their treatment costs.[53]

Another example was the spill/leak of toxic chemicals from a huge above-ground tank at Freedom Industries that contaminated the drinking water of 300,000 people in Charleston, West Virginia in January 2014.[54] EPA had been charged in the 1972 Clean Water Act with issuing rules to prevent spills and leaks from above-ground tanks storing hazardous substances, but has still not done so. Citizen organizations and NRDC recently entered into a consent decree with EPA to have the agency finally issue those long-overdue rules,[55] though the list of hazardous substances required to be covered by such rules still has not been updated to include the chemicals that caused the Charleston disaster.

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[50] Des Moines Water Works, Des Moines Water Works' 2015 Denitrification Record, January 4, 2016, available online at http://www.dmww.com/about-us/news-releases/des-moines-water-works-2015-denitrification-record.aspx.

[51] See , Mae Wu, Mayra Quirindongo, Jennifer Sass, and Andrew Wetzler, Poisoning the Well: How the EPA is Ignoring Atrazine Contamination in Surface and Drinking Water in the Central United States, Natural Resources Defense Council, 2010, available online at https://www.nrdc.org/sites/default/files/atrazine.pdf.

[52] Ian Berry, "Syngenta Settles Weedkiller Lawsuit," May 25, 2012, *Wall Street Journal*, available online at http://www.wsj.com/articles/SB10001424052702304840904577426172221346482.

[53] *Id.*

[54] *See, e.g.,* Testimony of Erik D. Olson, NRDC, Before the Subcommittee on Water and Wildlife of the U.S. Senate Committee on Environment and Public Works, at the hearing entitled Examination of the Safety and Security of Drinking Water Supplies Following the Central West Virginia Drinking Water Crisis, February 4, 2014, available online at http://www.epw.senate.gov/public/index.cfm/hearings?ID=8CCDAFF7-CDC6-8A6F-CA6E-A7017498083C.

[55] NRDC et al., After More Than 40 Years, EPA Will Act on Hazardous Industrial Spills, available online at https://www.nrdc.org/media/2016/160217-0.

Many other municipalities have been forced to quietly install treatment to remove or protect against potential contamination from other contaminants from upstream polluters, without recourse against the polluters. A far better approach would be for Congress, EPA and states to crack down on uncontrolled or poorly-regulated pollution sources such as agricultural runoff and factory farms, mining, and oil and gas activities, to save ratepayers the expense of cleaning up after the polluters.

The "Clean Water Rule," adopted by EPA and Army Corps of Engineers in May 2015, is essential to protect water sources that feed drinking water supplies for 117 million Americans and wetlands that filter contaminants and recharge groundwater supplies, while also providing important flood protection and wildlife habitat. The rule clarified which waters are protected under the Clean Water Act—about 60 percent of the nation's bodies of water. If these waters are not protected against pollution by the Clean Water Act, downstream drinking water systems will have a very heavy burden of cleaning up the water to remove the contaminants, costs that—as in the case of Des Moines and so many other utilities—will be borne by ratepayers rather than the polluters.

Unfortunately, the Trump administration has attacked the commonsense protections in the Clean Water Rule by proposing to repeal it. Doing so would throw implementation of the Clean Water Act back into confusion, when what we need are strong and certain pollution controls for the nation's waters. And the House recently voted to make matters worse. In recently-passed appropriations bills, the House included a rider that authorizes the Trump administration to repeal the Clean Water Rule without any regard to any law that would otherwise apply to such action. If that radical rider were to become law, the government could ignore public input on the repeal, take back the Rule without any reason or support for doing so, or undo it for otherwise wholly unlawful reasons. NRDC urges the rejection of the Trump administration's scheme to repeal these protections and the House's cynical attempt to shield that repeal from public input and independent judicial scrutiny.

We Cannot "Streamline" Our Way Out of a Lack of Infrastructure Funding

An emphasis on "streamlining" too often seems to be a diversionary tactic from the real problem of our failing infrastructure. Our wastewater and drinking water systems – to say nothing of transportation and other infrastructure – have been systematically underfunded for decades. Yet, there is a persistent but false narrative that the National Environmental Policy Act (NEPA) is the primary cause of project delay. This is simply not true. Repeated investigations by the Congressional Research Service underscore both that factors other than federal NEPA reviews are the primary cause of project delays, and that better resource allocation at a federal agency can expedite decision making.

A Congressional Research Service report in 2012 found that:

> The time it takes to complete the NEPA process is often the focus of debate over project delays attributable to the overall environmental review stage. However, the majority of FHWA-approved projects required limited documentation or analyses under NEPA. Further, when environmental requirements have caused

> project delays, requirements established under laws other than NEPA have generally been the source. This calls into question the degree to which the NEPA compliance process is a significant source of delay in completing either the environmental review process or overall project delivery. Causes of delay that have been identified are more often tied to local/state and project-specific factors, primarily local/state agency priorities, project funding levels, local opposition to a project, project complexity, or late changes in project scope.[56]

Rather than addressing the real issue of funding, some choose to complain about requirements for federal permits and environmental reviews. We cannot streamline our way out of our infrastructure problem. Countries all over the world — including those with better infrastructure than our own — have adopted statutes based on our NEPA statute; bullet trains, modern subways, efficient airports, and water systems around the world have been built subject to NEPA-like requirements. What these countries have that the United States currently lacks is a national commitment to adequately funding infrastructure to compete in the 21st century.

* * * * *

Thank you for the opportunity to testify today. NRDC looks forward to working with the Subcommittee on bold and effective solutions to our nation's water infrastructure challenges.

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[56] Congressional Research Service, *The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues for Congress*", CRS 7-5700, R42479 (April 11, 2012).

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September 26, 2017

The Honorable Garret Graves
Chairman
Water Resources and Environment
Subcommittee
U.S. House of Representatives
Washington, DC 20515

The Honorable Grace Napolitano
Ranking Member
Water Resources and Environment
Subcommittee
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Graves and Ranking Member Napolitano:

The Association of Metropolitan Water Agencies (AMWA) appreciates the opportunity to submit comments for the record of today's hearing on "Building a 21st Century Infrastructure for America: Water Infrastructure Stakeholder Perspectives." As an organization representing the nation's largest publicly owned drinking water utilities, we recognize that many of our top infrastructure policy priorities, as they relate to the Safe Drinking Water Act and the Drinking Water State Revolving Fund, are outside the jurisdiction of this subcommittee. Nevertheless, we share the subcommittee's view on the importance of investing in our nation's water infrastructure, and encourage the subcommittee to actively work toward including water infrastructure funding in any comprehensive infrastructure legislation that is considered by the House of Representatives this year.

It is beyond doubt that America's water and wastewater infrastructure is due for an upgrade. EPA's most recent Drinking Water and Clean Water Needs Surveys each showed that the nation's water and wastewater infrastructure together requires more than $650 billion worth of investments over the next two decades just to maintain current levels of service, but even those estimates may be too modest. For example, AMWA and the National Association of Clean Water Agencies have projected that water and wastewater utilities could spend nearly $1 trillion over 40 years as they adapt their infrastructure to changing hydrological conditions such as extreme drought, more frequent intense storms, and severe flooding events.

To this end, AMWA was pleased to work with members of the House Energy and Commerce Committee earlier this year as that panel developed and approved H.R. 3387, the Drinking Water System Improvement Act. Among other provisions, this legislation would reauthorize the Drinking Water State Revolving Fund for the first time in that program's history, reauthorize the Public Water System Supervision grant program, and authorize funding for new federal grants to help local educational agencies replace outdated drinking water fountains in schools. AMWA believes that these provisions, along with other parts of the bill that make important improvements to the Safe Drinking Water Act, should be part of any comprehensive

infrastructure bill that the House of Representatives considers this year.

Likewise, AMWA also believes that any major infrastructure bill would be incomplete if it does not include a significant new investment in the nation's wastewater infrastructure through the Clean Water State Revolving Fund. In the past AMWA and other water sector organizations have called for Congress to increase funding for each SRF program while also bringing them to a point of funding parity. A comprehensive infrastructure investment bill would offer an opportunity to make this vision a reality.

While local water infrastructure improvements have long been, and should remain, primarily paid for through local water rates, there is widespread agreement that it is appropriate and necessary for the federal government to facilitate communities' access to affordable financing while also offering opportunities for direct assistance to communities in need. And while the Drinking Water and Clean Water SRFs will remain at the core of federal efforts to improve local water and wastewater infrastructure, we encourage Congress to maintain other avenues of assistance as well – such as in the form of a new EPA pilot program and a 104-year-old tax benefit that is relied upon from coast to coast.

The Water Infrastructure Finance and Innovation Act

The federal government's newest water infrastructure financing assistance program was established three years ago as part of the Water Resources Reform and Development Act of 2014. The Water Infrastructure Finance and Innovation Act (WIFIA) pilot program is an innovative financing mechanism that will help cities and towns nationwide pay for large-scale water and wastewater infrastructure projects. Through WIFIA, EPA will loan Treasury funds to cities and towns to carry out qualifying projects, at low-cost, near-Treasury rates. All WIFIA loans will be paid back to the federal government with interest over the period of 35 years following substantial completion of the project – thus providing affordability to local ratepayers and a return on investment to the U.S. Treasury.

Importantly, WIFIA will complement, not compete with, the existing SRF programs. Unlike the SRFs, which typically deliver relatively modest-sized loans to help communities respond to public health risks, WIFIA is intended to help communities finance large-scale water and wastewater infrastructure improvements that may not be positioned to benefit from SRF assistance. In the case of drinking water infrastructure projects, for example, the DWSRF gives preference to projects that address the most serious risks to human health, so a significant portion of DWSRF loans often flow to small communities that require help to improve drinking water quality. But other projects that are not directly tied to SDWA compliance or health protection – such as investments to replace or upgrade aging infrastructure or to enhance the reliability and security of water supplies, particularly in metropolitan areas – often struggle to obtain SRF assistance in amounts that will meaningfully reduce total project costs.

A wide range of drinking water, wastewater, stormwater, water reuse, recycling, and desalination projects expected to cost in excess of $20 million are all eligible for WIFIA loan assistance – with WIFIA funding able to cover up to 49 percent of the total cost of each project. WIFIA also accommodates smaller communities faced with smaller-scale projects, as the program will offer loans to projects costing as little as $5 million in a community of 25,000 people or fewer.

This is currently an exciting time for WIFIA, as earlier this year EPA invited twelve projects across the country, seeking a total of $2.3 billion worth of assistance, to formally apply for WIFIA loans in 2017. EPA chose this class of twelve projects from the 43 initial letters of interest that were submitted by project sponsors from coast to coast, and the agency hopes to begin finalizing loan agreements by the end of the year.

Looking ahead, WIFIA is authorized as a pilot program only through the 2019 fiscal year. Should the program's initial round of funding prove successful as expected, AMWA will urge the subcommittee to quickly begin the work necessary to reauthorize the program and sustain this initial momentum.

Tax-Exempt Municipal Bonds

The most critical federal water infrastructure financing assistance mechanism is perhaps also the most overlooked during infrastructure policy discussions. Since the federal tax code was established in 1913 interest earned on municipal bonds has been exempt from federal income taxes. According to the Congressional Research Service, tax-exempt municipal bonds are the most prevalent water infrastructure financing mechanism, with at least 70 percent of U.S. water utilities relying on them to pay for infrastructure improvements. In 2016 alone, communities issued nearly $38 billion in tax-exempt municipal bonds to finance water, sewer, and sanitation projects.

Municipal bonds make infrastructure investments more affordable for communities because the lack of federal taxes on interest income leads investors to pursue lower interest rates than they otherwise would. These lower interest rates directly translate to lower municipal financing costs, and thus more affordability for local water and wastewater ratepayers. Without this tax benefit, AMWA and the National Association of Clean Water Agencies estimate that water and wastewater utilities across the county would pay about 25 percent more in financing costs over their bond payback periods – essentially an additional tax on water infrastructure investment that would be borne by water utility ratepayers of all income levels.

We understand that legislation related to any potential changes to this tax-exempt structure of municipal bonds is outside of the jurisdiction of this subcommittee, but before the end of the year Congress could vote on a comprehensive tax reform plan that could reduce or eliminate this critical benefit. Should members of Congress be presented with a such a tax reform proposal this year, AMWA encourages members of this subcommittee who prioritize affordable water

infrastructure investments to stand up in defense of tax-exempt municipal bond interest. Maintaining this effective and equitable subsidy is the simplest step Congress can take to preserve affordable water infrastructure financing and build a 21st Century water infrastructure.

Conclusion

Again, AMWA appreciates the opportunity to submit these comments on strategies to maintain and improve our nation's water and wastewater infrastructure. Continued investment in the SRFs, a permanent extension of WIFIA, and the preservation of tax-exempt municipal bond interest are all policies that will help our nation achieve this goal.

Thank you again, and AMWA looks forward to continuing to work with you on this issue.

Sincerely,

Diane VanDe Hei
Chief Executive Officer

Statement for the Record of the

American Public Works Association

U.S. House of Representatives Transportation and Infrastructure Committee

Subcommittee on Water Resources and Environment

Hearing on:

Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives

September 26, 2017

The American Public Works Association (APWA) is pleased to provide the following statement to the House Transportation and Infrastructure Committee's Subcommittee on Water Resources and Environment hearing focused on our nation's water infrastructure.

APWA is an organization dedicated to providing public works infrastructure and services to millions of people in small, large, rural, and urban communities across our country. Working in the public interest, APWA's more than 30,000 members plan, design, build, operate, and maintain our nation's vast infrastructure assets, which are essential to our nation's economy and the quality of life we all enjoy.

APWA members, and the state and local governments and utilities they serve, understand that clean water is essential for the economic, social, and environmental health of their communities. Clean water is necessary for almost all activities: agriculture, manufacturing, and healthy living. As such, we must protect this vital resource for public health, and our quality of life. Water supplies must meet our present needs while ensuring the ability of future generations to also meet their needs. Protecting the world's surface water and groundwater is essential. Sustainable usage of water requires protection of all natural resources from activities detrimental to water quality. While the Clean Water Act (CWA) has made tremendous progress improving water quality in the United States, we continue to face many challenges caused by population growth, urbanization, industrial and commercial activities, agricultural practices, and other aspects of modern life.

However, these local communities also recognize that protecting water quality is only one of the issues competing for their limited financial resources. These other issues include police and fire protection, streets and roads, parks and public spaces, and many other local concerns and needs. APWA and its members share the mission of protecting water resources while meeting the other needs of their citizens, and providing the greatest possible value to their constituents. This includes maintaining and adequately funding the beneficial uses of available water resources.

Acknowledging these facts, APWA has established public policy priorities for the water sector that will provide public works professionals with the resources necessary to protect our nation's water quality.

The first priority is to update water and wastewater regulations. A fundamental responsibility of public works professionals is to manage water assets that meet the appropriate regulatory standards for their intended uses. Treated drinking water, wastewater, stormwater, and runoff all contribute to the replenishment of the water cycle. APWA seeks to promote a sensible approach to regulation that coordinates and balances public health and the environment.

APWA and its members have been appreciative of the work done by this Committee to end the isolated approach to permitting that maintains full separation by permit type, and instead apply a comprehensive, integrated approach to all Safe Drinking Water Act (SDWA) and Clean Water Act (CWA)

permitting (drinking water, wastewater, stormwater, and combined sewer overflow) so that maximum flexibility and cost effectiveness is implemented into the decision making process. We are especially appreciative of legislation introduced by Mr. Gibbs of Ohio, which would codify the Environmental Protection Agency's (EPA) Integrated Planning program. Additionally, this legislation would include affordability and cost effectiveness as a basic system of belief within the CWA permitting process along with an understanding that affordability varies by community, region, and economic conditions. Finally, APWA supports legislation that would allow greater local decision-making relative to the importance of individual local water resources so that investments can be directed in a manner that will improve and protect waters that are environmentally, economically, and recreationally important.

The second priority is to protect people, property, and the environment. Flooding, drought, and severe weather impact people and their property, as well as the environment. Policies, programs, and projects to mitigate the impacts of these events are critical and necessary to develop water resilient communities.

For example, APWA supports the development of regional drought preparedness and response plans (DPRPs) by water providers in cooperation with local, state, and federal agencies, and require these plans mitigate the negative economic, social, and environmental impacts caused by a lack of available water. Additionally, APWA favors legislation that calls for comprehensive planning, data, and analytical techniques and a more coordinated, cooperative, and communicative water management strategy. Plans should incorporate land use planning, proactive mitigation, resource stewardship, environmental conservation, and public education as the basis of the initiative.

The third priority is to preserve and enhance water infrastructure. Much of the funding that water providers use to maintain their infrastructure comes from local rates and taxes. However, there is a clear federal role in providing resources for water providers to meet national water quality standards. Robust funding is required to replace aging infrastructure, maintain newer infrastructure, expand existing capacities, and implement technologies to provide people and businesses with needed water services now and into the future.

APWA, and its members, believe it is appropriate for Congress to provide robust funding for existing federal programs that support maintenance and development of water and wastewater infrastructure, such as the State Revolving Fund (SRF), Water Infrastructure Finance and Innovation Act (WIFIA), Rural Utilities Service (RUS), Public Water System Supervision (PWSS) grants, and the Public Works and Economic Development program.

APWA was encouraged by work done by the House Energy and Commerce Committee to pass a bipartisan bill that increases funding for the Drinking Water State Revolving Fund (DWSRF) program. The legislation also calls for a study to research potential changes to the program to eliminate federal and state redundancies in cross-cutters and streamline the application process and paperwork to make it easier for smaller systems to seek assistance.

The Clean Water State Revolving Fund (CWSRF) faces many of the same challenges as the DWSRF, and this Committee must undertake the same type of work in order to modernize and streamline the program.

In addition to funding mechanisms, it is vital that this Congress work to protect important financing tools that communities across the country use to preserve and enhance water infrastructure. Chief among these tools is the tax-exempt status of municipal bonds. The majority of our nation's infrastructure is financed, built, and maintained by state and local governments. The tax-exemption for municipal bond interest is the single most important tool the federal government provides to lower the cost to states and localities for infrastructure.

Additionally, APWA supports the expansion of the use of "private-activity" tax-exempt bonds for infrastructure. These bonds are a form of tax-exempt financing for state and municipal governments that want to collaborate with a private entity to meet a public need. This partnership approach makes infrastructure repair and construction more affordable for municipalities and ultimately for users or customers. This well-established program would provide significant benefits to water-sector investments were the state volume cap to be lifted.

The fourth priority is to develop science-based, cost-effective regulations. The benefits of water quality protection are maximized when all components of such initiatives have sound scientific basis and a clear rationale. New and revised regulations must be cost-effective, science-based, affordable, and prioritized according to environmental and human risks, addressing the highest risk first. A science-based approach to regulations using integrated planning should form the basis to establish which projects are of the greatest public health and environmental quality value, and are most affordable for communities.

In this effort, goals, standards, and strategies should be evaluated regularly to incorporate the most recent scientific information and analyses. Water quality protection efforts must promote problem resolution and enhance pollution prevention, while considering both the beneficial uses of each water body individually and also the watershed as a whole.

The fifth and final priority is to streamline local, state, and federal governance structures. APWA fully supports local control in decision making for water infrastructure. The need for cooperation between local, state, and federal bodies over this infrastructure is vital. As a result, it makes it imperative that any legislation this Committee passes promote partnerships between these disparate agencies with responsibility and authority for operation of segments of water infrastructure to remove impediments to coordination and full utilization of existing infrastructure. This Congress must take action to recognize all existing federal acts and programs, including the Clean Water Act, Safe Drinking Water Act, National Flood Insurance Program (NFIP), Emergency Management, and Endangered Species Act (ESA), and develop a management plan that reduces permitting, construction, and financing conflicts.

Conclusion

Local governments and utilities need increased partnership and cooperation from the federal government in meeting their water quality issues in a reasonable and financially prudent manner. We need a better balance, and recognition that water quality concerns are not the only issues affecting the public health and safety in our communities.

Public Works professionals are up to the challenge of satisfying community needs with limited resources. We encourage the Committee to continue to work on the integrated planning and permitting effort to ensure scarce taxpayer funds are well-spent and communities' water resources are protected. APWA and its members stand ready to be a resource for you and to assist with this process. Thank you.

*American Rivers * American Sustainable Business Council * Alliance for the Great Lakes*
*Alliance of Nurses for Healthy Environments * Clean Water Action * League of Conservation Voters*
*National Parks Conservation Association * National Wildlife Federation * Natural Resources Defense Council*
*Ohio Environmental Council * Sierra Club * Southern Environmental Law Center*

September 26, 2017

The Honorable Garret Graves
U.S. House of Representatives
430 Cannon House Office Building
Washington, DC 20515

The Honorable Grace F. Napolitano
U.S. House of Representatives
1610 Longworth House Office Building
Washington, DC 20515

RE: Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives Hearing in the Water Resources an Environment Subcommittee of the Transportation and Infrastructure Committee

Dear Chairman Graves and Ranking Member Napolitano:

On behalf of our millions of members and supporters across the United States, we are writing to express our gratitude for your leadership in holding a hearing on the needs of America's water infrastructure.

There is an increasingly urgent need for renewed investment in our communities' water infrastructure. This need is driven by the unfortunate reality that for many decades, funding to maintain water systems has fallen short of the cost to provide meaningful repairs and upgrades to our wastewater and stormwater systems. The result is outdated infrastructure that cannot keep pace with community need.

The undersigned groups are advocating for federal commitment to reinvest in our failing clean water infrastructure, including bolstering the use of natural infrastructure and prioritizing funding for communities that need it most all while maintaining environmental safeguards. Please see the attached document for a full list of our priorities.

Legislation pending before the Subcommittee on Water Resources and Environment of the Committee on Transportation and Infrastructure is relevant to our water infrastructure priorities, including the *Water Quality Protection and Job Creation Act of 2017, Low-Income Sewer and Water Assistance Program Act,* and the *Water Infrastructure Flexibility Act.* We encourage the Subcommittee to consider these bills in order to make a substantial investment in water infrastructure while keeping it affordable for rate payers and prioritizing natural infrastructure solutions.

The *Water Quality Protection and Job Creation Act of 2017* provides authorization for an increase in funding for the Clean Water State Revolving Fund so that states can get the resources they need to

provide communities with working wastewater and stormwater systems that will comply with water quality standards. There is also a fifteen percent minimum for states to spend on municipalities that meet affordability criteria. This will give priority in receiving a state Clean Water Revolving Fund loan to municipalities that would have a hard time receiving financing for a clean water project by other means.

The *Water Quality Protection and Job Creation Act* also includes funding for grants that will aid communities in addressing their stormwater and sewer overflow problems that have been keeping them from consistently complying with water quality standards. As part of the grant program to address stormwater and sewer overflows, the Act provides that there be a minimum of twenty percent of the amount of grants made to a state to be used to address stormwater and sewer overflow issues with green infrastructure, water and energy efficiency improvements or other environmentally innovative solutions. The undersigned groups are very supportive of using natural and nature-based solutions such as green stormwater infrastructure which protects, restores, or mimics the natural water cycle. Green infrastructure is effective, economical, and enhances community safety and quality of life. It means planting trees and restoring wetlands, rather than building a costly new water treatment plant. By storing water where it falls, green infrastructure lessens the load of water that a treatment facility has to treat.

While investment in water infrastructure is extremely important, clean water services still need to be affordable for ratepayers. The *Low-Income Sewer and Water Assistance Program (LISWAP) Act* would provide federal grants to help people pay their sewer and water bills. This will help prevent the financially challenged from having to pay an overly high percentage of their income toward their water bills while still allowing utilities to make improvements to their systems.

The *Water Infrastructure Flexibility Act* allows communities to develop integrated plans for investment in their water infrastructure. The Act would allow for prioritization and integrated planning for municipalities responding to CSO consent decrees, municipal storm water and wastewater discharge issues, and water-quality effluent limitation during the implementation of TMDLs. This allows sequencing investment in wastewater and stormwater infrastructure by highest priority, without changing existing regulatory or permitting standards; in contrast, H.R. 465, though presented as a bill to facilitate integrated planning, would authorize weakened limits on sewage and polluted runoff. Properly done integrated plans allow for a holistic approach in the management of stormwater and wastewater, enabling municipalities and utilities to promote smarter and more sustainable approaches to protect clean water while still delivering reliable services. Natural infrastructure can be incorporated into integrated plans to reduce flows of polluted stormwater runoff which in turn reduces flows into wastewater pipes. The Act promotes the use of natural infrastructure as a cross sector tool that can help communities to meet local water quality challenges.

The issue of how to address outdated and failing water infrastructure and the future of infrastructure investments to protect clean water and public health is of critical importance to us. We appreciate

the Subcommittee on Water Resources and the Environment of the Committee on Transportation and Infrastructure for taking time to have a hearing on this important topic. We respectfully request that the Subcommittee take our priorities into consideration when formulating policy on water infrastructure.

Sincerely,

American Rivers
American Sustainable Business Council
Alliance for the Great Lakes
Alliance of Nurses for Healthy Environments
Clean Water Action
League of Conservation Voters
National Parks Conservation Association
National Wildlife Federation
Natural Resources Defense Council
Ohio Environmental Council
Sierra Club
Southern Environmental Law Center

Clean Water For All Campaign
Water Infrastructure Priorities

Increasing Federal Investment

1. Water infrastructure funding should include sustained investments to remedy deficient drinking water, wastewater, and stormwater infrastructure.
2. New and innovative sources of water infrastructure funding are needed, as are increases to existing sources of funding and financing such as the Clean Water and Drinking Water State Revolving Funds.
3. Funding should be available for predevelopment grants, technical assistance, building new water infrastructure, repairing existing infrastructure, and deconstructing outdated infrastructure.
4. New water infrastructure funding should expand or complement the Clean Water and Drinking Water State Revolving Funds, not replace them.
5. Federal funding for water infrastructure should not come at the expense of reductions in federal funding for new or existing environmental investments or regulatory programs.

Establishing Better Incentives for States

6. Federal water infrastructure financing should create incentives and opportunities for states to increase their investments when they have the means to do so, but without reducing federal spending or transferring burdensome responsibilities to state and local governments, and/or communities.
7. Funding distribution should incentivize cross-departmental and multi-jurisdictional coordination and management of water infrastructure.

Maintaining and Enforcing Environmental Standards

8. The National Environmental Policy Act, the Clean Water Act, the Safe Drinking Water Act, and the Endangered Species Act protect public health and the environment and promote a thriving economy. Protections found in these bedrock environmental laws should not be sacrificed in the name of permit streamlining. Water infrastructure funding and financing must be contingent upon compliance with these laws and all environmental protections provided by the law during the planning and construction of water infrastructure projects.
9. Wastewater and stormwater utilities should be encouraged to use integrated planning to achieve prompt compliance with existing obligations under the Clean Water Act and maximize water quality improvements that protect public health and the environment.
10. Water infrastructure funding should encourage projects that reduce energy usage and that do not exacerbate air pollution, habitat and climate impacts.
11. Federal agencies must fully enforce the Safe Drinking Water Act and the Clean Water Act as well as other laws and regulations that are protective of the environment and public health.

Encouraging Natural Infrastructure and Smart Water Use

12. Water infrastructure funding should require the use of natural infrastructure solutions, including source water protection, fish and wildlife habitat protection, floodplain restoration, water use efficiency, nature-based flood damage reduction, and green stormwater

infrastructure, by requiring the consideration of these options before implementation of conventional methods

13. Funding mechanisms should support investment in the research and implementation of innovative natural and nature-based solutions.
14. Water infrastructure investments should include sustained investments in ecosystem restoration that produce multiple landscape-scale benefits.
15. Water infrastructure funding should promote the conservation of water by requiring smart water use practices.

Prioritizing Investment to Address the Greatest Need

16. Water infrastructure funding must be prioritized for communities that have critical infrastructure needs and lack the ability to meet those needs by raising or repaying funds from local sources.
17. Infrastructure investments should be directed to drinking water systems with the greatest water quality problems, based on a comprehensive review of available data and research.

Helping Local Communities

18. Utilities, states, and the federal government should ensure high caliber drinking water, wastewater, and stormwater services are affordable to all, by adopting and supporting (a) low-income customer assistance programs and water conservation assistance, and (b) water affordability programs that are codified into policy, including equitable rate structures and strategies that reduce system-wide capital and operating costs borne by all customers.
19. Water infrastructure funding should continue and expand technical assistance programs such as those under USDA's Rural Utilities Service, National Fish and Wildlife Service and the U.S. Environmental Protection Agency programs. These services should be available to State Revolving Fund awardees.
20. Communities must be meaningfully engaged, consulted, and invited to take part in planning and project implementation to ensure project benefits are maximized for the community. Communities receiving funding for water infrastructure updates should be required to consider community benefits agreements accompanying projects.

Investing in America's Workers

21. Water infrastructure investments should result in high road employment through the enforcement of the Davis Bacon Act prevailing wage, project labor agreements, green job opportunities, local job training programs, and Buy American domestic sourcing requirements.
22. Water infrastructure investments should target inclusion of disadvantaged workers and firms for training, jobs and contracts in design, construction, operations and maintenance of water infrastructure.

Anticipating Future Needs

23. Water infrastructure investments must support projects that are designed, sited, and built with the full consideration of the immediate and future impacts of climate change and the expected intensification of extreme weather events resulting in increased flooding and drought conditions.

24. Water infrastructure investments must be sized and timed to match realistic customer usage, grounded in demand forecasts that fully account for established trends in household and commercial water efficiency.
25. Infrastructure funding should not incentivize reckless sprawl development and should incentivize creative system restructuring to address management, operational and compliance deficiencies.

September 25, 2017

The Honorable Garret Graves
Chairman
House Transportation and
Infrastructure Subcommittee on Water
Resources and Environment
Washington, D.C. 20515

The Honorable Grace Flores Napolitano
Ranking Member
House Transportation and
Infrastructure Subcommittee on Water
Resources and Environment
Washington, D.C. 20515

RE: Subcommittee Hearing on "Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives"

Dear Chairman Graves & Ranking Member Napolitano:

Tomorrow, the House Transportation and Infrastructure Subcommittee on Water Resources and Environment Energy and Commerce Committee will hold a hearing on "Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives". The Computing Technology Industry Association (CompTIA), the Smart Cities Council, and the Smart Waters Network Forum (SWAN) North America Alliance respectfully submit the "**Water Readiness Guide: *Policy Recommendations for a More Resilient Water Future***" for the record.

The Guide highlights five main recommendation areas:

- Compliance requirements should be incentive based
- Public private partnerships should be encouraged
- Managers and regulators must work to achieve a balance in cost-based rate structures
- Demonstration and deployment of new technology applications and solutions should be encouraged and incentivized
- Use of technology-driven decision making is encouraged to support infrastructure investment proposals

As our nation moves towards a 21st century national infrastructure, We the undersigned strongly encourage the Subcommittee to consider the implementation of the Water Readiness Guide recommendations.

Elizabeth Hyman
Executive Vice President
CompTIA

Jesse Berst
Founder and Chairman, Smart Cities Council

Amir Cahn
Executive Director
Smart Waters Network Forum (SWAN) North America Alliance

CREATING GOOD JOBS, A CLEAN ENVIRONMENT, AND A FAIR AND THRIVING ECONOMY

September 26, 2017

The Honorable Garret Graves
U.S. House of Representatives
430 Cannon House Office Building
Washington, DC 20515

The Honorable Grace F. Napolitano
U.S. House of Representatives
1610 Longworth House Office Building
Washington, DC 20515

RE: Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives Hearing in the Water Resources an Environment Subcommittee of the Transportation and Infrastructure Committee

Dear Chairman Graves and Ranking Member Napolitano:

As a coalition of the nation's largest labor unions and environmental groups, collectively representing millions of members and supporters, we write to express support for your committee's efforts to address the urgent needs of America's water infrastructure. A federal commitment to reinvest in our failing water infrastructure can ensure the delivery of clean water to our communities while creating thousands of quality, family-sustaining jobs.

Our nation's wastewater and stormwater infrastructure is vital to the protection, treatment, and distribution of clean water resources. Yet, strain from population growth, lack of investment, and emerging threats from climate change have increased the burden on our current water infrastructure system. In fact, the American Society for Civil Engineers (ASCE) most recently gave our nation's wastewater infrastructure a grade of "D+". Advancing our nation's water infrastructure investment will help communities adequately treat storm and wastewater and adapt to the effects of climate change while creating numerous family-sustaining jobs. Our recently released report, entitled *Making the Grade 2.0: Investing in America's Infrastructure to Create Quality Jobs and Protect the Environment*, found that **getting our drinking and clean water systems to a "B" grade over the next 10 years could create about 654,000 job-years across the U.S. economy.**

These jobs will be created through the replacement and upgrade of pipelines, treatment plants, storage tanks, and the installation of green infrastructure projects. Investments in water recapture, reuse, and transport will save water and energy, reduce the carbon dioxide emissions from pumping water, and create jobs improving our nation's water infrastructure. Gray water systems, water reuse-recycling, hot-water circulating systems, and rainwater catchment systems help conserve both water and the energy used to treat and transport it, and create jobs in the industries supplying these technologies.

Green infrastructure approaches can help address the estimated 10 trillion gallons a year of untreated stormwater run off from roofs, roads, parking lots, and other paved surfaces, which often

pass through sewage systems before spilling into rivers and streams that serve as drinking water supplies and sites for aquatic recreation. This untreated runoff increases health risks, degrades ecosystems, and damages tourist economies. Green infrastructure helps stop runoff pollution by capturing rainwater and storing it, or letting it filter back into the ground, replenishing vegetation and groundwater supplies, and helping to reduce or prevent combines sewer overflows. These solutions also stimulate local investment and support American jobs.

Skilled workers are needed to ensure the installation and construction of green infrastructure projects are effective and maintain water quality standards. In addition, green infrastructure, along with traditional water systems, requires routine maintenance and upkeep to function optimally, thus sustaining job creation and employment opportunities. Cost-effective green infrastructure practices, combined with investment in conventional stormwater mitigation efforts have the potential to provide wide-ranging benefits to communities nationwide.

Federally funded infrastructure programs, such as the state revolving funds (SRFs) support millions of jobs. Since the Clean Water State Revolving Fund was established in 1988, it has leveraged billions of dollars in water infrastructure investment, creating millions of jobs throughout the U.S. economy. We must increase investment for state revolving funds, and guarantee they contain provisions to ensure that domestically produced iron, steel and manufactured goods are used to build American infrastructure. By incorporating Buy America provisions in federal infrastructure investment, we can ensure that water infrastructure projects have an even larger benefit on the U.S. economy since those investments will boost American businesses throughout the economy and supply chain.

We must also ensure that these green jobs are good jobs by requiring prevailing wage provisions and benefits as outlined under the Davis-Bacon Act. The Davis-Bacon Act ensures that local laborers hired under federal contracts are paid prevailing wages and fringe benefits on federally-assisted construction projects. Our nation's construction workers are at the vanguard of building the vital infrastructure necessary to support a growing green economy and healthy, sustainable communities.

Water is critical for a healthy community, prosperous economy, and clean environment. We thank you for considering this important topic and urge you take our recommendations into consideration.

Sincerely,

Kim Glas
Executive Director
BlueGreen Alliance

Investments to rebuild our infrastructure must support a prosperous, clean economy and should be implemented with smart planning and sound standards that ensure American communities and workers—as well as the environment and economy—see the full benefits of these investments now and for decades to come. The following recommendations can ensure we maximize the benefits of our infrastructure investments for communities, the environment, jobs, wages, benefits, and retirement security:

- Ensure all projects built with public resources are subject to "Buy America" standards that maximize the return to taxpayers and the American economy by utilizing American-made building products, parts, and components;
- Enforce Davis-Bacon prevailing wage provisions that ensure workers are paid prevailing wages on public works projects;
- Utilize project labor agreements (PLAs), a collective bargaining tool establishing terms and conditions for employment on the projects, as well as community benefits agreements;
- Utilize public interest procurement provisions and practices, such as those that prioritize improving training, working conditions, and community benefits, and those that prioritize use of the most efficient, cleanest materials and products with the lowest carbon and toxicity footprints. These measures help ensure that public investments strengthen domestic manufacturing;
- Instill forward-looking planning that meets environmental standards and builds resilient infrastructure systems; and
- Enhance workforce training and development programs to expand the number of skilled workers in new and existing industries and increase economic opportunities for communities and local workers, especially for people of color and low-income communities.
- Prioritize public funding and financing for infrastructure investment to ensure projects are completed in a timely way and built with products and materials that are of the highest quality and are produced with the lowest carbon intensity. While it is appropriate to consider innovative financing tools to leverage federal funds, like infrastructure banks, grant and loan programs, and public-private partnerships, all financing methods should be held to strong public interest standards.

CALIFORNIA ASSOCIATION of SANITATION AGENCIES

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October 17, 2017

The Honorable Garret Graves
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Graves:

On September 26, 2017, the California Association of Sanitation Agencies (CASA), provided testimony on water infrastructure policymaking priorities as part of the Subcommittee on Water Resources and Environment's hearing into *Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives*. CASA deeply appreciated that the Subcommittee extended an invitation to present testimony. The following information addresses a question that was posed to the hearing panelists that we believe deserves the attention of the Subcommittee and the full Committee on Transportation & Infrastructure membership.

During the hearing, CASA highlighted a top policy priority; the value of authorizing the U.S. Environmental Protection Agency (USEPA) or a delegated state to issue ten year NPDES permits. Questions were posed to the panelists on the benefits of the proposed approach. We would like to provide you with supplemental information to clarify several points that were raised by panelists on the impact of such a change. We believe that these clarifications will cogently provide the value of our recommended modification to the Clean Water Act, and reaffirm that public health and environmental protection, as well as public participation, would continue to be protected under our recommended approach.

NPDES Permit Reopener Provisions Include Public Participation and Allow Timely Modification of Requirements by the Permitting Authority

In response to a question about potential drawbacks of ten year NPDES permit terms, the witness for the Natural Resources Defense Council (NRDC) asserted that "standards, technologies, and water quality needs change frequently," and therefore NPDES permit terms of ten years would not allow water quality regulators to adequately address those changes. This is simply inaccurate and provides an incomplete picture of the regulatory landscape.

As highlighted in our written and oral testimony, even as standards and technologies change over time, a permitting authority can retain the option of reopening the permit and incorporating new requirements as needed. This is an important protection that is in no way jeopardized by the extension of NPDES permit terms from five to ten years. Moreover, the permit reopener process is by no means ministerial. Contrary to NRDC's assertion that the public and USEPA do not have the opportunity to participate in the process or raise concerns, the reopener process involves notice and comment from the public, the discharger, and USEPA. This gives all parties ample opportunity to comment on the terms of a permit as it is reopened. Claims that this process is insufficient show little faith in the appropriate water quality permitting authority's ability to identify significant water quality problems as they arise, and to make scientifically informed judgments about the need to reopen a permit in order to ensure that water quality continues to be protected.

Ten Year Permit Terms Reflect Modern Infrastructure Project Timelines, Prevent Uncertainty and Avoid Potential Stranded Investments by Local Public Agencies

NRDC also indicated that "knowledge of water quality impairments of our waterbodies changes" over time and that a ten-year permit term would somehow undercut the permitting authority's ability to address those

impairments. While our state of knowledge of course changes over time, a ten year permit terms does not undercut the permitting authority's ability to respond appropriately based on new water quality standards and regulations.

NPDES permits can require significant and expensive technological and infrastructure upgrades in order to meet new water quality standards, upgrades that often stretch beyond the five-year permit cycle. As Mr. Pedersen testified at the subcommittee hearing, his agency's project is estimated to take approximately 13 years to complete. This is not an aberration. The ten year permit allows the agency to make meaningful progress toward completion of its upgrades without facing the uncertainty of a new mid-project permit, or worse, possible permit changes that could undercut massive investments in the existing project. As noted above, permit reopeners can allow a permitting authority, if faced with new and significant water quality concerns, to reopen the permit and make adjustments. This allows the regulator to act when it is appropriate, at the right time, and not on an antiquated 5-year schedule.

Direct Response to Questions Regarding Contamination Safeguards and Enforcement

During the questioning of the panelists, a question was posed about how a ten year permit term could impact "contamination safeguards" under the Clean Water Act. Extending a permit term from five to ten years does not change any underlying water quality standards or safeguards, and in no way, relaxes any water quality restrictions that clean water agencies currently operate under. Similarly, a change in the term of NPDES permits from five to ten years in no way directly or indirectly impacts or affects the enforcement capabilities of a permitting authority. Any violations of a permit or standard remain actionable under the parameters of existing law, without regard to the length of the permit term. The, extension of permit terms from five to ten years does not impact public health or enforcement under the Clean Water Act.

10-Year Permits Allow for a Better Use of Limited Resources

Whether USEPA staff or staff from a delegated state program issue discharge permits, regulatory agency staff resources are limited and in demand to implement important environmental programs, including Clean Water Act Programs. The permit renewal process consumes time and effort by both the dischargers and regulators. However, most NPDES dischargers achieve consistent compliance, and discharge at levels well below effluent limitations. By allowing permits of up to 10-years in length, staff on all sides can focus their efforts on more important water quality concerns, allowing the efficient use of scarce resources. Moreover, it is well-established that non-point sources are the largest contributor to the most serious water quality issues facing our nation in many locations (e.g. sediment, nutrients). This extension of permit terms would still allow permits to be reopened when determined to be necessary by regulators to incorporate TMDL-related compliance provisions and schedules, or to implement new or revised Water Quality Standards. Overall, the proposed approach makes better use of resources and allows regulatory staff to focus on the highest priority water quality issues and permits, including enforcement activities.

The Implementation of TMDLs is Adequately Protected by a Ten-Year Permit Term

NRDC also referenced the development of Total Maximum Daily Loads (TMDLs), and asserted that ten year permit terms would somehow result in "substantial delay" in making the water quality improvements prescribed by that process. This statement mischaracterizes the existing regulatory regime.

Point sources regulated by NPDES permits such as wastewater dischargers are not the primary drivers of TMDL development and implementation, in part because of the focus on non-point source discharges. Moreover, TMDL development and implementation can take many years. Under existing law, requirements put into NPDES permits based on TMDLs routinely include compliance schedules that allow dischargers a reasonable period to comply with new limits. These compliance schedules, which can overlap multiple permit cycles, are typically applied to the discharger until the next permit renewal (even though the permit may not actually be reopened). More

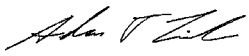
importantly, the compliance schedule deadline is usually a specific future date, so even if new limits are not incorporated into the permit immediately, the time to comply is still running. In other words, a delay in the actual incorporation of new TMDL allocations into NPDES permits often has no meaningful impact on water quality or the actions of the discharger.

Finally, while TMDLs are an important tool under the Clean Water Act statutory scheme, they are not designed to be drivers of the process. As NRDC noted, TMDLs are pollutant "diets" for a particular waterbody, and any good diet takes sustained effort and significant time to be effective. Extending NPDES permit terms will not undercut the efficacy of the TMDL process. In those circumstances where it may be appropriate to do so, the permitting authority can reopen permits as authorized in order to incorporate the changes that might be necessitated by adoption or modification of a TMDL.

As CASA highlighted in its formal written testimony, the five-year NPDES permit renewal cycle does not reflect the realities of addressing today's clean water challenges and restricts flexibility to address the highest clean water priorities. NPDES permits are becoming more restrictive, and the treatment technologies necessary to meet permit limits have become exceedingly expensive and time intensive to implement, often extending project construction timelines out to a decade (if not longer). Ten-year permit terms would facilitate the effective use of our limited water quality resources, while still protecting public involvement, public health and the environment.

Again, we thank you and the Subcommittee members for the commitment to address our vital water infrastructure needs and are grateful for the opportunity to provide important information related to the questions posed during the hearings.

Sincerely,



Adam D. Link
Director of Government Affairs

cc: Roberta Larson, Executive Director
Jim Colston, Chair, Federal Legislative Committee

October 4, 2017

The Honorable Garret Graves
Chairman
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
2165 Rayburn House Office Building
Washington, DC 20515

The Honorable Grace Napolitano
Ranking Member
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
2165 Rayburn House Office Building
Washington, DC 20515

Re: Submission for the Record of the Sept. 26, 2017 Hearing: Supplemental Response Concerning Costs of Compliance with the Federal Flood Risk Management Standard

Dear Chairman Graves and Ranking Member Napolitano:

Thank you for the opportunity to testify on behalf of Natural Resources Defense Council (NRDC) before the Subcommittee on Water Resources and Environment on September 26, 2017, at the hearing entitled "Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives."

Please accept this letter for the record as a further response to a question asked by Chairman Graves concerning the costs of compliance with the Federal Flood Risk Management Standard (the "Standard"), which President Trump revoked in August.[1]

As explained in my written testimony, the Standard was established to ensure federal agencies account for current and future flood risk when using taxpayer dollars to fund the building or

[1] Trump Executive Order revoking flood protection standards: https://www.whitehouse.gov/the-press-office/2017/08/15/presidential-executive-order-establishing-discipline-and-accountability.

rebuilding of infrastructure in floodplains.[2] In the wake of a natural disaster, impacted communities must be rebuilt safer and stronger. The Federal government, when aiding impacted communities to recover, should not simply seek to replace damaged infrastructure, but to rebuild it to ensure that such infrastructure will be safer from the next storm. Otherwise, we, as nation, are rebuilding in a way that leaves communities vulnerable, putting people and property at risk, and exposing the American taxpayer to great disaster costs. To avoid this outcome, the Standard required federally-funded infrastructure, like drinking water and wastewater treatment facilities, to be built with a higher margin of safety against flood disasters.

Chairman Graves asked how communities can afford to rebuild to the Standard after suffering damage from a flood or other natural disaster.

I write to supplement my response to that question, by explaining that an impacted community is not solely responsible for the increased costs of rebuilding smarter – e.g., rebuilding to meet the Standard – after a disaster. Rather, the Federal government is responsible for paying for paying most of a community's added costs. Per the Stafford Act, the Federal Emergency Management Agency (FEMA) must pay, at a minimum, for 75 percent of a rebuilding project's costs,[3] which would include the cost to build to a higher Federal standard.[4] Moreover, the Stafford Act's 75 percent/25 percent cost share arrangement can be adjusted, especially in the aftermath of truly devastating natural disasters.[5] In such instances, the Federal government's share can be raised to 90 percent.[6]

This arrangement of covering the costs of higher standards is common practice. For example, FEMA's Hazard Mitigation Grant guidance explicitly requires higher rebuilding standards. Per the guidance document, FEMA uses the American Society of Civil Engineers (ASCE) Standard 24-05 *Flood Resistant Design and Construction* or its equivalent as the minimum design criteria for all Hazard Mitigation Assistance (HMA) funded structure elevation, dry flood proofing, and

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[2] Obama Executive Order 13690 establishing flood protection standards: https://obamawhitehouse.archives.gov/the-press-office/2015/01/30/executive-order-establishing-federal-flood-risk-management-standard-and-

[3] 44 C.F.R. § 206.47(a).

[4] *Id.* § 206.201(i) (defining permanent work as "restorative work that must be performed through repairs or replacement, to restore an eligible facility on the basis of its predisaster design and current applicable standards"). *See* Federal Emergency Management Agency, FP 104-009-2, *Public Assistance Program and Policy Guide*, 7 (April 2017) (stating Public Assistance Grants must comply with all relevant statute, regulations, or executive orders); *see also* Federal Emergency Management Agency, *Hazard Mitigation Assistance Guide, 34* (February 2015) (HMA programs, and grants awarded pursuant to these programs, must conform to 44 CFR Parts 9 and 10 (or FD 108-1) and with all applicable EHP laws, implementing regulations, and EOs, including but not limited to NEPA, the National Historic Preservation Act (NHPA), the Endangered Species Act (ESA), EO 11988 (*Floodplain Management*), EO 11990 (*Protection of Wetlands*), and EO 12898 (*Environmental Justice*)).

[5] 44 C.F.R. § 206.47(b)

[6] *Id.*

mitigation reconstruction projects in flood hazard areas.[7] More simply, Hazard Mitigation Assistance projects must be designed to ASCE24 standards for infrastructure located in flood hazard area, and as such, FEMA pays the Federal share of the higher costs.

Thus, impacted communities are not forced to meet a safer rebuilding standard without financial assistance. The federal government pays for a majority, and in some cases, all, of the additional costs. The result is a community will have infrastructure that is safer, infrastructure that can better perform its underlying tasks, such as maintain water/sewer service during a crisis, and infrastructure that will last longer, reducing the costs to the community of having to rebuild again and again.

Finally, it is important to recall that, while rebuilding safer and stronger may cost more than rebuilding to the status quo, in the long-run, such a rebuilding strategy saves money for both the community and the Federal government. Pre-disaster mitigation efforts, which include building to a higher standard, are proven to reduce the associated costs of post-disaster recovery. The benefit-cost ratio of FEMA Hazard Mitigation grants is illustrative of this assertion: every dollar spent on a FEMA hazard mitigation grant produced, on average, four dollars of benefits—a significant return on public dollar expenditures.[8]

I would be pleased to provide more information on this topic or to put your staff in touch with NRDC's top experts on this specific topic.

Thank you again for the opportunity to testify and for your consideration of this supplemental response.

Sincerely,

Lawrence Levine
Senior Attorney

[7] *See,* Federal Emergency Management Agency, FEMA Policy-203-074-1, *Minimum Design Standards for Hazard Mitigation Assistance Projects in Flood Hazard Areas,* 1 (April 2014).

[8] Adam Rose, et al., *Benefit-Cost Analysis of FEMA Hazard Mitigation Grants*, 8(4) NAT. HAZARDS REV. 97, 98 (2007).

NLC NATIONAL LEAGUE OF CITIES
CITIES STRONG TOGETHER

STATEMENT FOR THE RECORD

BEFORE THE
HOUSE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE,
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

"Building a 21st Century Infrastructure for America:
Water Stakeholders' Perspectives"
September 26, 2017
Submitted on October 10, 2017

National League of Cities
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Washington, DC 20001
(202) 626-3000

NLC NATIONAL LEAGUE OF CITIES

CITIES STRONG TOGETHER

Statement for the Record

on behalf of the
National League of Cities

Before the House Transportation and Infrastructure Committee,
Subcommittee on Water Resources and Environment

*"Building 21st Century Infrastructure for America:
Water Stakeholders' Perspectives"*

September 26, 2017

Thank you, Chairman Graves, Ranking Member Napolitano and Members of the Subcommittee for the opportunity to submit a Statement for the Record to share the local perspective on how the federal government can partner with cities to improve our nation's water infrastructure and address critical issues facing cities and local water utilities. We are pleased to offer our suggestions for policy proposals for inclusion in an infrastructure package. Additionally, attached to this statement is a recent letter to President Trump offering broader policy recommendations.

The National League of Cities (NLC) is the oldest and largest organization representing cities and towns across America. NLC represents 19,000 cities and towns of all sizes across the country. Our members are charged with protecting the environment and protecting public safety. As co-regulators, we play a vital role in implementing federal statutes such as the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA) among others, and our members take these responsibilities seriously. A partnership among federal, state and local governments is essential to achieving our mutual goals of clean water, which is the backbone of a modern society.

The nation's water infrastructure systems are significant assets that protect public health, as well as the nation's precious water resources. To the extent that America's water and wastewater infrastructure is properly maintained and can adequately meet the needs of our communities, it will help ensure the long-term vitality of our communities.

Today, local governments are at a crossroads. Local governments, our residents, and businesses must spend additional resources to comply with numerous environmental and non-environmental federal and state unfunded mandates, which further limits the money available for locally-

determined priorities. Furthermore, it is important to note that the capacity of local government to respond to federal demands is limited due to cities' and our citizen's limited financial resources, as well as state limitations on local ability to raise revenues. As city budgets struggle to recover from the Great Recession, many cities are making tough choices about the services and maintenance that they can afford and in some instances taking actions to borrow and finance funds to addresses critical needs.

NLC's recent *City Fiscal Conditions* survey of city finance officers from across the nation reveals the start of a fiscal contraction in the municipal sector following several years of post-recession growth. Several major findings taken together signal a slowdown on the horizon, including waning confidence of city finance officers, slowing local revenue and spending trends, and insufficient post-recession revenue recovery. We know cities are doing more with less—and have been for some time—cities' general fund revenues still have not fully recovered from the recession to pre-2007 levels. Moreover, proposed federal budget cuts to critical programs would further reduce the ability of local leaders to meet the everyday needs of their communities, as well as add to the burden that unfunded mandates have on cities.

Given the massive infrastructure needs in our country and the range of challenges facing cities with regard to water infrastructure, now is the time to make significant investments in critical water infrastructure programs to keep our economy moving forward.

As Congress works to develop an infrastructure proposal, there are six broad categories of challenges that cities are facing with regard to water infrastructure:

- **Aging Infrastructure** – Our nation's infrastructure is aging, with much of the infrastructure beyond its 50-75 year life span and some infrastructure up to 100-150 years old.
- **Unfunded Mandates** – Our nation's cities are facing an increase in federal and state unfunded mandates, with limited fiscal resources and often state preemption on local ability to raise revenue.
- **Affordability** – Low-income households pay a disproportionate amount of their incomes toward their water bills.
- **Climate Change Impacts** – Whether communities are facing "too much water" or "too little water," climate change will exacerbate current water infrastructure challenges, as well as create new challenges around both water quality and availability.
- **Pollution and Contamination** – Be it lead, nutrients, or pharmaceuticals etc. in drinking water and wastewater, cities are charged with providing clean and safe water for their communities.
- **Aging Workforce** – One-third of water and wastewater utility workers, and in some cases 50-60 percent of the water sector workforce, are eligible for retirement in the next 5-10 years, far exceeding workforce replacement needs in other sectors.

To address these challenges and improve our nation's water infrastructure, NLC calls on Congress to pass legislation that will:

- Reauthorize and provide federal funding for water infrastructure improvements through the Clean Water and Drinking Water State Revolving Loan Fund (SRF) programs.

- Provide full appropriation to the Water Infrastructure Finance and Innovation Act (WIFIA) and permanently establish the program beyond a pilot program.
- Remove the federal volume cap on tax-exempt bonds for water and wastewater infrastructure projects.
- Establish a comprehensive and flexible integrated planning and permitting process for local water, wastewater and stormwater management.
- Clarify that rebates provide by local water utilities to homeowners for water conservation and water efficiency are not subject to a federal income tax.

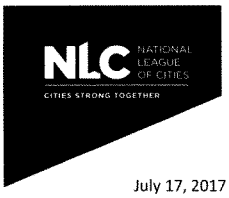
As you know, cities pay for the bulk of America's infrastructure, with the federal partnership representing only $3 for every $7 local governments spend, according to the Congressional Budget Office. While the demands on America's infrastructure grow each year, federal funding has fallen to historically low levels, placing the economic and physical well-being of our cities and towns in jeopardy. Local governments invest $1.7 trillion annually on services such as transportation, public safety and education. This includes $1.5 billion on water and sewer infrastructure in 2014 alone, according the U.S. Census Bureau.

More than two-thirds of all public infrastructure projects in the United States are locally financed by municipal bonds. Moreover, the state and local tax deductions are essential to allowing cities to raise the revenue needed to provide essential services to citizens, including public safety, education and infrastructure. Both the tax exemption for municipal bonds and the state and local tax deductions must be preserved in order for cities to continue to make the improvements and investments necessary to grow our economy, create jobs, and address our nation's infrastructure needs.

Additionally, cities need a combination of creative financing tools and direct federal investment to tackle our infrastructure deficit. Direct federal investment to cities for innovative projects will streamline the project delivery process as well as provide better results for citizens and communities. City leaders are best positioned to identify where infrastructure needs are greatest and should have a stronger voice in how limited federal dollars are spent. Importantly, local decision-making should not be preempted, regardless of whether infrastructure is privately or publicly funded.

In conclusion, cities will continue to invest and pay for the bulk of their infrastructure but expect to have a steady partner in the federal government to keep existing national programs funded to keep the national economy growing. NLC supports private sector infrastructure engagement in mutually beneficial projects in addition to the existing tools of municipal bonds and direct grants to cities for innovative infrastructure projects that are essential to delivering better infrastructure to our citizens. Finally, NLC supports a streamlined infrastructure process with a central point of contact that leads to projects being delivered faster in direct partnership with cities.

Working together, a partnership between cities, states and the federal government is essential to modernizing our nation's infrastructure and growing our economy to the benefit of our communities, our businesses and our residents. The investments we make today in water infrastructure should be forward looking, sustainable and resilient to address today's needs and those of the 21st century.



July 17, 2017

President Donald J. Trump
The White House
1600 Pennsylvania Avenue NW
Washington, DC 20500

Dear President Trump:

The National League of Cities (NLC) welcomes this opportunity to provide the White House with feedback as you work to invest in our nation's infrastructure. NLC is the nation's oldest and largest organization devoted to helping city leaders build better communities. In partnership with 49 state municipal leagues, we advocate for 19,000 cities, towns and villages representing more than 218 million Americans.

NLC and several mayors from across the country participated in an infrastructure discussion with you, White House officials, and Cabinet Secretaries in early June. The White House posed questions relating to incentivizing private investment and streamlining the regulatory process, and we look forward to working with you to identify ways to use public funds more efficiently to build an infrastructure network that supports a 21st century economy. Below are recommendations in these areas that would improve the federal-city partnership and help city leaders to use every tool at their disposal to stretch and leverage federal and local dollars.

Infrastructure Funding Tools and Incentives

The majority of American infrastructure is built, funded and maintained by local governments, with most of the financing coming from tax-exempt municipal bonds. Local and state governments leveraged the municipal bond market to raise more than $200 billion for new investments in infrastructure last year alone — and more than $2 trillion in the past decade. This remains the most critical tool in local toolboxes to build and maintain infrastructure, and the federal tax exemption for municipal bond interest must be maintained. If this exemption is limited or eliminated, the cost to build infrastructure projects will skyrocket, reducing the overall number of projects that can be taken on, as well as the economic boost from construction jobs and smoothly operating roads, bridges, and waterways.

Cities are the most valuable partner for the federal government on infrastructure, but America's infrastructure has aged and the people-to-infrastructure ratio has shifted. Cities now need direct federal investment more than ever to move significant public projects forward. The administration has proposed $200 billion in

federal incentives to drive private investment in large-scale infrastructure projects. NLC welcomes this commitment to invest but relying primarily on private investment will not be sufficient to meet our infrastructure needs, especially in rural America. Cities are paying their significant share and are a working case study of what efficiency looks like in government, but they need a partner in the federal government to overcome the massive infrastructure need, currently estimated by the American Society of Civil Engineers to be $4.6 trillion by 2025. We would need to double our current investment pace as a country to fill the gap of aging airports, leaky pipes and broken waterways.

While NLC recognizes the need for innovative financing in infrastructure projects and welcomes the diversification and opportunity the public-private partnership (P3) model affords some local governments, many barriers are still in place nationwide that hinder a federalized P3 system. Currently, 32 states allow the limited use of P3s, with only 13 states authorized to use this model for all types of infrastructure. Automatically, this eliminates the opportunity for private investment in nearly half of the states without a change in state laws.

For a comprehensive infrastructure revitalization, P3s are an important part of the solution, but they will not fill the gap alone. These tools used in conjunction with municipal bonds, federal grants and state-match programs all are needed to assist in a full infrastructure modernization. This means fully investing in important existing federal tools, including the Highway Trust Fund, TIGER grants, Transportation Alternatives, the Surface Transportation Block Grant Program, New Starts, FASTLANE, the Clean Water and Drinking Water State Revolving Loan Funds, the Water Infrastructure Finance and Innovation Act (WIFIA), Community Development Block Grants, Choice Neighborhood Grants, and others. The major cuts to these and other programs proposed by the White House for FY2018 would deal a devastating blow to local budgets and local governments' investment in infrastructure, particularly in smaller and rural communities. The drawback of current federal programs when a doubling-down is needed may delay tangible, visual signs of progress on infrastructure projects that are vital to our economy.

Additionally, at the heart of the intergovernmental relationship is the state and local tax deduction. Residents are able to claim what they paid in state and local income taxes as well as local property taxes as a deduction on their federal income tax. This allows local governments the flexibility to raise revenues as they need without concerns of double taxing their residents. With state limitations on local government's ability to raise revenue, eliminating the state and local tax deduction would further preempt local control and invariably impact the ability to provide critical infrastructure, such as water and sewer systems, schools, hospitals, roads, bridges and public transportation systems.

Additional Infrastructure Considerations: Broadband and Workforce Development

As we reinvest in our nation's infrastructure, we should also consider components that have not traditionally been part of infrastructure packages, including broadband infrastructure and investment in the workforce needed to build these roads, bridges, water and broadband networks. The federal government should invest directly in broadband access, through modernization and support for Universal Service Fund programs. The federal government can also help spur private deployment of broadband infrastructure through common-sense changes, such as allowing federal transportation funds to be used for inclusion of conduit or dark fiber in transportation projects, lowering the cost for providers to enter regions and neighborhoods. The addition of broadband to other infrastructure projects adds minimal cost to the overall project, but it dramatically reduces the barriers to broadband investment for private companies by extending middle-mile infrastructure further into communities.

Additionally, we need to ensure that jobseekers have the right skills to fill the positions that will be in demand and that these infrastructure projects are connected to workforce boards and the already successful job training and education programs as funded through the Workforce Innovation and Opportunity Act (WIOA). Through making this connection, we can make certain that jobseekers are trained and equipped with credentials that are stackable and create career pathways far and beyond the time-limited investment of this infrastructure proposal. By ensuring that we have a skilled workforce that can engage in these projects and beyond in this ever-changing workforce, we can strengthen our cities and economy while remaining competitive in the global workforce.

Regulatory Streamlining and Prioritizing Local Decision-making

Local flexibility and decision-making are of the utmost importance in this process. An important way to support decision-making at the level closest to the people is by getting funding directly to local governments as often as possible, especially when the assets are locally contained and operated. We urge you to ensure that ample opportunities are made for city governments of all sizes, particularly smaller communities, to access funding for infrastructure projects in their communities using vehicles like TIGER and FASTLANE to spur innovative and multimodal projects. Often, federal programs administered by or through states cut off cities from participating due to decisions made in state capitals, rather than in hometowns. Any federal program administered via state governments should include criteria to ensure that funding reaches local government intact, and that state allocation decision-making meets certain criteria.

Another way to keep infrastructure decisions in the hands of those most affected by them is to make it easier for local governments to participate in federal

programs and to make their own infrastructure investments in compliance with federal requirements. For example, further technical assistance to prepare cities for upcoming grant opportunities and providing projects with a single federal point of contact to coordinate review obligations will help keep smaller communities from being left behind on funding opportunities or conflicting regulatory obligations. The federal government could also grandfather in projects that have already begun review processes when new regulatory requirements are introduced, to ensure that valuable time is not lost on additional review.

It remains critical that regulatory streamlining not preempt local governance. Recent efforts by the Federal Communications Commission to accelerate the deployment of cutting-edge broadband infrastructure to all Americans, a goal NLC supports, have focused on preempting and hamstringing local land use and police powers, as well as stripping local governments of their control of the property they own, including the public rights of way. Cities realize that the smart deployment of privately-funded infrastructure must carefully balance the needs of investors with the public health, safety and welfare concerns of communities, and preserve the unique character of the neighborhoods they have built.

The Burden of Unfunded Mandates

The question about how to streamline the federal government and balance the federal budget without shifting costs to local governments in the form of unfunded mandates remains an important one. Unfunded mandates impose additional disproportionate responsibilities on local governments without regard to the fiscal impact of those policies. As such, their impact on the division of power within the intergovernmental partnership ultimately moves us further from our foundational principles of federalism.

The Unfunded Mandates Reform Act of 1995 (UMRA) aimed to address this burden by requiring federal agencies to assess the costs and benefits of a final rule that may result in the expenditure by state, local, and tribal governments, in the aggregate, of $100 million or more. Under UMRA, this threshold amount also triggers the required intergovernmental consultation process between regulatory agencies and elected officials. A 1999 Executive Order further directed each federal agency to develop consultation processes to fulfill these obligations.

Under UMRA and the Executive Order, each federal agency adopted guidance for consulting with state and local governments on federal regulatory actions, but the consultation processes differ by agency, and as a result the Executive Order is applied inconsistently across the federal government.

While the federalism consultation process can be improved, it is an essential component of the intergovernmental process, and local elected officials value the

opportunity to provide direct input into the rulemaking process before rules are even drafted. This early feedback and input helps the federal government develop rules that are effective, reasonable and implementable at the local level. We continue to urge the federal government to listen to and consider the perspective of local governments early and often during the rulemaking process.

In closing, we thank you for your invitation to participate throughout this process. Working together, cities and the federal government can craft a proposal that will modernize our nation's infrastructure and grow our economy to the benefit of our communities, our businesses and our residents.

I have asked Irma Esparza Diggs, Director of Federal Advocacy, to follow up with your staff to answer any questions regarding this letter. Irma may be reached directly at (202) 626-3176 or by email at diggs@nlc.org.

Sincerely,

Clarence E. Anthony
CEO and Executive Director
National League of Cities

PMPA

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House Subcommittee on Water Resources and Environment
Subcommittee Hearing on "Building a 21st Century Infrastructure for America"
September 26, 2017

RE: Upstate South Carolina local and regional water infrastructure priorities

We appreciate the opportunity to participate in the Subcommittee's hearing to gather perspectives from water stakeholders across the U.S. and we applaud the Committee's efforts to craft a national infrastructure bill that is responsive to the needs of a diverse set of stakeholders delivering safe, affordable water, wastewater and storm water services to end-users.

As some of you may know, the Piedmont Municipal Power Agency (PMPA) is a joint-action agency formed by ten municipal utilities in upstate South Carolina. Since its inception, PMPA has worked closely with local, state and federal officials to successfully provide wholesale electric and other services to our members while keeping costs to our ratepayers reasonable. For more than a decade, our ten cities have participated in the State Revolving Fund (SRF) process to garner funds to replace and / or upgrade existing, and often century-old, water and wastewater systems. These systems are vital to the economic backbone of our communities and relied upon by schools, hospitals, businesses and individual families who simply cannot function without resilient wastewater and clean drinking water services.

While we respect the process, and the federal government's interest in these issues, our member cities have not been able to reap the full benefits of available federal funds because we have complied with the law. Quite simply put, water and wastewater systems that are in compliance with state and federal regulations, such as PMPA's member utilities, are at a competitive disadvantage for funding as current laws and regulations prioritize funding for water and wastewater systems that are out of compliance or which have incurred health or safety infractions. While we agree that the federal government has an obligation to assist utilities that pose a threat to health and safety of that utility's customers, there must also be consideration made for utilities that comply with regulations but have significant water, wastewater, and storm water infrastructure needs.

As Congress considers how to best address this issue, we are writing to advocate for an approach that yields faster and more direct assistance to small communities who have had difficulty meeting the limitations of current federal grant programs. Be assured that the economic benefits of providing water infrastructure assistance to our communities will mean new jobs to the region and greater stability for our taxpayers.

With less direct spending available from the U.S. Treasury for investing in water infrastructure of all types, cities, counties and states are funding the majority of domestic infrastructure investments through the issuance of hundreds of billions of dollars in tax exempt municipal bonds. Some 75% of infrastructure constructed in the United States is funded through tax exempt municipal bonds. The municipal bond tax exemption must be maintained to ensure we are able to provide water services to our customers at the lowest cost possible.

We are grateful for your assistance and hope that you will call on us as a resource and partner if we can be helpful over the coming weeks and months. Our communities, our region and our state have too much to lose by not getting this right. Thank you.

SANEXEN
WATER INC.

aquapipe

Testimony of Ben Cote, Vice President, Sanexen Environmental Services, Inc.
Submitted to the United States House Committee on Transportation and Infrastructure,
Subcommittee on Water Resources and Environment
Hearing on
Building a 21st Century Infrastructure
Water Infrastructure Stakeholder Perspectives
Occurring on September 26, 2017

Sanexen Environmental Services, Inc. (Sanexen) is a contractor and consultant in contaminated site remediation and Water Main Rehabilitation.

History

Seventeen years ago, Sanexen developed a new trenchless water main rehabilitation structural liner. This liner is intended for cities, industries and military bases experiencing a need for significant maintenance work when the drinking water supply system has reached the end of its useful life.

In 2014, Sanexen incorporated Sanexen Water, Inc., (Sanexen Water) in Wilmington, Delaware. Since our incorporation Sanexen Water maintains two office locations in Emmaus, Pennsylvania and Huntington Beach, California. To date, Sanexen Water employs 25 people and hires 50 licensed installers.

Our Product

The liner, called Aqua-Pipe®, is a trenchless technology that cures in place inside an existing water main pipe during installation. Sanexen's team of engineers developed the technology that is a Class IV[1] structural "pipe-within-a-pipe" in an existing water main and it eliminates the need to excavate road foundations. Sanexen is the manufacturer of the polyester and polyurethane liner and Sanexen Water installs Aqua-Pipe®.

Structural Lining of Drinking Water Mains: Installation Process

The installation process is based on a close-to-complete trenchless installation of the structural liner using small access pits in conjunction with robotics for plugging and reinstating services. It involves combining polyester outer jackets with a polyurethane inner lining. Epoxy resin is impregnated in between the flexible liners. The liner is inserted into the existing, damaged water pipeline and hot water is circulated inside the liner causing the liner to adhere to the existing pipe wall and reticulated in place. The materials are all free from VOC's (volatile organic compounds) and styrenes.

Structural Lining is a Green Technology

Aqua-Pipe® is a green technology (CO_2 friendly) for renewing virtually all types of water mains including cast iron, ductile iron, asbestos cement, transite, PVC, as well as most steel water mains. The technology uses the host pipe as a mold and does not rely on any structural capacity of the existing pipe. Aqua-pipe restores flow capacity, protects against corrosion and restores structural capacity of water mains ranging from 6 to 24 inches in diameter.

Structural Lining is Lower Cost, Offers Faster Project Turnaround and is Less Disruptive

This innovative method rehabilitates water mains at a lower cost compared to traditional dig-n-replace pipelines. Depending on the project, in most cases structural lining can be installed at a reduced cost of between 10% and 40% of traditional dig-and-replace methods. The installation process allows local jurisdictions, industries and military bases to:

(1) save money in direct construction costs (compared to dig-and-replace),
(2) save time on construction turnaround (compared to dig-and-replace),
(3) reduce indirect social costs, and of course
(4) do more water main renewal with the same budget.

Certifications for Drinking Water Products

Drinking water applications are specifically developed to meet with the U.S.' growing demand for water infrastructure renewal. For instance, our product Aqua-Pipe® is certified by the National Sanitation Foundation (NSF) to NSF/American National Standards Institute (ANSI) Standard 61: Drinking Water System Components – Health Effects and UL. Manufacturers or distributors of water treatment or distribution products throughout North America are required to comply with NSF/ANSI 61by most governmental agencies that regulate drinking water. The NSF/ANSI 61 Standard was developed by scientists and industry experts to establish health effects criteria for water system components that include:

- Protective barrier materials (cements, paints, coatings)
- Joining and sealing materials (gaskets, adhesives, lubricants)
- Mechanical devices (water meters, valves, filters)
- Pipes and related products (pipe, hose, fittings)
- Plumbing devices (faucets, drinking fountains)
- Process media (filter media, ion exchange resins), and
- Non-metallic potable water materials [2]

NSF maintains seven steps to certification that includes:

1. Your company submits an application.
2. You provide product formulation, toxicology and product use information.
3. Our toxicology department reviews formulations.

4. We perform a plant audit and sample collection.
5. Our laboratory conducts testing.
6. We complete a final toxicology evaluation.
7. We grant NSF certification for compliant products and you can use the NSF mark on products, packaging and marketing materials. [2]

According to NSF, forty-eight U.S. states currently have legislation, regulations or policies requiring drinkin water system components to comply with, or be certified to, NSF/ANSI 61.[2]

Quality Control

All structural lining products must meet National Sanitation Foundation (NSF) certification to the stringent criteria of the American National Standards Institute (ANSI) Standard 61 (Drinking Water System Components – Health Effects).[1] NSF Certification ensures safe drinking water for the users and the workers. Installers of Aqua-Pipe® are trained and certified by Sanexen Water and are provided with continuous technical support. The fact that Sanexen Water is also an installer reassures both Water Utilities and Installers of high quality training and support provided. Sanexen Water is present during the licensed installer's first installation project and provides ongoing support regarding product and process standards.

Moreover, all trenchless technology rehabilitation projects are monitored for quality control and enforced by local jurisdictions environmental officials. In fact, subsequent project stages may not proceed until approval is granted by local project officials.

All structural lining projects are disinfected as per city, state or American Water Works Association (AWWA) standards. The processes are identical to new installations.

Installation Benefits

Some of the benefits to structural lining technology include but are not limited to:

- Depending on the project, up to 1,000 feet may be rehabilitated in one day,
- Little excavation is needed when compared to open-cut and replacing drinking water pipelines,
- Reinstatement of services are completed from within the pipe,
- Structural lining rehabilitation can negotiate bends in the water lines,
- Adjacent infrastructure, such as railroad tracks and other structures are not disturbed,
- Extends the life of the drinking water pipeline by +50 years.

Ratepayer Benefits

- Huge reduction in complaints from residents while the rehabilitation is performed,
- Eliminates future water main breaks and leaks,
- Adds corrosion resistance to prevent red or brown water, and
- Increases pressure and flow capacity.

Other Structural Lining Companies

Aqua-Pipe® is the only North-American made technology for drinking water structural lining. Sanexen uses U.S. fiber and filament in the manufacturing processes of the polyester and polyurethane liners. The raw materials for the epoxy resin used are manufactured in Texas.

Other direct competitors are overseas and include: Sekisui, with the Nordipipe product (Japan) with installers in the U.S. and Canada. RS Technik who produces the RS Blueline (Switzerland) also has licensed installers in the U.S.

Proven Use

To date, Aqua-Pipe® is the most installed Class IV[1] structural liner for drinking water mains in North-America with at least 3.5 million feet already installed. This includes over 50 U.S. cities such as Boston, MA; Chester, PA; New York, NY; Newark, NJ; East Bay (Oakland), CA; Loveland, CO; Omaha, NE; Detroit, MI; Minneapolis/St-Paul, MN; Los Angeles, CA; and Baltimore, MD, and numerous others.

Military Bases

In her testimony before the U.S. Senate Appropriations Subcommittee on Military Construction, Veterans Affairs, and Related Agencies on June 6, regarding current infrastructure challenges in the Army, Lieutenant General Gwen Bingham said, "Reduced resources, emerging requirements, missions and increased operational tempo for more than a decade resulted in nearly 22 percent, or 33,000 facilities, that are now in poor or failing condition. The deferred maintenance against these facilities is equivalent to $10.8 billion which will take years to buy back."

Aqua-Pipe® has a successful history in rehabilitating water mains on military bases. 2,000 feet of Aqua-Pipe® has been installed at Portsmouth Naval Shipyard (PNS), Kittery, Maine. At least 3,500 feet of Aqua-Pipe® has been installed at Joint Base Elmendorf–Richardson (J-BER).

Benefits of Structural Lining in Hurricane Recovery

The recent hurricanes Harvey and Irma created devastation in Texas, Louisiana and Florida. The effort to rebuild will be colossal. Many out-of-sight problems will also have to be addressed in post-hurricane efforts such as water main systems. The water distribution systems of affected areas will need to be renewed and made more resilient from future hurricane threats.

Eleven years ago, Katrina created similar devastation in New-Orleans and important lessons were learned during the re-building effort. One on these lessons learned was the water main system was severely affected by the flooding. In fact, leakage rates were significantly higher post-Katrina. It has been shown in reports from the Trenchless Technology Center at Louisiana Tech University that during Katrina[3], when the pipes were under severe flooding, the pipes became buoyant. When the flood waters receded, the pipes settled in an uncontrolled way thus creating leakage at the joints (in most cast iron or asbestos cement water mains there is a joint every 20 feet). Michelle Krupa reported, in an

article published in the Times-Picayune in January 2011[4], that the leakage rate increased by 40% in New-Orleans after Katrina.

One other finding from the Allouche study, is that the lined pipes performed well under hurricane forces and flooding. **Not one leak was detected after Katrina in lined pipes.**

The use of structural lining to renew the water mains systems in affected areas like Texas and Florida could eliminate future threats from hurricanes for the next 100 years. Lined water mains will resist as many hurricanes that Mother Nature can throw at it, for the coming 50+ years. Knowing how vital the water system becomes in emergency situations after the passing of a hurricane, structurally lined water mains could remain in service and supply drinking water.

Benefits of Structural Lining In Seismic Prone Areas

Much like in post-hurricane recovery efforts, seismic prone areas would benefit from structural lining in water mains. The Trenchless Technology Center at Louisiana Tech University has tested Aqua-Pipe's engineered composite material using pipe-breaking simulations and has proven the technology to resist failure modes in seismic activity.

Incentivize new, innovative technologies

Like any new technology introduced into a historically traditional marketplace where entrenched and oftentimes antiquated technologies are used, there is a need for assistance to educate and incentivize the use of more modern technologies. We highly encourage education and outreach efforts about the benefits and cost savings of Class IV[1] structural lining technologies for drinking water mains to local jurisdictions, states and military installations.

To ensure a level playing field among the varying drinking water pipeline replacement and rehabilitation technologies, local, state and national legislation, resolutions and project specifications must acknowledge the existence of the varying drinking water distribution technologies and benefits and provide project administrators continued flexibility to choose the appropriate technology for the project and open, transparent competition among companies and their respective technologies.

Conclusion

Let's face it, many of us take for granted that when we open a tap for safe, clean drinking water, it will come out. But, according to the World Health Organization (WHO), "By 2025 half of the world's population will be living in water-stressed areas."[5] Moreover, in a May 2014 Report (GAO-14-430) the Government Accountability Office interviewed state water managers and water experts and reviewed literature indicating, "freshwater shortages are expected to continue into the future. In particular, 40 of 50 state water managers expected shortages in some portion of their states under average conditions in the next 10 years." [6] Yet, throughout the U.S. the deteriorating drinking water infrastructure is the cause of an estimated 240,000 water main breaks per year, wasting over two trillion gallons of treated drinking water. According AWWA, an estimated $1 trillion is necessary to maintain and expand service to meet demands over the next 25 years. [7]

With so much at stake for a resource we simply cannot live without Congress is to be commended for exploring ideas for inclusion of drinking water systems in an infrastructure package. Without question, to address the needs of drinking water delivery systems an "all-hands-on-deck" approach will be needed. This includes;

- Using all available drinking water technologies where appropriate,
- Ensuring a level playing field among the varying drinking water pipeline replacement and rehabilitation technologies,
- Encouraging local, state and national legislation, resolutions and project specifications acknowledge the existence of the varying drinking water distribution technologies and benefits,
- Providing project administrators flexibility to choose the appropriate technology for the project,
- Open, transparent competition among companies and their respective technologies, and
- The use of public, private partnerships where available.

We appreciate this opportunity to provide our thoughts.

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October 3, 2017

Written Statement to the House Transportation and Infrastructure Subcommittee on
Water Resources and Environment
Submitted October 3, 2017
Bruce Hollands, Executive Director, PVC Pipe Association

**Open Competition for Water and Wastewater Piping Projects:
More Options, Innovation and Lower Costs**

The Uni-Bell PVC Pipe Association is a not-for-profit organization representing 95 percent of the manufacturing capacity of the North American PVC pipe industry. Our pipe producing members operate over 90 facilities in the U.S. and our associate members (suppliers) operate hundreds more. PVC pipe extrusion facilities are found in 32 states across the United States: California has the most plants (9), followed by Texas (6), Arizona (5) and Pennsylvania (5).

The PVC pipe industry serves a vast and complex market including 54,000 drinking water systems, 10,000 wastewater facilities and 15,000 sewer and wastewater contracting firms. PVC water and sewer pipe producers contribute in excess of $14 billion annually to the U.S economy and support over 25,000 jobs.

According to the U.S. Conference of Mayors, underground pipes represent 60 percent ($2.28 trillion) of the $3.8 trillion needed in investments for water and wastewater infrastructure over the next 20 years. As a result, it is here that open procurement policies and practices should be focused.

In the wake of the Flint disaster, Michigan Governor Rick Snyder ordered a review of state and local water infrastructure policies. His *21st Century Infrastructure Report* recommends that procurement specifications be updated to allow for open bidding so that new technologies and alternative pipe materials that provide cost savings, improved durability, and enhanced environmental and safety outcomes can be utilized. When products are excluded from bidding taxpayers suffer as does the efficiency and safety of our infrastructure.

Since the 1970's the U.S. Department of Agriculture's (USDA) Rural Development Program has required competitive bidding for all piping used in the rural water and sewer projects it funds (while maintaining the authority of the design engineer to select the appropriate pipe for the job based on technical considerations). It is time for the U.S. EPA to have similar stipulations for the funding it provides local governments through the State Revolving Funds (SRF's) for underground infrastructure. Considering all approved piping materials provides utility engineers with more options and drives innovation, while helping to ensure that America's underground infrastructure is rebuilt with the most cost-effective, durable and safest products.

The U.S. Conference of Mayors reports that water and sewer pipelines are deteriorating faster than the rate at which they can be replaced because of corrosion, which is the leading cause of the water main break epidemic in North America (estimated at some 300,000 annually). According to a 2002 congressional study, corrosion is also a drag on the economy, costing U.S. drinking water and wastewater systems over $50.7 billion annually. As a result, any comprehensive underground pipe replacement strategy must also address corrosion.

Today's corrosion crisis is due to the materials used in America's pipe networks over the last hundred years. At first, cast iron was used, with ductile iron pipe gradually replacing it as the material of choice. Both now suffer from the ravages of corrosion, as is the case in Flint, Michigan and many other communities across the U.S. In fact, studies show that newer iron pipes do not last as long as older versions because of their thinner walls. The American Water Works Association (AWWA) found that in moderately corrosive soils, ductile iron pipes last only 11-14 years. This is significant since corrosive soils affect 75 percent of all utilities.

The PVC Pipe Association believes that federally funded infrastructure projects should require fair and open bidding to ensure taxpayer dollars are used to maximum effect, and the best-performing pipes are selected. Increased performance means fewer leaks, better water conservation and lower operations and maintenance costs. Investment in underground pipe rehabilitation must therefore include reform of local procurement policies that limit competition, shackle innovation and increase costs.

With over two million miles in service, PVC pipe has been celebrated by *Engineering News Record* as one of the top 20 engineering advancements of the last 130 years. A study by the American Water Works Research Foundation quantified the life expectancy of PVC pipe at more than 110 years – making it excellent for long-term asset management. As well, PVC pipe, has watertight joints and its light weight reduces transportation and installation costs. It is also totally recyclable, though most of it has yet to enter the recycling stream given its great durability.

The burden of old technology materials is not limited to the cost of repairing and replacing failed pipelines. It includes the cost of losing treated water from leaking systems. Leaking pipes made from old technology materials lose an estimated 2.6 trillion gallons of drinking water annually or 17 percent of all treated water in the United States.

The solution to these problems begins with sustainability, durability, and corrosion resistance, and this is why more utilities must actively consider all approved piping materials like PVC in their bidding processes. A new peer-reviewed, ISO 14040 study entitled, *Life Cycle Analysis of PVC Water and Sewer Pipe and Comparative Sustainability Analysis of Pipe Materials*, provides the first comprehensive environmental and performance review of drinking water and sewer pipes in North America. The report used life cycle assessment methodology to evaluate the cradle-to-grave sustainability of commonly used underground pipe materials, including polyvinyl chloride (PVC), concrete, ductile iron, and high density polyethylene pipes over a 100-year service period.

PVC pipe was shown to be the lowest initial cost option while providing long-term savings for pipeline systems because of its superior pumping efficiency and corrosion resistance. The energy required to pump water through PVC pipe remains constant because its smooth walls do not roughen over time. This generates overall life cycle cost savings compared to old technology ductile iron and concrete pipes that require more pumping energy over time due to corrosion, leaks and internal degradation. Recycled material is also shown to be only a single attribute of a pipe's life cycle environmental impacts. For example, more energy is required to process the recycled metals to manufacture ductile iron pipe than the energy used in PVC pipe production. As well, producing iron pipe with recycled scrap iron emits more toxins than pipe made from virgin iron ore.

Of the competing pipe materials the report shows that PVC pipe is the most favorable alternative when considering energy consumption and carbon footprint from cradle-to-grave in a public water system. Sixty-six percent of water supply pipes in the U.S. are 8-inches or smaller. Nationally, using PVC instead of ductile iron pipe in this size range could save $21 billion in pumping costs over 100 years. If PVC were used instead of HDPE pipe, $37 billion could be saved.

Please see the full report here: *Life Cycle Assessment of PVC Water and Sewer Pipe and Comparative Sustainability Analysis of Pipe Materials* (SSC, April 2017)

Numerous organizations have published studies on the need to update procurement practices to more cost effectively finance our underground infrastructure. Below are links to some of these reports:

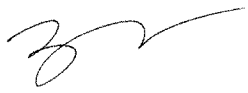
- *Procurement Process Improvements Yield Cost-Effective Public Benefits* (U.S. Conference of Mayors Water Council)
- *Reforming Our Nation's Approach to the Infrastructure Crisis: How Competition, Oversight, and Innovation Can Lower Water and Sewer Rates in the U.S.* (National Taxpayers Union)
- *Lowering Costs in Water Infrastructure through Procurement Reform: A Strategy for State Governments* (American Legislative Exchange Council)
- *Fixing America's Crumbling Underground Water Infrastructure: Competitive Bidding Offers a Way Out* (Competitive Enterprise Institute)

Also please find links to water main break rate and pipe longevity studies by Utah State University's Buried Structures Laboratory, which determined that PVC has the lowest break rate of all water piping materials and a lifespan in excess of 100 years:

- *Water Main Break Rates in the USA and Canada: A Comprehensive Study* (Utah State University, Buried Structures Laboratory)
- *PVC Pipe Longevity Report: A Comprehensive Study on PVC Pipe Excavations, Testing, & Life Cycle Analysis* (Utah State University, Buried Structures Laboratory)

The PVC pipe industry thanks you for the opportunity to submit a statement for consideration by the House Transportation and Infrastructure Subcommittee on Water Resources and Environment. We would be pleased to answer any questions you may have.

Respectfully,



Bruce Hollands
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WateReuse Association

Statement for the Record

On the occasion of the

Hearing on "Building a 21st Century Infrastructure for America: Water Stakeholders' Perspectives"

Subcommittee on Water Resources and the Environment

House Transportation and Infrastructure Committee

Held September 26, 2017

The WateReuse Association is pleased to submit this written statement for the record on the occasion of the House Subcommittee on Water Resources and the Environment's hearing to receive perspectives from water stakeholders on Building a 21st Century Water Infrastructure for America held on September 26, 2017.

The WateReuse Association (WRA) is the only national trade association dedicated solely to advancing laws, regulations, funding and public acceptance for water recycling, also referred to as reclaimed water. Our members include communities, companies, technology providers and others that embrace water recycling as a key water management strategy to ensure safe and reliable water supplies, control costs, and build resiliency in order to address today's water environment challenges.

For many communities, reusing water is the only way to provide a safe, reliable and locally-controlled supply of water, especially for communities experiencing significant growth or that regularly experience periods of prolonged drought, such as in the arid West. According to a recently analysis by Bluefield Research, adoption of water recycling by communities and industries is expected to grow by 37% over the next decade to deal with expected uncertainties in water supply.[1]

Increasingly, communities incorporate water reuse to meet demand for potable (drinking) water supply through methods such as recharging ground water aquifers and augmenting surface water reservoirs. Much of the non-potable uses of recycled water include agriculture, landscape, public parks, and golf course irrigation. Industrial and commercial uses of recycled water include cooling tower water for power plants and oil refineries, industrial process water for facilities

[1] http://www.bluefieldresearch.com/research/municipal-water-reuse-opportunities/

such as paper mills and carpet dyers, toilet flushing, dust control, construction activities, concrete mixing, and artificial lakes.

There are many factors that contribute to the adoption of water recycling by communities, industry, agricultural operators and others. Recycled water is:

- Safe: Wastewater can be purified to meet stringent state and federal water quality standards.
- Reliable: Because wastewater is renewable, it is the only sustainable source of water.
- Locally-Controlled: Communities are not beholden to nature or neighbors for their water supply.
- Cost-Effective: Reusing water can be more cost-effective than developing alternative supplies.
- Environmentally-Sound: Reusing water alleviates pressure on freshwater sources and natural systems.

Beyond supply concerns, communities in water-rich environments are also incorporating water recycling strategies to build resiliency, confront impacts of climate change, and/or reduce flow to centralized treatment facilities in order to relieve stress on infrastructure assets.

An example of how communities can build resiliency using water recycling approaches is a project being undertaken by the Hampton Roads Sanitation District (HRSD) in Virginia. HRSD is adopting a water recycling strategy not only to augment drinking water supplies, but to help the region, which includes Norfolk and Virginia Beach, combat land subsidence due to rising sea levels. Aside New Orleans, Hampton Roads' population is more threatened by sea-level rise than any other community in the nation. HRSD will take its already highly treated water that would otherwise be discharged into tributaries of the Chesapeake Bay and purify it through additional rounds of advanced water treatment to produce drinking quality water. Minerals will be added to the purified water to match the existing groundwater chemistry before it is added to the Potomac Aquifer, the primary source of groundwater throughout eastern Virginia. This will ensure a sustainable source of groundwater while addressing environmental challenges such as Chesapeake Bay restoration, sea level rise and saltwater intrusion.

An example of how recycled water can be an effective water management strategy for a highly urbanized community struggling with significant infrastructure challenges in a water-rich environment is a 92-acre redevelopment project at Battery Park in New York City. Decentralized water recycling technology services eight residential apartment buildings with reclaimed water that is used for flushing toilets, cooling tower, laundry and green roof irrigation. Collectively, the systems consistently achieve greater than 50% water consumption reduction and greater than 60% reduction in wastewater discharged to NYC's centralized sewer system.

WateReuse Policy Recommendations:

Water recycling and reuse is quickly becoming an essential approach to sustainable water management for communities and industry alike. WRA recommends several policy strategies to help further the use of recycled water throughout the country:

- **Develop a national vision and strategy for water** - While local governments are clearly responsible for building and maintaining water infrastructure, the President and Congress can align laws, regulation and funding to help communities develop and provide safe, reliable, locally-controlled water supplies.

- **Support science needed to safely increase water supplies** – The Water Environment & Reuse Foundation oversees a robust and well-rounded portfolio of research in water, wastewater, and recycled water stormwater. Providing $25 million annually for research in water reuse and resource recovery will ensure the science is available to increase water reuse.

- **Amend the WaterSense program to protect water quality** - WaterSense is a program, administered by the U.S. Environmental Protection Agency, that partners with industries, businesses and utilities to promote products, buildings, landscapes, facilities, processes and services that use water efficiently. While the primary purpose of the program is to promote conservation, the program should also consider how potential products might impact water quality.

- **Transform Title XVI into a competitive grant program and fully fund it** - The Reclamation Projects Authorization and Adjustment Act of 1992, more commonly referred to as Title XVI (Public Law 102-575), is the only federal program that provides funding specifically for water reuse projects in 17 western states and Hawaii. Congress recently reformed part of the program to enable a few new projects to receive funding through a competitive process without the need for prior congressional authorization. WRA urges fully funding the program at $50 million annually.

- **Reform the permitting process for advanced treated water for potable use** - Wastewater treatment facilities that treat water using advanced treatment for potable use currently are regulated under two federal laws – the Clean Water Act and the Safe Drinking Water Act. As a result, the federal rules may be duplicative or, at times, even contradictory. When this occurs, regulating advanced treated water for potable use under one federal law – the Safe Drinking Water Act – will provide the greatest protection to the public health and the environment, while cutting red-tape and containing costs.

- **Increase federal investment in key water infrastructure programs** – WRA urges increased investment in key water infrastructure investment programs including: Title XVI program, the Safe Drinking Water and Clean Water State Revolving Fund Programs, and the Water Infrastructure Financing and Innovations Act (WIFIA) program. In addition, we urge Congress to maintain the tax-exempt status for interest received from investments in municipal bonds, and encourage Congress to explore additional ways in which tax reform can incentivize further adoption of water reuse.

The WateReuse Association appreciates the opportunity to submit this statement for the record and looks forward to the opportunity to assist the Subcommittee as it crafts legislative recommendations for improving our nation's water infrastructure.

For more information, please contact: Patricia Sinicropi, Executive Director at psinicropi@watereuse.org

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