

STATEMENT FOR THE RECORD  
OF THE  
AMERICAN SOCIETY OF CIVIL ENGINEERS  
ON  
MEETING THE NATION'S WASTEWATER INFRASTRUCTURE NEEDS  
BEFORE THE  
SUBCOMMITTEE ON  
WATER RESOURCES AND ENVIRONMENT  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE  
U.S. HOUSE OF REPRESENTATIVES  
MARCH 19, 2003

Mr. Chairman and Members of the Subcommittee:

The American Society of Civil Engineers (ASCE) is pleased to offer its views on the challenge of meeting the nation's wastewater infrastructure needs under the Clean Water Act (CWA). We commend you and the Subcommittee for continuing to look into the gap between the required financial resources and the recent inadequate funding levels.

ASCE was founded in 1852 and is the country's oldest national civil engineering organization. It represents 130,000 civil engineers in private practice, government, industry and academia who are dedicated to the advancement of the science and profession of civil engineering. ASCE is a 501(c)(3) non-profit educational and professional society.

**A. ASCE Policy Recommendations**

- **We believe that, as an initial matter, Congress must authorize and appropriate at least \$5 billion annually over the next five years to begin making a down payment on the wastewater investment gap.**
- **We support the creation of a Clean Water Trust Fund to finance the national shortfall in funding wastewater infrastructure. The trust fund should have a dedicated source of revenue, and none of the revenues should be diverted for non-clean water purposes.**
- **The CWA should require that each federally funded contract and subcontract for architectural and engineering design services, program and construction management and other professional services should be awarded in the same manner as contracts that are awarded under the Federal Property and Administrative Services Act of 1949. This provision would ensure the participation of small architectural and engineering firms in the design of wastewater facilities. We strongly endorse its adoption.**

## **B. Issue Background**

The problems associated with the nation's aging wastewater infrastructure have been explored by this Subcommittee and other congressional panels in depth in the 107<sup>th</sup> Congress and may be briefly summarized.

Two years ago ASCE released its 2001 Report Card for America's Infrastructure. That report card captured the serious deficiencies facing the United States in a number of critical infrastructure areas, including wastewater. The nation's 16,000 wastewater systems received an overall grade of D.<sup>1</sup>

We found that sewer overflows are a chronic and growing problem. Many of the nation's urban sewage collection systems are aging; some are one hundred years old. Additionally, many systems have not received the essential maintenance and repairs necessary to keep them working properly.

- **ASCE's experts concluded that, although the federal government has spent nearly \$80 billion on wastewater treatment programs since 1973, the nation's 16,000 wastewater systems still face enormous funding needs in the next 20 years.**
- **The Water Infrastructure Network (WIN), of which ASCE is a member, reported in 2001 that wastewater systems faced a capital investment shortfall of approximately \$12 billion each year over the next 20 years.**
- **In 2002, the Environmental Protection Agency (EPA) reported that capital investment needs for wastewater treatment will have to be at least \$331 billion by 2019 to keep the nation's systems in service.<sup>2</sup>**
- **The Congressional Budget Office (CBO) concluded in 2002 that "costs to construct, operate, and maintain the nation's water infrastructure can be expected to rise significantly in the future." The CBO conservatively estimated that the needs would be \$13 billion annually for wastewater systems over the next 20 years.<sup>3</sup>**
- **This Subcommittee recently acknowledged that "capital needs for wastewater are expected to be approximately \$400 billion over the next 20 years, and at the current rate of investment of \$13 billion a year, from federal, state and local sources and use fees, spending over the next 20 years will have to increase by \$140 billion over current spending levels."<sup>4</sup>**

By any measure, Mr. Chairman, the nation's ailing wastewater infrastructure systems will need substantial financial help from many sources – including from the federal government – in the coming years.

### C. Seeking Solutions

Congress considered a number of bills to alleviate the wastewater infrastructure funding problem in the 107<sup>th</sup> Congress. They made an excellent beginning by proposing greatly increased federal participation, but, unfortunately, none was enacted.

Wastewater infrastructure legislation developed in 2002 continued the Clean Water Act State Revolving Loan Fund (SRF) loan program. The bills relied on utility implementation of “asset management” and rates reflecting the “full cost of service” as the principal sources of funding for these unprecedented capital needs.

Public water and wastewater utilities have used these management techniques for many years. “Full cost of service” has long been the basis for setting rates. Regrettably, EPA’s model for raising real rates by three percent annually for 20 years to fund the Agency’s selected “point estimate” does not reflect the true cost of new requirements or rehabilitation and replacement particularly for individual communities.

Of course there is nothing inherently wrong with asset management. But this practice simply does not form new capital; it can provide a means of protecting past and future investments, however.

- **We believe therefore that, as an initial matter, Congress must authorize and appropriate at least \$5 billion annually in the next five years to begin making a down payment on the wastewater investment gap.**

As Chairman Duncan stated eloquently just a few weeks ago:

The nation’s wastewater systems will face major challenges to fund the replacement of aging infrastructure over the next 20 years. Over that time period, capital needs are expected to be in the order of \$400 billion. To meet that need, we need to double the amount of money we are investing in wastewater infrastructure each year.<sup>5</sup>

We know, of course, that the federal budget situation is far less healthy now than it was in early 2001 when the ASCE *Report Card* was issued. Then the nation anticipated budget surpluses well into the future. The CBO projected in January 2001 that, if the tax and spending policies then in effect remained the same, the government would run surpluses totaling more than \$5.6 trillion over the 10-year period from 2002 through 2011. CBO revised those projections in August, reducing the 10-year surplus to \$3.4 trillion.

But in January 2002 CBO estimated that the cumulative surplus for 2002 through 2011 under current policies would decline to \$1.6 trillion. And by January 2003, the CBO estimated that the on-budget *deficit* would total \$1.2 trillion by 2008, a \$6.8 trillion reversal of fortune in just two years.<sup>6</sup>

ASCE is well aware of the fiscal dilemma Congress must tackle. The short-term budget realities, however, should not blind Congress to the enduring need for a strong federal investment in public health and in the security and stability of the nation's wastewater infrastructure.

The federal government cannot overcome these problems without help. To remedy the national infrastructure problem, the country will need to invest \$1.3 trillion in *all* infrastructure over the next five years. This unprecedented need must be met by all levels of government – federal, state and local – as well as the private sector.

Nevertheless, without a significantly enhanced federal role in providing assistance to America's wastewater infrastructure, critical investments will not occur. Possible solutions include grants, trust funds, loans, and incentives for private investment. The question is not whether the federal government should take more responsibility for wastewater improvements, but how.

ASCE therefore recommends that long-term funding for clean water infrastructure system improvements and associated operations be provided by a comprehensive program.

- **We support the creation of a Clean Water Trust Fund to finance the national shortfall in funding wastewater infrastructure. The trust fund should have a dedicated source of revenue, and none of these revenues should be diverted for non-clean water purposes.**

Trust funds essentially link special federal revenues (such as the federal user fee on gasoline or royalty payments from drilling on the Outer Continental Shelf) to a particular legislative purpose such as construction of highways and mass transit or purchase and development of National Parks and state parks. Some trust funds such as the Airport and Airways Trust Fund are subject to the annual congressional appropriations process and some spend-out their revenues automatically without an appropriation based on the revenue source or program need and obligation authority.

The federal government can finance public works projects in only three ways: it can tax, borrow, or print money. A federal user fee (essentially a consumption tax) on a broad range of consumer goods may be the most equitable solution to provide money for the Clean Water Trust Fund. There are a number of requirements for such a fee:

- It should be linked to national economic activity in recognition of the national purpose and priority for achieving clean and safe water, and for fairness. Such low-rate fees would be assessed against a broad range of economic activity in interstate commerce so that no one segment of the economy is inordinately affected.
- There needs to be some beneficial connection to clean and safe water, other than a charge on local utility and water rates, which is the principal source of local funding.

- There should be provisions to provide an incentive marketing feature for private firms producing the revenue sources such as a national program stating that: “Purchase of this product contributes to clean and safe water.”

A trust fund seems especially attractive when one considers that local capital funding, municipal bond financing, and SRF loan paybacks increase local customer rates. As rates increase, the ability of local governments to repay bonds and SRF loans decreases and with it, local government credit ratings on which further loans are based.

Thus new capital formation from as broad a spectrum of the public as possible -- a source that is emblematic of the national commitment to, and requirements for, clean and safe water and that is necessary to supplement local revenue sources. Even with increased federal funding, however, we acknowledge that most of the cost of infrastructure improvements still will be financed by local customer rates.

In any event, the federal government is best suited to address the funding crisis because of the public health nature of these investments, the need for equity across communities of uneven ability to pay on their own, and the inter-jurisdictional and geographic dispersion of benefits of such investments. There are many examples of comparable federal intervention where similar problems faced other modes of public infrastructure.

At the same time, ASCE also supports appropriations from general treasury funds and issuance of revenue bonds and tax-exempt financing at state and local levels, as well as public-private partnerships, state infrastructure banks and other innovative financing mechanisms.

#### **D. Other Policy Issues**

ASCE believes that the Congress should consider other policy solutions in any wastewater infrastructure funding bill. We would support initiatives that:

- Require loan applicants to evaluate innovative and alternative ways to finance wastewater infrastructure projects and to develop a financial plan for operating, maintaining, and ultimately replacing water infrastructure.
- Require loan recipients to have the capability to ensure adequate construction, and operation and maintenance of water infrastructure.
- Require at least 15 percent of the SRF funding provided each year to assist small, disadvantaged communities.
- Expand the types of projects eligible for assistance to include lake protection projects, decentralized wastewater treatment projects, stormwater reduction projects, water conservation projects, system security, and watershed projects.
- Authorize states to allow up to 30 years for disadvantaged communities to repay SRF loans.

- Authorize states to use up to 2 percent of federal funding to provide technical and planning assistance to treatment works serving communities with a population of less than 20,000.
- Authorize states to provide additional subsidization, including forgiveness of the principal of a loan or a negative interest loan to certain economically distressed municipalities.
- Require states to develop a methodology for prioritizing water infrastructure projects based on water-quality benefits, taking into account the affordability of projects. This would include a requirement that states use this methodology to develop an integrated priority list of all projects and activities for which SRF assistance is sought, including nonpoint source projects, as well as treatment works.
- Require the Environmental Protection Agency (EPA) to help states assist communities of 20,000 and under to receive SRF water infrastructure financing assistance.
- Require EPA to assist states in developing criteria for loan recipients to meet relating to water quality management and cost-effective infrastructure improvement.

Finally, some have argued that federal regulatory programs establishing water-quality standards under the CWA are too restrictive; others have argued that the current regulations may not be protective enough of human health and the environment. Without taking a position either way, ASCE does not believe that legislation designed to provide indispensable financing for our aging infrastructure should be the forum to address controversial regulatory changes about which there is little consensus at the moment.

#### **E. Procurement Issues**

- **The CWA should require that each federally funded contract and subcontract for architectural and engineering design services, program and construction management and other professional services should be awarded in the same manner as contracts that are awarded under the Federal Property and Administrative Services Act of 1949. This provision would ensure the participation of small architectural and engineering firms in the design of wastewater facilities. We strongly endorse its adoption.**

The Brooks Architect-Engineers Act of 1972, 40 U.S.C.A. 1101 *et seq.* (West 2003), has withstood the test of time.

Traditionally, federal government procurement procedures properly have emphasized awarding contracts to the lowest bidder, or using price as a dominant factor. For many goods that the government purchases ? paper, office equipment, desks, even construction services ? this process serves the government and the taxpayer well.

Specifications can be written, products can be inspected and tested, and safeguards can be built in to assure saving money.

Sometimes, however, agencies mistakenly assume professional architecture, engineering, surveying and mapping services fall into this category. Unfortunately, the assumption ignores the increase in costs to administer the preparation of detailed scopes of work and bid specifications, to evaluate numerous bids, and to remedy serious consequences of unprofessional A/E related services.

Quality, therefore, should always be the primary focus in the competition for architectural, engineering and surveying and mapping procurement. Only after high-quality performance is ensured should the focus turn to the contract price. That is exactly what QBS provides. The Brooks A/E Act ensures that specialized skills and technologies are evaluated properly and are not overlooked. At the same time, the Act also ensures that small businesses are able to compete on an even basis with large A/E design firms. In this manner, the government benefits from direct control of both the quality of the services and the project's development.

The Brooks A/E Act applies to the acquisition of all architectural and engineering services, including services of an architectural or an engineering nature that are logically and justifiably to be performed by architects or engineers. The language of the Brooks Act governs the broadest range of A/E design services, i.e., any that are performed by architects or engineers and those that may be. Nothing in the Act limits or restricts the application of QBS procedures to some architectural or engineering services while exempting others.

The use of negotiated procedures directs the focus of procurement activity where it should be, on the quality of the professional A/E services specifically suited to a given contract.

All competitors must submit their qualifications to the procuring agency; the agency assesses the relative expertise of the competing firms; and the one most qualified firm is selected for the particular procurement. Such procedures produce a more cost effective design, map and related professional service than can be achieved under price bidding procedures.

The qualifications-based selection law was codified to protect the interest of taxpayers. It is federal law because over the life of a project, engineering-related services account for less than one-half of one percent of total costs. Yet these important services play a major role in determining the other 99.5 percent on the project's "life cycle costs," such as construction, operation, and maintenance.

This process has been so successful at the federal level that it is recommended by the American Bar Association in its model procurement code for state and local government. Forty-two states have enacted their own qualifications-based selection laws for architecture, engineering, surveying and mapping services based on the federal model.

Others use it as a standard procedure. Today, no state has a specific law requiring bidding of these services.<sup>7</sup>

Since 1972 Congress has clarified and extended the application of the QBS process to the awarding of architectural and engineering services contracts for:

- Aviation programs project grant application.
- Mass transportation contract requirements, management and architectural engineering.
- Military construction projects.
- Engineering services as competitive procedures for procurement purposes.
- River and harbor improvements.
- Surveying, mapping, charting and geodesy contracts of the National Imagery and Mapping Agency (NIMA).

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#### NOTES

<sup>1</sup> ASCE, REPORT CARD FOR AMERICA'S INFRASTRUCTURE (2001) at <http://www.asce.org/reportcard/index.cfm?reaction=factsheet&page=7> (last visited Mar. 17, 2003).

<sup>2</sup> EPA, THE CLEAN WATER AND DRINKING WATER INFRASTRUCTURE GAP ANALYSIS 5 (2002).

<sup>3</sup> CONGRESSIONAL BUDGET OFFICE, FUTURE INVESTMENT IN DRINKING WATER AND WASTEWATER INFRASTRUCTURE (2002) at <http://www.cbo.gov/showdoc.cfm?index=3983&sequence=3> (last visited Mar. 14, 2003).

<sup>4</sup> SUBCOMM. ON WATER RESOURCES AND ENVIRONMENT, HEARING ON AGENCY BUDGETS AND PRIORITIES FOR FY 2004 (Feb. 27, 2003) at <http://www.house.gov/transportation> (last visited Mar. 14, 2003).

<sup>5</sup> Press Release, Committee on Transportation and Infrastructure, *Subcommittee Urges More Investment in Nation's Under-Funded Water Infrastructure* (Feb. 27, 2003) at <http://www.house.gov/transportation> (last visited Mar. 13, 2003).

<sup>6</sup> CBO, CURRENT BUDGET PROJECTIONS (January 2003) at <http://www.cbo.gov/showdoc.cfm?index=1944&sequence=0#table2> (last visited Mar. 14, 2003).

<sup>7</sup> Eight states — Georgia, Hawaii, Iowa, Michigan, North Dakota, South Dakota, Vermont and Wisconsin — operate under state procurement laws. No state leaves the acquisition of architectural and engineering design contracts unregulated.