Water Environment Federation
the water quality people™

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December 7, 2016

President-Elect Donald J. Trump
Transition Headquarters
1717 Pennsylvania Avenue, NW
Washington, DC 20006

Dear President-Elect Trump:

Congratulations on your recent election as the 45th President of the United States. You have the honor and privilege – and the awesome responsibility – of leading a nation of more than 320 million Americans, and the Water Environment Federation (WEF)[1] looks forward to working with you and your administration to advance policies and programs that protect and better utilize one of America's most precious resources – water.

Our nation has faced many challenges over the last two centuries, but through collaboration and perseverance we have found solutions and prospered. As you stated during your campaign, the country has many current concerns that must be addressed. WEF takes the opportunity of your election to convey our concerns and solutions for the challenges facing the water sector.

WEF is the technical and professional association for the men and women in the United States and worldwide building and operating Water Resource Recovery Facilities[2] and stormwater infrastructure[3], as well as those working for private industry, equipment manufacturers, and in research and academia. WEF members are on the front lines of the challenges communities are facing with aging infrastructure, changing populations, and water quality. WEF places tremendous importance on sound science and technical merit in the development of recommended policies, services, and management approaches to protecting water quality. WEF writes you to provide useful insights and direction as you move forward with your new administration.

WEF and our members stand ready to provide your administration and the country expertise to advance these key issues:

- *Advancing smart regulations and policies by using sound science and technical merit*
- *Accelerating and expanding water infrastructure investment*
- *Bolstering research and development to find solutions to pressing challenges in water*
- *Developing high-skill construction and water sector jobs*
- *Ensuring local water systems are affordable and robust*

In the pages below WEF provides more context and details about the challenges and potential solutions for the water sector. As you prepare to lead our nation and develop the policies and priorities for your Presidency, WEF is prepared to provide reliable and expert input on water issues. WEF supports sound science and consistency with respect to regulations, and has the resources to provide broad based analysis of the regulatory framework. We invite and encourage your administration to not hesitate to seek the counsel of WEF and its 33,000 water professional members in the United States and around the world.

Sincerely,

Rick Warner, P.E.,
President,
Water Environment Federation

Eileen J. O'Neill, Ph.D.,
Executive Director,
Water Environment Federation

Challenges and Potential Solutions

Aging Infrastructure

Almost without equal, one of the most pressing issues the water sector is grappling with is a huge funding gap for water infrastructure investment needs. Many communities are struggling to build and maintain the treatment plants and conveyance networks that are necessary for the economic and public health of our nation. The water sector requires a significant increase in funding to upgrade, repair, replace, and expand the water infrastructure we rely upon, but in most cases goes unnoticed until a failure occurs.

During your campaign you made it clear that one of your priorities as President will be to improve the nation's infrastructure. Often water infrastructure is not correctly and equally valued as a critical infrastructure by the political leaders of our nation, yet water infrastructure is foundational to a sustainable and viable economy. It is our hope you will take the lead in making increased investment in water infrastructure a priority equal to all other forms of public infrastructure. Research[1] shows that the return on investment in water infrastructure is

[1] The Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 33,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. Since 1928, WEF and its members have protected public health and the environment. As a global water sector leader, our mission is to connect water professionals; enrich the expertise of water professionals; increase the awareness of the impact and value of water; and provide a platform for water sector innovation.

[2] Several years back WEF and other organizations recognized that the staid model for treating wastewater did not reflect the tremendous opportunity that utilizing more advanced treatment processes has for recovering and using the energy, nutrient, and water resources available in wastewater. For this reason, the sector has renamed wastewater treatment facilities Water Resource Recovery Facilities (WRRFs).

[3] For the purposes of this letter, the terms "water infrastructure" and "water utility" refer to drinking water, wastewater, and stormwater infrastructure and utilities.

superior to most other forms of public and private spending. Studies show that the job creation rate is higher for investments in water infrastructure than investments in other commonly cited job creating sectors, such as healthcare, military spending and transportation infrastructure. For every $1 million spent on water infrastructure, 16 jobs will be created[2]. These new jobs in the water sector are also high-paying (~$64,000/year) and skilled. Additionally, for every $1 million spent in water infrastructure, nearly $3 million will be generated in economic output in our economy[3].

It has been widely reported that an early priority of your administration will be to put forth a broad-ranging infrastructure investment package. WEF is heartened by these reports, and we hope to work with your administration and Congress to ensure that water infrastructure is a core part of the proposal. As the infrastructure investment package is developed, WEF strongly urges you to recognize the critical need for water infrastructure investment, and the outstanding return on investment to our nation increased funding will generate in the form of job creation, environmental benefits, public health improvements, and economic growth, equal or superior to investments in other forms of infrastructure.

WEF has long been supportive of a diversity of sources for funding for water infrastructure. WEF was an early champion for the creation of the Clean Water State Revolving Fund (Clean Water SRF) in the 1980s. To this day, WEF strongly advocates for robust funding for the Clean Water SRF, as well as the Drinking Water SRF. Bipartisan efforts in Congress to reauthorize and increase the funding levels for both programs have been underway for several years, and WEF urges your administration to support this important objective. Both programs are invaluable infrastructure funding tools for utilities nationwide, and it is our hope that you will continue to support these programs.

WEF also strongly supports the creation of new and innovative forms of access to capital for infrastructure investments. The Water Infrastructure Finance & Innovation Act (WIFIA) is potentially a significant new source of low-cost financing for larger projects. Through this program, a relatively small level of federal funding support will be leveraged into substantial capital available for water infrastructure projects across the nation. The White House Office of Management & Budget estimates a 67:1 ratio for the program, which means that every $1 of federal contribution to the WIFIA program will be leveraged into $67 for water projects. While the program has not yet received initial funding to begin making loans, Congress has demonstrated its support for WIFIA, and the U.S. Environmental Protection Agency (EPA) recently finalized regulations to implement this program. WEF urges you to support the WIFIA program as President.

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[1] Report: "*WEF/WateReuse Analysis of National Economic, Job Creation, and Tax Revenue Benefits from Increased Funding to the Drinking Water and Clean Water State Revolving Funds*," April 2016. http://www.wef.org/wef-wra-srf-economic-impact-study-report-april-29-2016

[2] Report: WERF/WRF, "*National Economic and Labor Impacts of the Water Utility Sector*," 2014. http://www.werf.org/c/PressReleases/2014/New_WERF_WRF_Research_Economic_Impacts.aspx

[3] Report: "*WEF/WateReuse Analysis of National Economic, Job Creation, and Tax Revenue Benefits from Increased Funding to the Drinking Water and Clean Water State Revolving Funds*," April 2016.

Another strategy for increased investment in water infrastructure is to lift the cap on the use of Private Activity Bonds (PABs) for water projects. PABs are a type of tax-exempt municipal bond that allows private participation and the use of capital markets for projects that benefit the general public. PABs currently are used for water infrastructure projects, as well as a wide variety of other infrastructure projects, such as housing, education building, airports, ports, some energy facilities, mass transit, and hydro facilities. The annual federal cap the IRS has placed on PABs decreases the availability of these bonds for water infrastructure projects, which is estimated to be only around 1% annually. Over the years, the cap has been lifted for other forms of infrastructure to successfully generate increased available capital for investment needs. According to the Congressional Joint Committee on Taxation, it is estimated that lifting the water infrastructure cap for PABs will encourage $50 billion in private capital investment for water infrastructure projects.

There have been efforts over the last several years to alter the deductibility rates in the U.S. tax code for individuals who purchase tax-exempt municipal bonds. Tax-exempt municipal bonds fund an overwhelming majority of water infrastructure spending, and the majority of bonds are purchased by individuals, either directly or through mutual funds and other investment tools. WEF strongly urges you to reject any propositions to change how tax-exempt municipal bonds are utilized for infrastructure investment.

Research & Development

During the campaign, you stated that we need innovative approaches to our nation's current and future challenges. Innovation to address challenges is in line with a major effort currently underway within the water sector to utilize new and pioneering technologies and approaches to solve some persistent and significant challenges the water sector is facing.

The current data on research and technology needs for the water sector comes from a recently compiled survey of utilities who collectively serve >70% of the sewered population of the United States. The total budget for these projects was $150 million, with $200 million in cost share. Project topics include energy recovery, phosphorus recovery, nutrient recovery, intelligent water systems, and post-treatment.

Survey respondents only estimated municipal wastewater needs, and represent a small sub-section of the >16,500 WRRF facilities in the United States. WEF and other organizations estimate that the $150 million required is at least an order of magnitude too small to cover the water sector's real technology advancement and commercialization needs. WEF urges your administration, through increased funding and programmatic support, to bolster efforts in the water sector to develop innovative technologies.

Workforce Development

Similar to other infrastructure sectors, water is facing a massive workforce replacement need and offers significant job growth potential. The high rate of retirements and aging workforce in our sector are placing pressure on utilities to find the next generation of workers to replace

them. An estimated 30% to 50% of utility workers will retire over the next decade, taking with them tremendous professional knowledge and experience[4]. According to the U.S. Bureau of Labor Statistics, there will be an estimated 75,000 to 80,000 jobs available within utilities over the next six years[5]. These are Science, Technology, Engineering and Mathematics (STEM) cluster jobs that do not require a bachelor's degree and pay family-sustaining wages. They cannot be outsourced and are largely immune to economic externalities. These jobs are in every city and county across the nation, and are long-term careers that provide excellent healthcare and retirement benefits.

As you set priorities for your Presidency, we respectfully request that you take into consideration supporting policies and funding for programs that create opportunities for the next generation of water utilities workers. We respectfully request your support of STEM programs that guide young people into careers in the water sector. In addition, our nation's military veterans can contribute their strong technical and leadership skills to the success of clean water programs across the nation. We respectfully request your support for a path into water sector careers through federal- and state-based workforce training programs. This wise investment of federal funds will provide financial aid for young people graduating from high school to continue their education in a community college or four-year university with a goal of securing a job in the water sector.

Stormwater

Stormwater runoff, which is water generated from precipitation events, is a leading cause of pollution and other impacts on downstream properties and waterways. In 2016 alone, there have been multiple flooding events across the country – from Houston, Texas, to various counties in West Virginia – that have led to fatalities and an economic cost in the billions. Additionally, many coastal areas are experiencing a loss of potential revenue associated with stormwater-related impacts; for example, San Diego has had beach closures because of increased pollution after each rain event. These events are costly to local tourism, which draws 34 million visitors each year and generates 180,000 jobs and $16 billion dollars for the local economy[6].

The stormwater sector is relatively new compared to other water infrastructure; however, "next-generation" technologies in this sector are evolving to meet the growing challenge of managing and treating runoff. Real-time, cloud-based water monitoring systems and the rise in "smart" stormwater management that can optimize existing ponds and other facilities illustrate the advances occurring in this dynamic field. Perhaps the most significant upward trend in this sector has been the adoption of green stormwater infrastructure (GSI) by many cities across the country. This type of infrastructure is often more cost-effective for new land development projects than traditional stormwater management infrastructure. Additionally, GSI provides

[4] Report: WRF/AWWA, "Water Sector Workforce Sustainability Initiative," 2010
[5] U.S. Bureau of Labor Statistics
[6] http://www.sandiegouniontribune.com/opinion/commentary/sdut-water-clean-runoff-2016apr13-story.html

many co-benefits, including enhanced property values, improved public health conditions, and most importantly, a way to help address urban blight and catalyze economic redevelopment in socio-economically challenged areas. Examples of GSI used for urban renewal can be found in Gary, Indiana[7], Youngstown, Ohio[8], and Detroit, Michigan[9] where vacant and depressed areas are being retrofitted with GSI to bring value to urban areas as well as address localized flooding and water quality issues.

Current projections for needs in the stormwater and wet weather sector suggest a total investment is needed of $150 billion in the next 20 years[10], which far outstrips the funding available at the local level. This funding challenge is most acute in the 6,500 small and midsized communities that have localized flooding issues and degraded quality of waters. One way of assisting these communities is through the enhancement of the Clean Water SRF, which has been shown to provide the potential to expand the capacity to fund GSI between $6 and $28 billion by innovatively using this assistance as a guarantee rather than a loan[11].

While Clean Water SRF assistance is critical, most funding and financing is generated at the local level. This has created the need to look for alternative funding and financing sources as well as strategies that engage the private sector to gain efficiencies in project delivery. An example of this innovation is the use of a Community-Based Public-Private Partnership[12] that is being used in Prince George's County, Maryland, to meet stormwater needs by retrofitting 2,000 acres of impervious cover using GSI practices. This approach, being led by the Clean Water Partnership – a public-private entity – is using integrated design-build services and private procurement processes to drive costs down significantly for GSI implementation while accelerating the pace of project delivery well beyond the capacity of the public sector[13]. Another model is the Pay-For-Success model, which utilizes "impact" investments from the private sector to reward projects that achieve proven levels of success. This approach is being used by DC Water to retrofit 20 acres of impervious cover with GSI through environmentally minded private investors who will receive a higher return if the project meets or exceeds specified success thresholds[14].

These approaches illustrate the innovation occurring in the stormwater sector to meet the needs of today in the future. EPA and groups such as WEF have been promoting the development and use of these types of models, so we encourage your administration to support these efforts wherever possible.

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[7] http://www.nwitimes.com/news/local/lake/partners-celebrate-gary-s-vacant-to-vibrant-projects/article_39da0d51-9884-559b-97b4-de14c941bd25.html

[8] http://www.yndc.org/planning/neighborhood-plans

[9] http://theavalonvillage.org/

[10] https://www.epa.gov/cwns

[11] https://www.epa.gov/sites/production/files/2014-04/documents/efab_report_srf_funding_for_greeninfra_projects.pdf

[12] https://www.epa.gov/G3/financing-green-infrastructure-community-based-public-private-partnerships-cbp3-right-you

[13] http://thecleanwaterpartnership.com/

[14] https://www.dcwater.com/news/listings/press_release783.cfm

Affordability

As you crisscrossed the nation during the last two years, you have seen many economically stressed communities. In return for the water rates the citizens of these communities pay, they expect safe water to drink, reliable service, and a clean environment in which to live. The water utilities that provide drinking water and wastewater services built, operate, and are required to maintain a system within the strict limits of what ratepayers in their community can afford and what federal and state regulations stipulate. This has become a significant challenge for many communities as systems age, ratepayers are further stressed to pay higher utility rates, populations decline in some areas of the country, and regulations dictate how money is spent based upon statute rather than need.

A solution that WEF and other organizations support is the use of an integrated planning approach that allows utilities to work with state and federal regulators to prioritize project funding while taking into consideration the financial restrictions of ratepayers. This approach allows communities to meet their regulatory responsibilities while phasing their infrastructure investments to align with their budget limitations. Nonetheless, many ratepayers still are not able to afford rate increases because of their fixed or limited income, so utilities are exploring approaches that support them in other ways. As you advance your domestic policy agenda, WEF urges you to consider supporting programs that assist lower- and fixed-income citizens with water utility bill costs, such as ratepayer assistance programs or the use of federally subsidized supplemental assistance programs to pay for drinking water and wastewater services.

Resource Recovery and the Energy-Water Nexus

The nexus between energy and water has become a focal point for the water sector. Improving the ways in which the water sector manages and generates energy will result in reliable, resilient, and sustainable systems that create jobs as well as stimulate energy efficiency, resource recovery, and water conservation to benefit the customers' public health, the economy, and the environment. WEF has been working with the Department of Energy to support programmatic efforts and policy goals to help take advantage of these opportunities. Specific recommendations for the Department of Energy from WEF and other water sector organizations were recently submitted to the agency in the document titled, "The Energy-Water Nexus: A Plan for Collaboration Between the Department of Energy and Water Sector."[15] WEF urges your administration to consider the recommendations put forth in the document.

[15] http://www.waterrf.org/resources/NewsletterStories/DOE-Plan-for-Collaboration.pdf