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Testimony Of

The American Society of Civil Engineers

to the

U.S. House of Representatives

Committee on Energy and Commerce

Subcommittee on the Environment

on

Our Nation's Water Infrastructure:

Challenges and Opportunities

March 16, 2017

Mr. Chairman Shimkus, Ranking Member Tonko, and Members of the Subcommittee:

Good morning. My name is Gregory E. DiLoreto, and I am a past president of the American Society of Civil Engineers and the current Chair of the ASCE Committee for America's Infrastructure responsible for the 2017 Report Card for Infrastructure. Prior to my retirement, , I served as chief executive officer for the publicly owned Tualatin Valley Water District in the Portland, Oregon, metropolitan area. The District is the second largest water utility in Oregon, serving more than 200,000 customers in the Portland area. I am a licensed Professional Engineer in the state of Oregon.

I am honored to be here today to testify on behalf of ASCE on the state of America's drinking-water infrastructure as the Subcommittee examines ""Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems".

The American Society of Civil Engineers is pleased to offer this testimonyas the Committee works to understand and improve the nations drinking water infrastructure. ASCE represents more than 150,00 civil engineers worldwide who plan, design, build, operate and maintain drinking water infrastructure across the country.

Last week, ASCE's 2017 Report Card for Infrastructure graded the nation's drinking water infrastructure a "D" Unfortunately that is the same grade received in our 2013 Report Card.

The United States uses 42 billion gallons of water a day to support daily life from cooking and bathing in homes to use in factories and offices across the country. Around 80% of drinking water in the U.S. comes from surface waters such as rivers, lakes, reservoirs, and oceans, with the remaining 20% from groundwater aquifers. In total, there are approximately 155,000 active public drinking water systems across the country. Most Americans – just under 300 million people – receive their drinking water from one of the nation's 51,356 community water systems. Of these, just 8,674 systems, or 5.5%, serve more than 92% of the total population, or approximately 272.6 million people. Small systems that serve the remaining 17.4% of the population frequently lack both economies of scale and financial, managerial, and technical capacity, which can lead to problems of meeting Safe Drinking Water Act standards.

Drinking water is delivered via one million miles of pipes across the country. Many of those pipes were laid in the early to mid- 20th century with a life span of 75-100 years. With utilities averaging a pipe replacement rate of 0.5% per year, it will take an estimated 200 years to replace the system – nearly double the useful life of the pipes.

Because America's drinking water infrastructure provides a critical service, significant new investment and increased efficiencies are needed as filtration plants, pipes, and pumps age past their useful life. Every day, nearly six billion gallons of treated drinking water are lost due to leaking pipes, with an estimated 240,000 water main breaks occurring each year. It is estimated that leaky, aging pipes are wasting 14 to 18 percent of each day's treated water; the amount of clean drinking water lost every day could support 15 million households.

To address deteriorating water infrastructure, asset management provides utility managers and decision-makers with critical information on capital infrastructure assets and timing of investments. Some key steps for asset management include making an inventory of critical assets; evaluating their condition and performance; developing plans to maintain, repair, and replace assets; and funding these activities.

While drinking water infrastructure is funded primarily through a rate-based user pay system, the investment has been inadequate for decades and will continue to be underfunded without significant changes as the revenue generated will fall short as needs grow. According to the American Water Works Association, upgrading existing water systems and to meeting the drinking water infrastructure needs of a growing population will require at least $1 trillion.

The majority of funding for drinking water infrastructure comes from revenue generated by rate payers. In the nation's largest 50 cities, the rate users pay varies greatly; the lowest average monthly water bill is $14.74 in Memphis, while Seattle residents pay the most at $61.43. This large gap exemplifies the varied approaches to rate structure, as well as the contrast of need and investment across the country. While higher rates that reflect the true cost of service are important, public assistance programs should be considered for low income populations. Between 2009 and 2014, state and local governments decreased capital spending for both drinking water and wastewater by 22%; at the same time, federal capital spending did not change significantly.

The federal government offers financial support to local governments and utilities in the form of loans through the Drinking Water State Revolving Fund, which provides low-interest loans to state and local water infrastructure projects. The Environmental Protection Agency (EPA) provides an allotment of funding for each state, and each state provides a 20% match. Since the program's inception, $32.5 billion of low-interest loans have been allocated. However, with needs far surpassing the program's budget, it is unable to meet all investment needs or fund every deserving project.

In 2014, Congress authorized a new mechanism to fund primarily large water infrastructure projects over $20 million through the Water Infrastructure Finance and Innovation Act (WIFIA). In 2016 Congress appropriated $17 million in funds for

the program. It is estimated that using WIFIA's full financial leveraging ability that a single dollar injected into the program can create $50 dollars for project lending. Under current appropriations, EPA estimates that current budget authority may provide more than $1 billion in credit assistance and may finance over $2 billion in water infrastructure investment.

Municipal drinking water consumption in the United States has declined by 5% this decade, marking the first time in nearly 40 years that water use at home has decreased. Total freshwater withdrawals this decade continue to decline in almost every sector including agriculture, industrial, domestic, and thermoelectric. This is primarily due to increased efficiencies and the reduction in withdrawals for retired coal-fired power plants.

Drinking water needed for public supply in the United States has been relatively flat since 1985 even as the population has increased by approximately 70 million people over the same period. Water conservation efforts, including water efficient fixtures, have had a significant impact in reducing per capita water usage. Importantly, while per capita demand has fallen, population trends have significantly challenged how cities manage water. For example, the Government Accountability Office estimates that 99 of 674 midsized cities in the U.S. are losing population. This poses significant challenges to utility managers; fewer rate payers and a declining tax base make it difficult to raise funds for capital infrastructure plans. To respond, utilities must raise rates, often in cities where jobs and pay have not kept pace with the economy, putting a burden on those who can least afford rate increases. Conversely, in areas of the country that are growing, such as the West and Southwest, water managers must respond to increased overall demand.

Drinking water quality in the United Sates remains the safest in the world. The EPA sets legal limits for over 90 contaminants in drinking water. The Safe Drinking Water Act (SDWA) allows states to set and enforce their own drinking water standards as long as the standards meet or are better than EPA's minimum national standards. Smaller systems that serve under 10,000 people report that a lack of resources and personnel can limit the frequency of testing, monitoring, maintenance, and technical capability in their systems. With sufficient funding and proper oversight, these risks to water users can be mitigated and water quality can remain safe.

America's drinking water infrastructure doesn't stop at pipe, reservoir, pump station, and treatment plant upgrades; many threats to drinking water infrastructure can be attributed to the sources of drinking water, such as polluted source water, depleted aquifers, and inadequate storage. As watersheds continue to be impacted by shifting migration patterns, land use changes, consumption trends, and extreme weather, water infrastructure upgrades will be required to meet new demands. With proper planning, education, and conservation utilities are making strides to ensure demand is met for decades to come. Water conservation and

improvements in water-use efficiency appear to have gained a general acceptance among water utilities as a sensible practice of water management. According to the American Water Works Association, a majority of utilities –74 percent – have a formal conservation program, and 86 percent consider conserved water as one of their water supply alternatives. Additionally, many communities that have separate drinking water and wastewater departments are beginning to work together or even consolidate, creating "one water" utilities that manage water more holistically.

Recommendations:

- Reinvigorate the State Revolving Loan Fund (SRF) program under the Safe Drinking Water Act through permanent reauthorization and tripling the amount of annual appropriations.

- Fully fund the Water Infrastructure Finance and Innovation Act (WIFIA) at its authorized level.

- Preserve tax exempt municipal bond financing. Low-cost access to capital helps keep lending for wastewater upgrades strong and accessible for communities large and small.

- Establish a federal Water Infrastructure Trust Fund to finance the national shortfall in funding of infrastructure systems under the Clean Water Act.

- Eliminate the state cap on private activity bonds for water infrastructure projects to bring an estimated $6 to $7 billion annually in new private financing.

- Encourage utilities to take regional approaches for water delivery to take advantage of economies of scale.

- Increase federal support and funding for green infrastructure, watershed permitting, and other programs that promote the concept of "one water" to protect source watersheds.

- Encourage utilities to conduct revenue forecasting models to determine the necessary rate revenues over a period of time and then institute rates that reflect the true cost of supplying clean, reliable drinking water.

- Encourage utilities to undertake asset management programs.

- Increase federal and local support for vocational training in the drinking water sector as engineers, operators, and maintenance staff begin to retire in

large numbers.

- Support and advance conservation ballot measures that protect source water through dedicated funding to land and water protection.

- Utility managers must remain diligent to ensure science-based decisions control operations and facility function. While lead and other contaminants post significant health concerns when ignored, with proper funding safe and clean drinking water can be ensured.