

TOOLS FOR FINANCING WATER INFRASTRUCTURE

March 2007



INTRODUCTION

The following tools are a collection of financing mechanisms that can be used to pay for the construction and maintenance of water infrastructure and related water quality protection initiatives. These financing mechanisms can help states, local governments, private entities, and the federal government to meet goals under the U.S. Environmental Protection Agency (EPA)'s Four Pillars approach to promoting sustainable water infrastructure. The Four Pillars approach is:

1.) Better management: Adoption of better management practices is an emerging trend among the water utility industry. Widespread adoption of better management practices offers great promise to reduce costs and direct system investments using a risk-based approach. EPA is working with drinking water utilities to better understand what attributes are critical to their success so that their success can be shared broadly across the industry.

2.) Full cost pricing: Pricing that recovers the costs of building, operating, and maintaining a system is absolutely essential to achieving sustainability. Drinking water and wastewater utilities must be able to price water to reflect the full costs of treatment and delivery.

3.) Water efficiency: EPA is focused on developing a program that takes a broad approach by setting water efficiency levels for products, in conjunction with manufacturers, utilities and other stakeholders; building partnerships with manufacturers, distributors, utilities and others to promote water efficient products; and promoting an ethic of water efficiency through promotional activities.

4.) Watershed approaches: One of EPA's highest priorities is using a watershed approach to address our impaired waters. EPA is focused on the several programs assisting state and local governments as they strive to look beyond their traditional geographic boundaries to create interstate and inter-local partnerships based on watershed boundaries. The focus is on making sound infrastructure and growth decisions within the context of how water flows through a watershed. Our success at restoring and protecting impaired waters requires strong partnerships between federal, state, and local governments.

The tools consist of grants, loans, state financial assistance programs, institutional arrangements, electronic services, fees, and bonds. Federal government programs make up the bulk of the grant and loan tools. The state financial assistance programs include loans, grants, and other programs. The institutional arrangement tools include the U.S. EPA Environmental Finance Program, the Environmental Finance Center (EFC) Network, and other finance related organizations and mechanisms. The electronic services tools include websites and software programs. The fees include aquifer protection area fees, septic system and well permit fees, and other types of fees that can be used to raise revenue for environmental protection initiatives.

LIST OF TOOLS FOR FINANCING WATER INFRASTRUCTURE

- 1.) U.S. Department of Agriculture Business and Cooperative Programs:
Rural Business Enterprise Grants
- 2.) U.S. Department of Agriculture Rural Utilities Service:
Technical Training and Assistance Grant Program
- 3.) U.S. Department of Agriculture Rural Development: Grants for Water and Wastewater
Revolving Funds
- 4.) Appalachian Regional Commission Grants
- 5.) U.S. Department of Commerce Economic Development Administration:
Public Works and Economic Development Grants
- 6.) U.S. Environmental Protection Agency: Section 319 Nonpoint Source Pollution Control
Grants
- 7.) U.S. Environmental Protection Agency: Wetlands Program Development Grants
- 8.) U.S. Environmental Protection Agency: Drinking Water State Revolving Fund Loan
Principal Forgiveness
- 9.) U.S. Department of Housing & Urban Development: State Community Development Block
Grants Program for Non-Entitlement Areas
- 10.) U.S. Department of Interior Fish & Wildlife Service: Standard Grants Program for Wetlands
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- 11.) U.S. Department of Interior Fish & Wildlife Service: North American Wetlands
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- 12.) U.S. Department of Agriculture Business & Cooperative Programs: Economic Development
Loans
- 13.) U.S. Department of Agriculture Rural Utilities Service: Water and Waste Disposal Systems
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- 14.) U.S. Environmental Protection Agency: Clean Water State Revolving Fund Brownfields
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- 15.) U.S. Environmental Protection Agency: Drinking Water State Revolving Fund
- 16.) U.S. Environmental Protection Agency: Clean Water State Revolving Fund
- 17.) U.S. Environmental Protection Agency: State Revolving Fund Pre-Financing and Short-
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- 18.) U.S. Environmental Protection Agency: Clean Water State Revolving Fund Brownfields
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Beneficiary Loans
- 20.) State of Montana: Renewable Resource Grant and Loan Program
- 21.) State of Nevada: Financial Assistance for Drinking Water Systems Program
- 22.) State of Pennsylvania: Growing Greener Program
- 23.) State of Rhode Island: Aqua Fund
- 24.) State of Ohio: Water Pollution Control Loan Fund
- 25.) State of Maryland: Bay Restoration Fund
- 26.) Environmental Finance Center (EFC) Network
- 27.) Region 1 Environmental Finance Center at the University of Southern Maine
- 28.) Region 2 Environmental Finance Center at Syracuse University
- 29.) Region 3 Environmental Finance Center at the University of Maryland
- 30.) Region 4 Environmental Finance Center at the University of Louisville

- 31.) Region 4 Environmental Finance Center at the University of North Carolina
- 32.) Region 5 Great Lakes Environmental Finance Center at Cleveland State University
- 33.) Region 6 Environmental Finance Center at New Mexico Tech
- 34.) Region 9 Environmental Finance Center at California State University at East Bay
- 35.) Region 10 Environmental Finance Center at Boise State University
- 36.) Finance Charrettes
- 37.) Water and Sewer Capacity Credits
- 38.) Co-Funding
- 39.) North American Development Bank
- 40.) Circuit Riders
- 41.) Cooperatives
- 42.) Drinking Water State Revolving Fund Capacity Development
- 43.) National Technical Assistance Programs
- 44.) National Rural Water Association
- 45.) U.S. Environmental Protection Agency: Water Efficiency Market Enhancement Program
- 46.) Demand-Side Management Pricing
- 47.) Conservation Pricing for Water Utilities
- 48.) Capital Improvements Programs
- 49.) Cost-Share Programs for Nonpoint Source Pollution Control
- 50.) Point Source/Nonpoint Source Trading
- 51.) Special Districts
- 52.) Tax Increment Financing
- 53.) Community Development Financial Institutions
- 54.) U.S. Environmental Protection Agency: Water and Wastewater Pricing Website
- 55.) Catalog of Federal Domestic Assistance
- 56.) U.S. Environmental Protection Agency: Catalog of Federal Funding Sources for Watershed Protection
- 57.) Boise State University Environmental Finance Center: Directory of Watershed Resources
- 58.) Boise State University Environmental Finance Center: Plan2Fund
- 59.) Boise State University Environmental Finance Center: CAPFinance
- 60.) Connection Fees
- 61.) Septic System Inspection Fees
- 62.) Aquifer Protection Area Fees
- 63.) Water and Wastewater Utility User Fees
- 64.) Permitting Fees for Projects Affecting Navigable Waters
- 65.) Professional Certification Fees
- 66.) State Public Water Supply Withdrawal Fees
- 67.) Water Rights Application Fees
- 68.) Septic System and Well Permit Fees
- 69.) National Pollutant Discharge Elimination System Permit Fees
- 70.) Exactions
- 71.) Advance Refunding Bonds
- 72.) Anticipation Notes
- 73.) Appropriation-Backed Bonds
- 74.) Asset-Backed Securities
- 75.) Capital Appreciation and Zero Coupon Bonds
- 76.) Certificates of Participation
- 77.) Derivatives

- 78.) Double-Barrel Bonds
- 79.) General Obligation Bonds
- 80.) Mini/Baby Bonds
- 81.) Moral Obligation Bonds
- 82.) Private Activity Bonds
- 83.) Revenue Bonds
- 84.) Short-Term Municipal Bonds
- 85.) Special Assessment Bonds
- 86.) Special Tax Bonds
- 87.) State Revolving Fund (SRF) Revenue Bonds
- 88.) Tax Increment Bonds

GRANTS

U.S. Department of Agriculture Business and Cooperative Programs: Rural Business Enterprise Grants

Description: U.S. Department of Agriculture Rural Business Enterprise Grants provide funds for the financing or development of small or emerging businesses. These grants may be used for developing employment opportunities with private businesses and industries to improve the economy in areas and communities with populations of less than 50,000. Public bodies, private nonprofit corporations and federally recognized Indian tribes are potentially eligible to receive these grants for the purposes of assisting a business. The grants are not awarded directly to the business. Grant funds may be used for establishing revolving loan funds for various rural development related purposes, construction of buildings, construction of water supply and waste disposal facilities, and programs providing educational and job training instruction.

Reference for Further Information: U.S. Department of Agriculture Website: <http://www.rurdev.usda.gov/rbs/busp/rbeg.htm>. Call the Rural Business Service National Office Specialty Lenders Division at 202-720-1400. Search on program # 10.769 in the Catalogue of Federal Domestic Assistance at <http://12.46.245.173/cfda/cfda.html>.

U.S. Department of Agriculture Rural Utilities Service: Technical Training and Assistance Grant Program

Description: This U.S. Department of Agriculture (USDA) grant program provides assistance for meeting rural water and waste disposal needs in cities and towns with populations of 10,000 or less. The objectives of this federal grant program are to identify and evaluate solutions to water and waste disposal problems in rural areas, assist applicants in preparing applications for water and waste grants made through state offices, and improve operation and maintenance of existing water and waste disposal facilities in rural areas. Private nonprofit organizations that have tax exempt status with the Internal Revenue Service are eligible to apply for these grants. Funds from these grants may be used to: 1.) identify and evaluate solutions to water and waste problems of associations in rural areas, 2.) assist associations that have filed a pre-application with the USDA in the preparation of water and/or waste loan and/or grant applications, 3.) provide training to association personnel that will improve the management, operation, and maintenance of water and waste disposal facilities, and 4.) to pay expenses associated with providing technical assistance and/or training.

Reference for Further Information: U.S. Department of Agriculture Website: <http://www.usda.gov/rus/water/tatg.htm>. These loans are also listed in the *Catalog of Federal Domestic Assistance (CFDA)*, and on the Catalog's Website at <http://12.46.245.173/cfda/cfda.html>, search on program # 10.761.

U.S. Department of Agriculture Rural Development: Grants for Water and Wastewater Revolving Funds

Description: U.S. Department of Agriculture grants for water and wastewater revolving funds are awarded to private nonprofit organizations to capitalize revolving loan funds. The revolving loan funds are used by the nonprofits to make small, short-term loans to help fund expenses including pre-development costs for water and wastewater disposal projects. The loan funds are also used for short-term costs incurred for replacement equipment, small-scale extension of services, or other small capital projects that are not part of the regular operations and maintenance activities of existing water and wastewater systems. Grant applicants are required to have the legal capacity and authority to perform the obligations of the grant, and the necessary expertise and experience in making and servicing loans. Loan applicants must demonstrate that they are unable to finance the proposed projects with their own resources or through commercial credit at reasonable rates and terms. Facilities receiving the loans must primarily serve rural residents and rural businesses.

Reference for Further Information: U.S. Department of Agriculture Website:
<http://www.usda.gov/rus/water/index.htm>. Search on program # 10.864 in the Catalog of Federal Domestic Assistance at <http://12.46.245.173/cfda/cfda.html>.

Appalachian Regional Commission Grants

Description: Appalachian Regional Commission (ARC) grants are awarded to states, public bodies, and private nonprofit organizations for projects that create opportunities for self-sustaining economic development and improved quality of life for the people of Appalachia. ARC grants are either administered by ARC or by a federal agency selected by the grantee. There are four different types of Appalachian Regional Commission grants that fund environmental protection related activities: regional development grants, area development grants, local development district assistance grants; and research, technical assistance, and demonstration project grants. Demonstration Project grants fund analysis of funding gaps in drinking water and wastewater projects in the region. Environmental protection related projects funded with the other three grant types listed above include water and wastewater treatment systems. Funds for these grants are appropriated annually to the ARC by Congress.

Reference for Further Information: Appalachian Regional Commission Website:
<http://www.arc.gov/index.do?nodeId=101>. Search on program numbers 23.001 (regional development), 23.002 (area development), 23.009 (local development district assistance), and 23.011 (research, technical assistance, and demonstration projects) in the Catalog of Federal Domestic Assistance at <http://12.46.245.173/cfda/cfda.html>.

**U.S. Department of Commerce Economic Development Administration:
Public Works and Economic Development Grants**

Description: Public Works and Economic Development Program grants are administered by the U.S. Department of Commerce Economic Development Administration. These grants fund projects that enhance regional competitiveness and promote long-term economic development in economically distressed areas. The purpose behind these grants is to help communities and regions revitalize, expand, and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies, and generate or retain long-term private sector jobs and investment. U.S. states, political subdivisions of states, territories, cities, counties, Indian tribes, and consortiums of Indian tribes are eligible to apply for these grants. Grant eligible projects include construction and maintenance of water and sewer facilities, industrial park infrastructure improvements, construction of vocational facilities, redevelopment of brownfields, and eco-industrial (ecological) development. These grants cover 50%-100% of project costs depending on economic need as defined by the Department of Commerce.

Reference for Further Information: U.S. Department of Commerce Website: <http://www.eda.gov/AboutEDA/Programs.xml>. Search on program # 11.300 in the Catalogue of Federal Domestic Assistance at <http://12.46.245.173/cfda/cfda.html>.

**U.S. Environmental Protection Agency:
Section 319 Nonpoint Source Pollution Control Grants**

Description: Section 319(h) of the Clean Water Act authorizes formula grants for state, tribal, and territorial water quality agencies to fund projects and programs designed to help reduce nonpoint sources of water pollution within identified priority watersheds. State foresters, private landowners, and private nonprofit organizations may apply through state lead agencies for these Section 319 grants. Grantees must utilize these funds to implement U.S. Environmental Protection Agency approved nonpoint source pollution management programs. A 40 percent nonfederal match, in the form of supplies, equipment, and/or funding, must be provided by grantees. Regulatory and nonregulatory programs assessing the success of specific nonpoint source pollution control projects may be eligible for these grants. In addition, enforcement, technical assistance, training, technology transfer, demonstration projects, and monitoring for nonpoint source projects may be eligible. An example of a potentially eligible project is the implementation and evaluation of Best Management Practices (BMPs) for animal waste.

Reference for Further Information: U.S. Environmental Protection Agency (EPA) Office of Wetlands, Oceans, and Watersheds (OWOW) grants program phone: 202-566-1155, Website: <http://www.epa.gov/owow/nps/319hfunds.html>. A list of state NPS coordinators to contact for grant applications is available on OWOW's Website. "EPA Funds Available for Forestry Projects": http://www.fs.fed.us/spf/coop/library/EPA_Funds.pdf.

U.S. Environmental Protection Agency: Wetlands Program Development Grants

Description: Wetlands Program Development Grants (WPDGs) provide funding for projects that promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies related to the causes, effects, extent, prevention, reduction, and elimination of water pollution. U.S. Environmental Protection Agency (EPA) regional offices administer these grants. States, tribes, local governments, interstate associations, inter-tribal agencies, intertribal consortia, and national nonprofit, nongovernmental organizations are eligible to apply for WPDGs. WPDGs can be used to build and refine any element of a comprehensive wetlands protection program. Priority for funding is given to projects that address the three priorities identified by the U.S. EPA: 1.) developing a comprehensive monitoring and assessment program, 2.) improving the effectiveness of compensatory mitigation, and 3.) refining the protection of vulnerable wetlands and aquatic resources.

Reference for Further Information: U.S. Environmental Protection Agency (EPA) Office of Wetlands, Oceans and Watersheds (OWOW) Website: <http://www.epa.gov/owow/wetlands/grantguidelines/>, contact information for the EPA regional offices that administer these grants is available on the Website.

U.S. Environmental Protection Agency: Drinking Water State Revolving Fund Loan Principal Forgiveness

Description: The 1996 Safe Drinking Water Act (SDWA) established the Drinking Water State Revolving Fund (DWSRF), administered by the U.S. Environmental Protection Agency and capitalized by federal capitalization grants awarded to states. The states use the grant dollars to award loans to localities for public water systems. The SDWA permits states to use up to 30% of their federal capitalization grants for loan principal forgiveness to communities that the states defined as disadvantaged. Principal forgiveness is, in effect, a grant. Principal forgiveness is available for publicly and privately owned public purpose drinking water projects.

Reference for Further Information: “U.S. Environmental Protection Agency: Drinking Water State Revolving Fund” in Guidebook Section 2b. U.S. Environmental Protection Agency (EPA) Website: <http://www.epa.gov/safewater/dwsrf/nims/disadvrg.pdf>. Also see the Federal Register Notice and the Fact Sheet under “DWSRF Program Rule” and the *Annual Report* and *Report to Congress* on the EPA Website at: <http://www.epa.gov/safewater/dwsrf/index.html#guidance>. Localities should consult their state DWSRF officials. Contact Peter Shanaghan at the EPA at 202-564-3848 with general questions.

**U.S. Department of Housing & Urban Development:
State Community Development Block Grants Program for Non-Entitlement Areas**

Description: The Community Development Block Grants (CDBG) Program for non-entitlement areas helps provide communities with decent housing, a suitable living environment, and expanded economic opportunities for low to moderate income citizens. States are granted authority by the U.S. Department of Housing and Urban Development (HUD) to administer these grants. The grants finance activities in non-entitlement areas, defined as cities with populations of less than 50,000 that are not principal cities of Metropolitan Statistical Areas (MSAs) and counties with populations of less than 200,000. Puerto Rico and all U.S. states except Hawaii receive funds to administer these grants to localities. HUD administers the program for non-entitled counties in the State of Hawaii because the state has permanently elected not to participate in the State CDBG Program. Environmental protection related initiatives funded with these grants include planning activities, acquisition of property for public purposes, and the construction of water and wastewater treatment facilities.

Reference for Further Information: U.S. Department of Housing and Urban Development (HUD) Website: <http://www.hud.gov/offices/cpd/communitydevelopment/programs/stateadmin/>. Search on program # 14.228 in the Catalogue of Federal Domestic Assistance at <http://12.46.245.173/cfda/cfda.html>.

**U.S. Department of Interior Fish & Wildlife Service:
Standard Grants Program for Wetlands Protection**

Description: The Standard Grants Program provides funding for public-private partnerships carrying out projects in the United States, Mexico, and Canada. To be eligible for funding through this program, projects must involve the long-term protection, restoration, and/or enhancement of wetlands and associated upland habitats for the benefit of waterfowl and other migratory birds that depend upon wetlands habitat. Projects carried out in Mexico may also include technical training, environmental education and outreach, organizational infrastructure development, and sustainable-use studies. The Migratory Bird Conservation Commission meets each year to approve the total amount of funding to be distributed to projects under the Standard Grants Program in the following fiscal year.

Reference for Further Information: U.S. Fish & Wildlife Service Website: <http://www.fws.gov/birdhabitat/Grants/NAWCA/Standard/index.shtm>, contact information for grant coordinators in the U.S., Canada, and Mexico are listed on the Website. This program is listed as the “North American Wetlands Conservation Fund” in the Catalogue of Domestic Assistance at <http://12.46.245.173/cfda/cfda.html>, search on program # 15.623. The program is also listed at: <http://www.grants.gov/search/search.do?mode=VIEW&oppId=7818>.

**U.S. Department of Interior Fish & Wildlife Service:
North American Wetlands Conservation Act Small Grants Program**

Description: This Small Grants Program provides funding for public-private partnerships carrying out projects in the United States that further the goals of the North American Wetlands Conservation Act. To be eligible for funding through this program, projects must involve the long-term protection, restoration, and/or enhancement of wetlands and associated upland habitats for the benefit of waterfowl and other migratory birds that depend upon wetlands habitat. Grantees are required to come up with matching funds. The Migratory Bird Conservation Commission meets each year to approve the total amount of funding to be distributed to projects under the Small Grants Program in the following fiscal year.

Reference for Further Information: Contact Small Grants Coordinator Keith Morehouse at the U.S. Fish and Wildlife Service: phone 703-358-1888, e-mail: keith_morehouse@fws.gov.

U.S. Fish and Wildlife Service Website:

<http://www.fws.gov/birdhabitat/Grants/NAWCA/Small/index.shtm>.

This program is listed as the “North American Wetlands Conservation Fund” in the Catalogue of Domestic Assistance at <http://12.46.245.173/cfda/cfda.html>, search on program # 15.623. The program is also listed at: <http://www.grants.gov/search/search.do?mode=VIEW&oppId=7818>.

LOANS

U.S. Department of Agriculture Business & Cooperative Programs: Economic Development Loans

Description: These zero interest U.S. Department of Agriculture loans are used to promote sustainable rural economic development and job creation projects. Loans may be used to fund business expansions, startups, and incubator projects, community facilities, medical facilities, community infrastructure necessary for economic development and job creation purposes, and educational facilities and equipment. Electric and telephone utilities, and third parties applying through those utilities, are eligible for consideration for these loans. Examples of projects funded with these loans include the establishment or expansion of factories or businesses, medical facilities, and water and sewer industrial development parks. Most of the environmental projects funded involve water or wastewater systems. These loans could be used to help finance directly and leverage other capital for additional wastewater and drinking water utilities, and to fund non-point source improvements. The maximum loan amount is \$740,000.

Reference for Further Information: U.S. Department of Agriculture Business and Cooperative Programs Website: <http://www.rurdev.usda.gov/rbs/busp/redl.htm>. These loans are also listed in the *Catalog of Federal Domestic Assistance (CFDA)*, and on the Catalog's Website at <http://12.46.245.173/cfda/cfda.html>, search on program # 10.854.

U.S. Department of Agriculture Rural Utilities Service: Water and Waste Disposal Systems Loans for Rural Communities

Description: These U.S. Department of Agriculture loans provide assistance for meeting rural water and waste disposal needs in cities and towns with populations of 10,000 or less. The loans are intended for providing basic human amenities, alleviating health hazards, and promoting the orderly growth of the rural areas of the nation by meeting needs for new and improved rural water and waste disposal facilities. Funds may be used for the installation, improvement, or expansion of rural water facilities and the repair of distribution lines and well pumping facilities. In addition, funds may also be used for the installation, repair, improvement, or expansion of rural waste disposal facilities and the collection and treatment of sanitary, storm, and solid wastes. Eligible applicants include municipalities, counties, and other political subdivisions of a state, such as districts and authorities, associations, cooperatives, nonprofit corporations, and federally recognized tribes. No maximum loan amount has been established through statute.

Reference for Further Information: U.S. Department of Agriculture Website: <http://www.usda.gov/rus/water/index.htm>. These loans are also listed in the *Catalog of Federal Domestic Assistance (CFDA)*, and on the Catalog's Website at <http://12.46.245.173/cfda/cfda.html>, search on program # 10.760.

U.S. Environmental Protection Agency: Drinking Water State Revolving Fund

Description: The 1996 Safe Drinking Water Act (SDWA) Amendments authorize funding for the Drinking Water State Revolving Fund (DWSRF) program to provide public water systems with the financing needed to further public health under the SDWA. The DWSRF program provides states with capitalization grants that may be used for two major purposes. The first purpose is capitalization of state revolving loan funds to provide low cost loans, with 20-30 year terms, to public water systems. The second purpose is funding of “set-asides.” Activities eligible for DWSRF loans include: projects to upgrade or replace drinking water treatment, transmission, distribution, and storage facilities, and consolidation of drinking water systems. Initiatives that are funded with DWSRF set-asides include: technical assistance to water systems, drinking water source (source water) protection, and water system operator certification.

Reference for Further Information: U.S. Environmental Protection Agency Office of Groundwater and Drinking Water Website: <http://www.epa.gov/safewater/dwsrf/index.html>, phone 202-564-3750.

U.S. Environmental Protection Agency: Clean Water State Revolving Fund

Description: Under Title VI of the 1987 Clean Water Act, states receive federal monies to capitalize Clean Water State Revolving Fund (CWSRF) loan programs. Through CWSRF programs, loans are made to communities to provide low cost financing for a wide range of different projects for the protection of water quality. Examples of activities funded with these loans include nonpoint source pollution control, watershed protection and restoration, estuary management, wetlands restoration, brownfields remediation, and improvements to municipal wastewater treatment infrastructure. Loans are made at low interest rates (0 percent to market rate) for terms of up to 20 years. States may set the criteria for determining which municipalities can access the loans each year. All 50 U.S. states and Puerto Rico operate CWSRFs.

Reference for Further Information: U.S. Environmental Protection Agency Office of Wastewater Management Website: <http://www.epa.gov/owm/cwfinance/cwsrf/index.htm>, phone 202-564-0752.

**U.S. Environmental Protection Agency:
State Revolving Fund Pre-Financing and Short-Term Loans**

Description: Some Clean Water State Revolving Fund (CWSRF) and Drinking Water State Revolving Fund (DWSRF) loan programs make short-term loans for planning, design and initial construction in localities which may later receive long-term CWSRF and DWSRF loans. In addition, State Revolving Fund loans may be used to pre-finance other federal or state drinking water loans or grants. State Revolving Fund pre-financing loans have been used for Rural Utility Service wastewater loans, Housing and Urban Development wastewater grants, and state loans and grants. The State of New York's short-term financing program provides interest free financing, for terms of up to three years, to recipients developing projects eligible for long-term DWSRF financing. Also, the State of Texas offers short-term, variable rate CWSRF loans that can be converted to long-term, fixed rate CWSRF loans at any time prior to project completion.

Reference for Further Information: U.S. Environmental Protection Agency Office of Wastewater Management Website: <http://www.epa.gov/owm/cwfinance/cwsrf/index.htm>, phone 202-564-0752.
New York Department of Health Website:
<http://www.health.state.ny.us/nysdoh/water/final/2005/2005iup.htm>.
Texas Water Development Board Website:
http://www.twdb.state.tx.us/assistance/financial/fin_infrastructure/cwsrffund.asp.

**U.S. Environmental Protection Agency:
Clean Water State Revolving Fund Brownfields Loans**

Description: Under Title VI of the 1987 Clean Water Act, states receive federal funding to capitalize Clean Water State Revolving Fund (CWSRF) loan programs. Through CWSRF programs, loans are made to communities to provide low cost financing for a wide range of different projects for the protection of water quality. Specific brownfields remediation activities that can help prevent contamination of water supplies are eligible uses for CWSRF loans. CWSRF eligible brownfields cleanup activities include removal and remediation of Leaking Underground Storage Tanks (LUSTs) and removal of contaminated soil. Brownfields redevelopment is not an eligible use for CWSRF loans. Any eligible brownfields project must compete with all other water quality projects for a place on the particular state's CWSRF priority funding list.

Reference for Further Information: "U.S. Environmental Protection Agency: Clean Water State Revolving Fund" in Guidebook Section 2b. U.S. Environmental Protection Agency Website: <http://www.epa.gov/brownfields/> and <http://www.epa.gov/owm/cwfinance/cwsrf/>. Contact Kit Farber at the U.S. Environmental Protection Agency Office of Water: 202-564-0601.

**U.S. Environmental Protection Agency:
Clean Water State Revolving Fund Private Beneficiary Loans**

Description: The Clean Water State Revolving Fund (CWSRF) program, unlike the Drinking Water State Revolving Fund (DWSRF) program, is statutorily limited to awarding loans for publicly owned projects. However, occasionally CWSRF loans are made through a municipal lease arrangement that allows the private sector to use the funds, as defined under the federal tax code. Under this type of arrangement, a CWSRF makes loans to a publicly owned entity, state or municipal, which has leased a facility to an entity in the private sector. The public entity acts as a conduit for loan funds to the private beneficiary. The private beneficiary makes lease and/or loan payments to the public entity through an operating lease or service agreement. The funds used for CWSRF private beneficiary lending, called economic development loans, are derived only from SRF "retained earnings," comprised of direct loan interest repayments and investment earnings on recycled dollars, as opposed to federal capitalization grant dollars. Thus, the number of such loans is automatically capped by the amount of retained earnings annually.

Reference for Further Information: State Revolving Funds program management should consult their U.S. Environmental Protection Agency (EPA) Regional Offices before awarding private beneficiary loans. U.S. EPA Office of Wastewater Management Website: <http://www.epa.gov/owm/cwfinance/cwsrf/index.htm>, phone 202-564-0752.

STATE FINANCIAL ASSISTANCE PROGRAMS

State of Montana: Renewable Resource Grant and Loan Program

Description: The State of Montana's Renewable Resource Grant and Loan Program provides funding for the conservation, management, development and preservation of Montana's natural resources. Administered by the Montana Department of Natural Resources and Conservation (DNRC), the program provides funding to government entities, individuals, and groups for a variety of projects including groundwater studies, irrigation rehabilitation, water and soil conservation, municipal drinking water improvements, wastewater treatment, forest enhancement, and renewable energy projects.

Financial awards issued through this program include: Renewable Resource Grants, Emergency Grants, Project Planning Grants, loans, and private grants and loans. Renewable Resource Grants awarded to state and local governments are capped at \$100,000. Project Planning Grants are limited to \$10,000. Emergency grants are awarded to government entities and capped at \$30,000. Private grants and loans are awarded to individuals and groups and are capped at \$5,000. Loans are limited by the applicant's ability to repay within 20 years. Grant applications are due May 15 of even numbered years. Loan applications are accepted year-round.

Reference for Further Information: Montana DNRC Website:

http://www.dnrc.mt.gov/cardd/ResDevBureau/renewable_grant_program.asp.

Renewable Resource Grant and Loan Program contact information: Phone: 406-444-6839,

E-mail: Bob Fischer at rfischer@mt.gov, or Pam Smith at pamsmith@mt.gov.

State of Nevada: Financial Assistance for Drinking Water Systems Program

Description: The Nevada Financial Assistance for Drinking Water Systems Program, also called the "Assembly Bill (AB) 198 Grant Program," provides grants to purveyors of water systems. The AB 198 Grant Program is offered through the Bureau of Water Pollution Control, which is part of the State of Nevada Division of Environmental Protection. The Program is designed to help communities bring their water systems into compliance with Nevada State Health Board and Safe Drinking Water Act regulations.

Grants are made to water districts, counties and incorporated towns. Grant funds are used to pay for capital improvements to publicly-owned community water systems and publicly-owned nontransient water systems. These grants are leveraged. Grant awards are required to cover no less than 57% and no more than 87% of the eligible costs for the project. The rest of the project expenses are the responsibility of the grantee.

Reference for Further Information: Nevada Division of Environmental Protection Website:

<http://www.ndep.nv.gov/bffwp/grants01.htm>. There is a staff directory on the Website.

State of North Carolina: Clean Water Management Trust Fund

Description: In 1996, the North Carolina General Assembly established the Clean Water Management Trust Fund (CWMTF) to help finance projects that specifically address three principal objectives: 1) the restoration of degraded waters, 2) the protection of unpolluted waters, and 3) the establishment of riparian buffers. The CWMTF is a voluntary, incentive-based water quality program. Eligible applicants for CWMTF grants are: 1) state agencies, 2) local governments or other political subdivisions of the state, or a combination of such entities; and 3) conservation nonprofits. Priority for grants is given to economically distressed units of local governments. The CWMTF funds about one third of the requests it receives, with a total of \$535.4 million in grant funds awarded between 1996 and 2005. No matching share is required. Still, projects that coordinate with other programs working to protect waterways or adjoining lands are encouraged. CWMTF funds have leveraged over \$810.3 million in additional funds.

Reference for Further Information: The CWMTF is authorized under Article 18, Chapter 113A of the North Carolina General Statutes. For details and application information see the CWMTF Website at <http://www.cwmtf.net/>. Contact: Beth McGee, CWMTF Water Quality Advisor, Phone: 919-542-5261, E-Mail: beth.mcgee@ncmail.net.

State of Pennsylvania: Growing Greener Program

Description: In 1999, the Pennsylvania Growing Greener Program was signed into law, providing nearly \$650 million to address the state's most pressing environmental challenges. In 2002, the Growing Greener Program's funding was more than doubled. More recently, in 2005, Growing Greener II was signed into law, investing \$625 million to extend the Growing Greener Program six years. Funding is provided under the Program for many different types of environmental protection initiatives, including abandoned oil and gas well plugging projects, cleanup and restoration of watersheds, and the construction of new and upgraded water and sewer systems. Counties, local governments, authorities, conservation districts, watershed associations and other nonprofit groups may apply for Growing Greener grants. The Growing Greener Program is the largest single investment to protect the environment in Pennsylvania's history, amounting to \$1.2 billion dollars.

Reference for Further Information: To get a list of coordinators, other contacts, applications and other information on Growing Greener and Growing Greener II, visit the Pennsylvania DEP's Website at <http://www.depweb.state.pa.us/growinggreener/site/default.asp>, or contact Growing Greener at: Phone 717-705-5400, E-mail GrowingGreener@state.pa.us.

State of Rhode Island: Aqua Fund

Description: The Rhode Island Aqua Fund provides grants and loans to fund projects aimed at improving the water quality of Narragansett Bay. The Rhode Island Department of Environmental Management (RIDEM) manages the Aqua Fund. Aqua Fund monies are used to issue grants and loans to cities, towns, universities, nonprofits, governmental agencies, and private agencies. The goal of the Aqua Fund is to remedy existing pollution of Narragansett Bay and to prevent future pollution of the Bay. Funds are issued for projects designed to help prevent pollution to the Bay and its tributaries, such as wastewater treatment projects and urban runoff abatement. Grants are given for up to 90% of the costs of projects under \$500,000. Projects with costs exceeding \$500,000 may receive grants of up to 50% of total project costs. Projects must be in a location identified as a priority area (see Website). Since the Fund's inception, the Council and RIDEM have awarded over \$8.8 million in grants.

Reference for Further Information: Rhode Island DEM, Office of Water Resources Website: <http://www.state.ri.us/dem/programs/benviron/water/finance/aqua>. Contact: Lisa McGreavy at the Office of Water Resources at lmcgreav@dem.state.ri.us.

State of Ohio: Water Pollution Control Loan Fund

Description: The Ohio Water Pollution Control Loan Fund (WPCLF), a program of the Ohio Environmental Protection Agency (EPA), provides financial and technical assistance for public wastewater treatment works and nonpoint source water pollution control projects. It awards below market interest rate loans to public and private borrowers. Direct loans are made to most borrowers. Smaller borrowers usually receive indirect loans through a linked deposit program.

The projects that are funded through the WPCLF include the planning, design, and construction of wastewater treatment plants; wastewater treatments plant improvements and expansion, agriculture/silviculture improvements, and stream corridor restoration. The WPCLF staff includes engineers, environmental planners and project coordinators who assist communities in every phase of project development and execution.

Reference for Further Information: WPCLF Website: <http://www.epa.state.oh.us/defa/wpclf2.html>, Phone: (614) 644-2832. For technical assistance, ask for Pejmaan Fallah, or e-mail Pejmaan at pejmaan.fallah@epa.state.ohio.us.

State of Maryland: Bay Restoration Fund

Description: On May 26, 2004, the State of Maryland [Senate Bill 320 \(Bay Restoration Fund\)](#) was signed into law. The bill created a dedicated fund, financed through a \$2.50 monthly fee levied upon wastewater treatment plant users, to upgrade Maryland's wastewater treatment plants with [enhanced nutrient removal \(ENR\) technology](#) so they are capable of achieving wastewater effluent quality of 3 mg/l total nitrogen and 0.3 mg/l total phosphorus. In addition, a similar fee levied upon septic system users is utilized to upgrade onsite septic systems and implement cover crops to reduce nitrogen loading to Chesapeake Bay. This Fund is administered by the Maryland Department of the Environment. The Fund also has an [advisory committee](#). Fees from wastewater treatment plant users generate an estimated \$65 million per year. In addition, a \$30 annual fee is collected from each home served by an onsite septic system. The total estimated program income is \$12.6 million per year.

Reference for Further Information: Bay Restoration Fund Website:
<http://www.mde.state.md.us/Water/CBWRF/index.asp>.

Environmental State Revolving Funds

Description: Environmental revolving funds are state run lending institutions that are often modeled after the Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF) described in this section of the Guidebook. Many states throughout the U.S., including Michigan, Kentucky, Ohio, and Alaska, have environmental revolving funds awarding loans for a wide variety of environmental protection initiatives including water pollution prevention, wastewater treatment, and brownfields revitalization. Environmental revolving funds allow states to plan and target limited resources to their highest priority needs.

Reference for Further Information: Council of Infrastructure Financing Authorities Website: <http://www.cifanet.org/>, see the publications list on the Website. Small Business Environmental's directory of state financial assistance programs: <http://www.smallbiz-enviroweb.org/funding/fundstat.html>. Michigan Department of Environmental Quality Website: http://www.michigan.gov/deq/0,1607,7-135-3307_3515_4143---,00.html. Kentucky Infrastructure Authority Website: <http://kia.ky.gov/loan/>. Ohio Environmental Protection Agency Website: <http://www.epa.state.oh.us/cleanohio.html>. Alaska Department of Environmental Conservation Website: <http://www.dec.state.ak.us/water/muniloan/index.htm>.

INSTITUTIONAL ARRANGEMENTS

U.S. Environmental Protection Agency: Environmental Finance Program

Description: The U.S. Environmental Protection Agency (EPA) Environmental Finance Program works in partnership with state and local governments, tribes, and the private sector to help fund environmental protection initiatives. The Program provides leveraged financial outreach services to these partners through three distinct, but related components: the Environmental Financial Advisory Board (EFAB), the Environmental Finance Center (EFC) Network, and the Environmental Financing Information Network (EFIN).

EFAB, a federally chartered advisory committee, provides innovative ideas and recommendations to the EPA on ways to lower the costs of, increase investments in, and promote public-private partnerships with regard to environmental and public health protection. The EFC Network, consisting of nine university-based programs in eight EPA regions, delivers targeted technical assistance on addressing the “how to pay” issues of meeting environmental standards. EFIN catalogues the work and accomplishments of EFAB and the EFC Network, and provides abstracts of valuable [Environmental Finance Program publications](#), and some EPA publications, through its highly popular Website, telephone Infoline, and contact referral service.

Reference for Further Information: Environmental Finance Program Website:
<http://www.epa.gov/efinpage>, EFIN Infoline: 202-564-4994.

Environmental Finance Center (EFC) Network

Description: The Environmental Finance Center (EFC) Network is a system of nine university-based Environmental Finance Centers that provide state and local governments and the private sector with training and educational, technical, and analytic assistance on environmental finance (see the individual descriptions of the nine Finance Centers on the following pages). These services are designed around the "how to pay" issues of environmental compliance. The EFC Network has become a significant force in assisting local governments and small businesses in meeting environmental standards. A central goal of the Network is to help create sustainable environmental systems in the public and private sectors. Coordination of the EFC Network is provided by the U.S. Environmental Protection Agency (EPA) Environmental Finance Program.

Reference for Further Information: Contact: Vera Hannigan, E-mail hannigan.vera@epa.gov, Phone # 202-564-5001. EFC Network information and a Website for each EFC can be accessed via the Environmental Finance Program’s Website at <http://www.epa.gov/efinpage>.

Region 1 Environmental Finance Center at the University of Southern Maine

Description: Founded in 2001, the U.S. Environmental Protection Agency (EPA) Region 1 Environmental Finance Center is housed in the Edmund S. Muskie School of Public Service at the University of Southern Maine. Called the New England EFC or NE/EFC, it serves the six states of New Hampshire, Maine, Connecticut, Vermont, Rhode Island, and Massachusetts. The NE/EFC addresses the "how-to-pay" questions associated with creative approaches to environmental protection and management, especially by developing and applying "smart growth" and other land-use techniques that go beyond compliance with government regulations.

In developing its programs, the NE/EFC identifies the research, education, and technical assistance needs of an array of clients from land trusts, developers, and municipalities, to state governments and agencies of the federal government. The NE/EFC offers what it calls Collaborative Environmental Services tailored to the needs of individual organizations or local governments. These include assistance in facilitating local dialogues and exploration of creative ways to make needed conservation and development decisions feasible, financially and otherwise. The EFC has also developed a program called the Next Communities Initiative, to train community leaders how to bring about constructive changes in local land use decision-making.

Reference for Further Information: Region 1 EFC Website: <http://efc.muskie.usm.maine.edu>, E-mail: neefc@usm.maine.edu, Phone: 207-780-4418.

Region 2 Environmental Finance Center at Syracuse University

Description: The U.S. Environmental Protection Agency (EPA) Region 2 Environmental Finance Center (EFC) is located at Syracuse University's Maxwell School of Citizenship and Public Affairs. The EFC provides training, technical assistance, and outreach services to State and local officials related to financing environmental initiatives. Its areas of focus include the promotion of full-cost pricing of environmental services, the exploration of environmental service management options such as privatization, and the facilitation of public input processes in local communities.

The EFC's projects and accomplishments are in areas including asset management, technical assistance, and partnerships. In 2005, it worked with EPA to co-host an asset management workshop in Syracuse. Ongoing initiatives of the EFC include a Public Management and Finance Program designed to offer a more comprehensive and holistic way for communities to benefit from technical assistance, and a partnership with the NYS Department of Environmental Conservation, NY Rural Water Association and NY Water Environment Association to provide a series of wastewater informational sessions for local government representatives.

Reference for Further Information: Region 2 Environmental Finance Center Website: <http://www.maxwell.syr.edu/efc/>, Phone (toll free): 866-536-4770.

Region 3 Environmental Finance Center at the University of Maryland

Description: The Environmental Protection Agency (EPA) Region 3 Environmental Finance Center (EFC) is hosted by University of Maryland's Institute for Governmental Service. The mission of the EFC is to provide communities with the tools and information needed to manage change for a cleaner environment and an enhanced quality of life. This EFC is community-based, with a goal of developing livable communities within the Chesapeake Bay region that promote clean, safe neighborhoods and foster a sense of place for all citizens.

Through strengthening the capacity of local decision-makers to analyze environmental problems and develop innovative and effective ways of financing environmental efforts, the EFC strives to be a leader in community development and watershed protection. This EFC does significant amounts of work in the following areas: training for water utility systems managers, working with communities on storm water management, and community financing for local land and water protection.

Reference for Further Information: Region 3 Environmental Finance Center Website: <http://www.efc.umd.edu/who.html>, E-mail: efc@umd.edu, Phone: 301-403-4610 ext. 24.

Region 4 Environmental Finance Center at the University of Louisville

Description: The U.S. Environmental Protection Agency (EPA) Region 4 Environmental Finance Center (EFC) at the University of Louisville is part of the University's Center for Environmental Policy and Management. The Region 4 EFC's primary service area is the Southeastern United States. The EFC has two broad mandates from the U.S. Environmental Protection Agency: 1.) to develop more environmentally and economically sustainable alternatives to uncontrolled and unfocused spatial expansion of human settlements, 2.) to improve the efficiency of environmental infrastructure service delivery.

The services offered by the EFC are divided into four main areas: 1.) Practice Guides, 2.) Research Result Notices, 3.) Financial Planning Support for Water Utilities, and 4.) Brownfields Redevelopment Support. The Practice Guide series is designed for government officials who make or implement policies that influence land use. The Research Result Notices make research results available to public officials via the internet. Through its Financial Planning Support for Water Utilities, the EFC provides training and technical support to operators of water utilities. The EFC's Brownfields Redevelopment Support initiatives are geared towards providing services to facilitate investment in the cleanup and reuse of properties that are perceived to be contaminated.

Reference for Further Information: Region 4 Environmental Finance Center at the University of Louisville Website: <http://cepm.louisville.edu/org/SEEFc/seefc.htm>, Phone: 502-852-8032, E-Mail: pbmeyer@louisville.edu.

Region 4 Environmental Finance Center at the University of North Carolina

Description: The EPA Region 4 Environmental Finance Center (EFC) is contained within the University of North Carolina (UNC) Chapel Hill School of Government and services states and communities in the Southeastern United States. The UNC EFC assists communities, provides training and policy analysis services, and disseminates tools and resources on topics such as environmental cost accounting, rate setting, and the development of sustainable cost recovery and institutional management systems.

The UNC EFC reaches local communities through the delivery of interactive applied training programs and technical assistance. The EFC sees one of its major roles as increasing the capacity of other organizations to address the financial aspects of environmental protection. In addition to direct community outreach, the UNC EFC works with decision makers to assess the effectiveness of environmental finance policies at a regional or state level, and to improve those policies as a way of supporting local efforts.

Reference for Further Information: Region 4 Environmental Finance Center Website: www.efc.unc.edu/index.html. Contact information for Jeff Hughes, Director at the Region 4 EFC's University of North Carolina at Chapel Hill office: Phone # 919-843-4956, E-Mail jhughes@sog.unc.edu. Contact information for Stacey Isaac Berahzer, Outreach Coordinator at the Region 4 EFC's Atlanta Office: Phone # 770-552-6847, E-mail isaac@sog.unc.edu.

Region 5 Great Lakes Environmental Finance Center at Cleveland State University

Description: The U.S. Environmental Protection Agency (EPA) Region 5 Great Lakes Environmental Finance Center (EFC) is located in the Maxine Goodman Levin College of Urban Affairs at Cleveland State University. The Great Lakes EFC serves a six-state area, encompassing Ohio, Indiana, Illinois, Michigan, Wisconsin, and Minnesota. The EFC acts as a technical assistance, training, and research resource for state and local government, private sector, and non-profit organizations, helping to solve financial problems related to environmental facilities and resources.

One of the Great Lakes EFC's ongoing initiatives is providing Brownfields community site visit advisory services. Brownfields are properties whose financial potential is undermined by real or perceived contamination. The EFC provides professional training to state and local government officials, business executives, and others on environmental finance issues, strategies, and resources, helping clients make more effective use of financial resources for Brownfields redevelopment. The Great Lakes EFC's other projects include financial and economic analyses and market studies to support environmental project planning, development, and implementation, and the publication of research papers and documents.

Reference for Further Information: Region 5 Great Lakes EFC Website: <http://www.glefc.org/>, Phone: 216-687-2188. The EFC's publications are on its Website.

Region 6 Environmental Finance Center at New Mexico Tech

Description: The U.S. Environmental Protection Agency Region 6 Environmental Finance Center (EFC), also called the New Mexico Environmental Finance Center (NMEFC), is a program of New Mexico Tech's Institute of Mining and Technology. NMEFC provides technical assistance to state, tribal, and local governments and focuses on public and private water systems. The EFC seeks to identify viable financing options and promote low-cost, alternative, and appropriate technologies to achieve consistent and sustainable regulatory compliance and to develop sustainable infrastructure. The NMEFC seeks to develop and implement affordable pollution prevention and source reduction approaches, when possible. It aids New Mexico Tribal Drinking Water Utilities with public health protection measures pursuant to the Safe Drinking Water Act (SDWA), including compliance with the new SDWA Arsenic Standard. The NMEFC has also been focusing its recent efforts on helping communities with asset management.

Reference for Further Information: New Mexico EFC Website: <http://efc.unm.edu/>, Phone #: 505-272-7280, E-mail address: efc@efc.nmt.edu.

Region 9 Environmental Finance Center at California State University at East Bay

Description: The U.S. Environmental Protection Agency (EPA) Region 9 Environmental Finance Center (EFC9) is located at California State University at East Bay. EFC9 serves Arizona, California, Hawaii, Nevada, Guam, and the Marshall Islands. The mission of EFC9 is three-pronged: 1.) to encourage business to adopt source reduction, pollution prevention and energy efficiency; 2.) to encourage consumers to choose green products and services; and 3.) to help communities promote cleaner business. The EFC carries out many different types of initiatives including organization of conferences and workshops, local economic development, providing hands-on assistance to small businesses, and producing numerous publications.

Specific projects of EFC9 include production of a publication titled Wet Cleaning Guide Booklet, and working with television shows to educate viewers about ways to reduce their impact on the environment. EFC9 also acts as the Region 9 San Francisco Bay Area Green Business Program (GBP) Coordinator. The Bay Area GBP is a partnership of environmental agencies and utilities that assists, recognizes and promotes businesses and government agencies for conserving resources, preventing pollution and minimizing waste. In partnership with the Bay Area GBP, other GBPs located outside the Bay Area, the California Environmental Protection Agency, and the U.S. EPA, EFC9 helps to launch, coordinate, and promote GBPs.

Reference for Further Information: Region 9 EFC Website <http://www.efc9.org/>, E-mail info@efc9.org, Phone 415-664-1174. Most of EFC9's publications are available on its Website. San Francisco Bay Area Green Business Program (GBP) Website: <http://www.greenbiz.ca.gov/>.

Region 10 Environmental Finance Center at Boise State University

Description: The Environmental Protection Agency (EPA) Region 10 Environmental Finance Center, also called the Boise State EFC, was created in 1995 and is contained within the Department of Public Policy and Administration of the Boise State University (BSU) College of Social Sciences and Public Affairs. The Boise State EFC serves the Pacific Northwest and Intermountain states of Alaska, Idaho, Oregon and Washington. The EFC seeks to assist these states and their communities with environmental financing issues, and is committed to helping the regulated community build and improve upon the technical, managerial, and financial capabilities needed to comply with federal and state environmental laws.

The Boise State EFC is an important partner to state and local governments in addressing financing issues related to drinking water and wastewater treatment needs in small communities, helping those communities to meet requirements under the Safe Drinking Water Act of 1996. In addition, the EFC developed a financial planning software program for watersheds called Plan2Fund, and an integrated capital asset inventory and reinvestment analysis software program for water supply systems called CAPFinance. Both of these programs can be downloaded from the EFC's Website and are described on p. of the Guidebook.

Reference for Further Information: The Environmental Finance Center at Boise State University, Telephone: 208-426-1567, E-mail cmorehea@boisestate.edu, Website: <http://sspa.boisestate.edu/efc/>.

Finance Charrettes

Description: A "finance charrette" is a forum where a regulated entity meets with a panel of finance experts from the public and private sectors, and those experts offer advice and recommendations on finance issues faced by that entity. Adapted by the University of Maryland Environmental Finance Center for environmental finance problem solving, the charrette process employs an advisory panel of finance, planning and engineering experts, as well as federal and state officials, who help communities create solutions to their environmental management problems. Charrettes provide a direct mechanism for ensuring meaningful, constructive two-way communication, in this case between higher levels of government and local communities. Typically a charrette lasts a half day beginning with a description of the problems by, for example, officials from a local government. This is followed by question and answer sessions with the panel, and report out by panel members on the actions they recommend as individuals and as a group. The proceedings are taped and the results summarized.

Reference for Further Information: University of Maryland Environmental Finance Center Website: www.efc.umd.edu/charrette.html, E-mail: efc@umd.edu.

Water and Sewer Capacity Credits

Description: Water and sewer capacity credits, also called access rights, are charged on a one-time basis to new users requesting access, and old users requiring increases in capacity, to water and sewer facilities. In exchange for payment, applicants are guaranteed future access to a contracted amount of system capacity that has been reserved for their use. This is important because possible sewer moratoriums at a later date could prohibit new residential or commercial development. Many local governments and utility authorities sell water and sewer capacity credits to finance expansion of, or upgrades to, water and sewer systems. Water and sewer capacity credit programs are structured differently in different communities. Columbus, Ohio and the Upper Merion Municipal Utility Authority in Pennsylvania are examples of two jurisdictions that utilize capacity credits charged to customers as a financing mechanism for water and sewer facilities.

Reference for Further Information: University of Maryland Environmental Finance Center Website: <http://www.efc.umd.edu/appendixB.html>, see “Case: Developer Financing” at that URL. City of Columbus, Ohio Website: <http://downtownplan.columbus.gov/skylinedec02.htm>.

Co-Funding

Description: State and local governments often use co-funding, which is the combining of many different forms of funding, to finance environmental protection initiatives. An example of co-funding is the combining of federal and state loans, and perhaps grants as well, to fund the same project. Co-funding opportunities are particularly applicable and advantageous to small communities for funding wastewater and drinking water treatment, nonpoint source pollution prevention, and other environmental protection initiatives. The potential use of co-funding for environmental projects is great, especially if an agency is willing to take the lead in coordinating different funding sources, cycles and procedures. The New York State Water and Sewer Infrastructure Co-Funding Initiative is an example of one of the many state programs helping communities to find sources of government funding for water and sewer projects.

Reference for Further Information: Contact state and local government offices with inquiries- the Website for the environmental office of every state in the U.S. can be accessed through the Environmental Council of the States Website at <http://www.ecos.org/section/states>. New York State Water and Sewer Infrastructure Co-Funding Initiative Website: <http://www.nycofunding.org/newcofund/>.

North American Development Bank

Description: The North American Development Bank (NADBank), and its sister organization, the Border Environmental Cooperation Commission (BECC), were created in 1994 under the auspices of the North American Free Trade Agreement (NAFTA). NADBank and the BECC were created for the purpose of funding environmental infrastructure projects along the United States/Mexico border. NADBank is a bilaterally-funded, international organization, capitalized and governed equally by the United States and Mexico. The BECC reviews proposals for environmental projects in the region along the United States/Mexico border and certifies them for loan funding by the NADBank. The mission of NADBank is to serve as a binational partner and catalyst in communities along the United States/Mexico border in order to enhance the affordability, financing, long-term development, and effective operation of infrastructure that promotes a clean, healthy environment for the people of the region. NADBank can provide financial assistance to public and private entities involved in developing environmental infrastructure projects in areas near the border. Projects financed by the NADBank must address environmental issues within 100 kilometers of either side of the United States/Mexico border.

Reference for Further Information: North American Development Bank Website: <http://www.nadb.org/>. See “Border Environmental Cooperation Commission” in Guidebook Section 5. Border Environmental Cooperation Commission Website: <http://www.cocef.org/>.

Border Environmental Cooperation Commission

Description: The Border Environmental Cooperation Commission (BECC) was created within the context of the North American Free Trade Agreement process and is a sister agency to the North American Development Bank (NADBank). The BECC reviews proposals for environmental projects in the region along the US-Mexico border and certifies them for loan funding by the NADBank (see Section 2.B. of the Guidebook, North American Development Bank). Environmental areas emphasized by the BECC include municipal solid waste management and wastewater treatment. The purpose of the BECC is to help preserve, protect, and enhance the environment of the border region and to achieve sustainable development.

The BECC’s operating budget is funded by contributions from Mexico, through the Secretariat of the Environment and Natural Resources, and from the United States, through the Department of State and the Environmental Protection Agency. In addition to its operating budget, the BECC manages the Project Development Assistance Program (PDAP), which receives funding from the United States Environmental Protection Agency. This program allows the BECC to provide border communities with grant funds for water and wastewater projects.

Reference for Further Information: Border Environmental Cooperation Commission (BECC) Website: <http://www.cocef.org>, E-Mail: becc@cocef.interjuarez.com. NADBank Website: <http://www.nadb.org/>.

Rural Community Assistance Corporation

Description: The Rural Community Assistance Corporation (RCAC) is a nonprofit organization dedicated to helping rural communities achieve their goals and visions by providing training, technical assistance, and access to resources. Most RCAC services are provided to low income people and communities with populations fewer than 50,000. Working with governments and community organizations in rural areas, RCAC provides a wide range of development assistance involving housing, environmental services, financial assistance, and information and outreach. RCAC has a loan fund that provides loans to water and wastewater treatment facilities. The five major categories of assistance that RCAC provides to small municipal and nonprofit water systems, wastewater systems and solid waste management programs are Technical Assistance, Managerial Assistance, Financial Assistance, Networks and Advocacy, Publications, and Training. RCAC's publications are available on its Website.

Reference for Further Information: Rural Community Assistance Corporation Website: <http://www.rcac.org/>, E-mail: rcacmail@rcac.org, Phone: 916-447-2854.

Circuit Riders

Description: A circuit rider is a dedicated expert who travels on some established regular basis to a number of participating individuals and organizations to provide hands-on technical assistance, professional services, and education. The circuit rider can be either an independent entrepreneur contracting with the participants individually or as a group, or an employee of the participant group acting cooperatively. Furthermore, the circuit rider can work either full or part-time depending on the number of systems participating and the assistance and services provided.

For example, several publicly or privately owned water or other environmental systems may agree to jointly obtain administrative, management, technical, or other services from a common source to meet their common needs. The common source, the circuit rider, addresses the common need such as the collection of samples from each system and delivery of the batch to a lab for testing.

Reference for Further Information: For information on the Ohio T2 Center Circuit Rider Program, see <http://www.dot.state.oh.us/LTAP/ltapfaqs.htm>, or call them at 614-387-7359, or toll free from locations in Ohio at 877-800-0031. For information on the Massachusetts Department of Environmental Protection Circuit Rider Program, see <http://www.mass.gov/dep/water/compliance/cridr.htm>, phone # 617-292-5500. To find Circuit Rider Programs in other States, see the Environmental Council of the States (ECOS) Website at <http://www.ecos.org/section/states>. The Websites of the environmental offices of all U.S. States can be accessed through the ECOS Website.

Cooperatives

Description: A cooperative is an independent association of people and/or groups voluntarily united to meet common needs through a jointly owned and democratically operated venture. For example, several publicly and/or privately owned environmental systems could agree to jointly share administrative, management and technical resources in providing common environmental services. The resulting cost savings are either passed along to users, reinvested in the cooperative venture, or returned to the member systems.

Cooperatives are set up to provide/receive just about any good or service including: business services, financial services, employment, equipment and farm supplies, insurance, legal and professional services, the marketing of agricultural and other products, and utilities. They are organized in one of three ways: producer-owned, consumer-owned, or worker owned. Cooperatives allow systems to pool not just their resources, but also their technical expertise and knowledge regarding outside sources of assistance.

Reference for Further Information: See the U.S. Department of Agriculture, Rural Development, Business and Cooperative Programs Website at <http://www.rurdev.usda.gov/rbs/index.html>. Information is also available on the National Cooperatives Business Association Website at <http://www.cooperative.org>.

Drinking Water State Revolving Fund Capacity Development

Description: The 1996 Amendments to the Safe Drinking Water Act (SDWA) authorize the Drinking Water State Revolving Fund (DWSRF) and spell out requirements for states to prepare capacity development strategies for community drinking water distribution systems. The term “capacity development” refers to a state effort to help drinking water systems meet the requirements of the 1996 SDWA so that they can qualify for DWSRF funds. Each state is required under the SDWA to develop and administer its own capacity development plan.

All communities applying for DWSRF funds must demonstrate that their water systems have met SDWA capacity development requirements. Capacity development provides a flexible framework within which states and water distribution systems work together to ensure that the water systems acquire and maintain the appropriate infrastructure, and the necessary technical, financial, and managerial capacity, to meet those requirements. This helps to ensure that drinking water systems provide safe drinking water consistently, reliably, and cost-effectively.

Reference for Further Information: The federal capacity development strategy is outlined in Section 1420 of the 1996 SDWA Amendments. Section-by-section summaries, as well as the full text, of the 1996 SDWA Amendments can be found on the U.S. Environmental Protection Agency Website at http://www.epa.gov/safewater/sdwa/laws_statutes.html. For additional information on the SDWA, see <http://www.epa.gov/safewater/sdwa/index.html>. The full text of the 1996 SDWA Amendments is also available on GPO Access. Go to <http://www.gpoaccess.gov/> and search on “Public Law 104-182.”

National Technical Assistance Programs

Description: There are a growing number of national nonprofit technical assistance programs that facilitate the financing and implementation of environmental projects and programs. Such programs can include non-profit organizations ranging from environmental media-based associations to community-focused groups. They can also include university-based groups, professional associations and organizations, and cooperative networks.

Some examples of this type of organization include the American Waterworks Association, the Environmental Protection Agency (EPA) network of nine university-based Environmental Finance Centers (EFCs), the National Rural Water Association, the Rural Community Assistance Programs, and the National Environmental Services Center. Many national technical assistance programs have accumulated considerable experience and developed significant technical expertise in dealing with communities and their environmental and financing problems.

Reference for Further Information: American Water Works Association (AWWA) Website: <http://www.awwa.org/>, Phone: 303-794-7711. U.S. EPA Environmental Finance Center (EFC) Network Website: www.epa.gov/efinpage, Phone: 202-564-5001. National Rural Water Association (NRWA) Website: <http://www.nrwa.org/>, Phone: 580-252-0629. Rural Community Assistance Programs (RCAP) Website: <http://www.rcap.org/>, Phone: 202-408-1273 and 888-321-7227. National Environmental Services Center (NESC) Website: <http://www.nesc.wvu.edu/>, Phone: (800) 624-8301 and (304) 293-4191.

National Rural Water Association

Description: The National Rural Water Association (NRWA) is a nonprofit organization made up of State Rural Water Associations. The NRWA provides support services to its State Associations, who have more than 24,550 water and wastewater systems as members. The utilities that are members of NRWA serve populations of 10,000 or less, which represents 94% of all water systems in America.

NRWA's State Rural Water Associations offer a variety of state specific programs, services, and member benefits. Additionally, each State Association provides training programs and on-site assistance in the areas of operation, maintenance, finance, and governance to water and wastewater system personnel. Also, the NRWA operates the International Rural Water Association (IRWA). The IRWA's mission is to help improve water quality and, in turn, public health, in developing countries. The IRWA's primary goal is to make available the economic distribution of water treatment, training, and technical assistance to people in rural communities.

Reference for Further Information: National Rural Water Association Website: <http://www.nrwa.org/>, E-mail: info@nrwa.org, Phone: 580-252-0629.

U.S. Environmental Protection Agency: Water Efficiency Market Enhancement Program

Description: The U.S. Environmental Protection Agency (EPA) Water Efficiency Market Enhancement Program works to promote the use of more water-efficient products and practices in businesses and homes across the country. The Market Enhancement Program does this by reaching out to various organizations and fostering public-private partnerships. The Program seeks to help consumers and commercial/institutional buyers differentiate among products in the marketplace, helping them to buy the most water efficient products. In doing this, it strives to reduce water demand and realize major environmental, public health, and economic benefits by helping to improve water quality, maintaining aquatic ecosystems, and protecting drinking water resources. While this is a new EPA program, the Agency hopes to make water-efficient products and systems the preferred choice among consumers and buyers. The Market Enhancement Program has a list of products being evaluated for inclusion in the Program on its Website.

Reference for Further Information: Water Efficiency Market Enhancement Program Website http://www.epa.gov/owm/water-efficiency/products_program.htm, Phone 202-564-0637, Fax 202-501-2396, E-mail address water_efficiency@epa.gov.

Demand-Side Management Pricing

Description: Demand-Side Management Pricing, also called Peak Load Pricing, Demand-Responsive Pricing, and Critical Peak Pricing, is a unit pricing structure that is sensitive to the timing of usage (demand) during a utility system's peak hours or peak days. Usage that occurs during these peak periods is charged at a higher rate. Utilities must incur additional capital and operating costs to develop the capacity to meet peak demands. Through demand-side management pricing, these additional costs can be shifted to customers. Such pricing also tends to reduce peak demand by causing system users to reduce their use of the system or at least shift some portion of their usage to non-peak periods. As a result, the utility can "shave" operating costs and stretch existing investment, or reduce future investment in facilities necessary to meet peak period demands. The demand-side management pricing structure is most commonly used by electrical, gas, and communications utilities, and less frequently by water or sewer utilities.

Reference for Further Information: Electric Utility Consultants, Inc. Website: http://www.euci.com/web_conferences/0406-advanced-metering.php. See "Variable Electric Pricing on Tap?: PUC to Consider System that Charges Users More During Peak Midday Hours," by Tribble, Sarah Jane, San Jose Mercury News (CA), p. 1C at: <http://www.siliconvalley.com/mld/siliconvalley/14665066.htm>.

Conservation Pricing for Water Utilities

Description: There are a number of different types of full cost pricing used by utilities to encourage water conservation. Six of these pricing structures are described on the U.S. Environmental Protection Agency (EPA) Water and Wastewater Pricing Website. The U.S. EPA defines full cost pricing as “factoring all costs- past and future, operations, maintenance, and capital costs- into prices.” The four types of pricing described on the EPA’s Website as being most effective in encouraging conservation are increasing block rates, time of day pricing, water surcharges, and seasonal rates.

With increasing block rates, or tiered pricing, charges per unit of water are increased as the amount used increases. The first block is charged at one rate, the next at a higher rate, etc. Time of day pricing is a structure where higher prices are charged during a utility’s peak demand periods. Water surcharges are increased rates imposed on water consumption that is considered higher than average. With seasonal rates, prices rise and fall according to water demands and weather conditions, with higher prices generally charged in the summer. Each of these types of pricing qualifies as full cost pricing as long as all costs are recovered through prices.

Reference for Further Information: See the U.S. EPA Water and Wastewater Pricing Website at <http://www.epa.gov/water/infrastructure/pricing/index.htm>.

Capital Improvements Programs

Description: A Capital Improvements Program (CIP) is a planning and financial management process used by public sector agencies for identifying, prioritizing and scheduling planned capital improvements such as construction projects, watershed restoration initiatives, and storm water management projects. CIP’s are usually updated and revised on an annual or semi-annual basis. At their most basic, they involve an internal and public review process which results in a prioritized listing and schedule for future capital investments. More sophisticated CIP’s also contain a financing element which may consider sources of financing, impacts of facilities on operating costs, and effect on tax rates, debt loads and borrowing limitations. CIPs are used by most medium and large governmental units and public service providers throughout the nation to plan their capital investments, environmental and otherwise. Kansas City; Baltimore County, Maryland; and Florida are examples of jurisdictions with CIP programs.

Reference for Further Information: Kansas City Capital Improvements Management Office Website: www.kcmo.org/cimo.nsf/web/home?opendocument. Baltimore County, Maryland Website: http://www.co.ba.md.us/Agencies/planning/public_facilities_planning/cip.html. Northwest Florida Water Management District Website: http://www.nwfwmd.state.fl.us/rmd/swim/fla_forever_grants/fla_forever_grants.htm.

Cost-Share Programs for Nonpoint Source Pollution Control

Description: Under cost-share programs, landowners are provided with financial assistance to help them implement Best Management Practices (BMPs) for reducing nonpoint source pollution, which is pollution that is not traced to a specific source. Agricultural Best Management Practices (BMPs), which are conservation measures that prevent water pollution by reducing soil erosion and sedimentation, are frequently implemented with assistance from cost-share programs. Agricultural BMPs include conservation tillage, crop nutrient management, pest management, and conservation buffers. Cost-share programs for nonpoint source pollution control are generally administered at the state level and are funded with state, and sometimes federal, dollars. Delaware, Minnesota, and West Virginia utilize loan money from the federal Clean Water State Revolving Fund to fund their cost-share programs (see the links to the Environmental Protection Agency reports below).

Reference for Further Information: U.S. Environmental Protection Agency Reports: <http://www.epa.gov/owmitnet/cwfinance/cwsrf/agfact.pdf> and <http://www.epa.gov/owm/cwfinance/cwsrf/final.pdf>. Virginia Department of Conservation and Recreation Website: <http://www.state.va.us/dcr/sw/costshare.htm>. Minnesota Cost-Share Program Fact Sheet: <http://www.bwsr.state.mn.us/grantscostshare/costshare/factsheet2.html>.

Point Source/Nonpoint Source Trading

Description: In Point Source/Nonpoint Source Trading, a point source of pollution arranges for reduction of nonpoint source pollution discharges in the same watershed in lieu of making more expensive upgrades to its own treatment beyond the minimum technology-based treatment requirements. A number of conditions are necessary for a point source/nonpoint source trading program to achieve ambient water quality objectives. There must be a combination of point sources and nonpoint sources each contributing a significant portion of the total pollutant load in the watershed, and accurate and significant data to establish targets and measure pollution reductions. There must be significant pollutant load reductions for which the marginal cost (cost per pound reduced) for nonpoint source controls are lower than the costs for upgrading point source controls. Under ideal conditions, a trading program will both save money for point source dischargers and improve water quality.

Reference for Further Information: U.S. Environmental Protection Agency Website: <http://www.epa.gov/OWOW/watershed/tradetbl.html>. Horan, Richard, D, Abler, David G., et. al., "Cost-effective point-nonpoint trading: An application to the Susquehanna River Basin," *Journal of the American Water Resources Association*, April 2002, available at http://www.findarticles.com/p/articles/mi_qa4038/is_200204/ai_n9020966.

Special Districts

Description: A special district is an independent government entity formed to provide and finance governmental services for a specific geographic area, generally at the local level. Residents of special districts pay taxes to finance the improvements from which they will benefit. For example, a sewage special district might tax residents to finance improvements to wastewater treatment services. Special districts issue revenue bonds in a number of states. Examples of special districts include sewer and water districts, storm water management districts, regional solid waste and water resource authorities, regional port authorities, and regional air quality management districts. Local governments use special districts to finance capital facilities independently, relieving the burden on general debt capacity. For example, regional port authorities issue revenue bonds to finance port construction and/or renovation.

Reference for Further Information: Urban Land Institute Website: <http://www.uli.org>, search the Website on “special districts.” Porter, Douglas R.; Lin, Ben C.; Peiser, Richard B; *Special Districts: A Useful Technique for Financing Infrastructure*, Washington, D.C.: Urban Land Institute, 1987.

Tax Increment Financing

Description: Tax increment financing (TIF) provides for the temporary allocation of increased tax proceeds in a designated area generated by increases in assessed property values. In a basic TIF, property assessments are made at a pre-development, or pre-remediation, level in the specified area. Bonds are then issued to finance a portion of the redevelopment or remediation costs. As property values and assessments in the area increase, the municipality uses the added increment in tax revenues to meet the debt service on those bonds. The technique requires the creation of a special district and the maintaining of two separate sets of tax records. Tax increment financing has been used for many years by local governments across the country for a wide variety of economic development projects. It is a particularly effective tool for financing projects that provide measurable specific benefits to select, well defined groups of taxpayers, such as the remediation of a hazardous waste dump near a residential neighborhood.

Reference for Further Information: Wikipedia: The Free Encyclopedia Website: http://en.wikipedia.org/wiki/Tax_increment_financing. Illinois Tax Increment Association Website: <http://www.illinois-tif.com/>. City of San Antonio Economic Development Department Website: <http://www.sanantonio.gov/edd/incentive/tax/tif.asp>.

Community Development Financial Institutions

Description: Community Development Financial Institutions (CDFIs) are private sector financial intermediaries with community development, particularly in economically distressed communities, as their primary mission. There are six basic types of CDFIs: community development banks, community development loan funds, community development credit unions, microenterprise funds, community development corporation based lenders and investors, and community development venture funds. The CDFI Fund at the U.S. Department of Treasury works to expand the capacity of CDFIs to provide credit, capital, and financial services to underserved communities throughout the U.S. Examples of CDFIs include the Rural Community Assistance Corporation (RCAC), ShoreBank, The Community Preservation Corporation, and the Community Preservation and Development Corporation. CDFIs could assist with brownfields cleanup and redevelopment in economically distressed communities.

Reference for Further Information: Coalition of Community Development Financial Institutions (CDFIs) Website: <http://www.cdfi.org/>. U.S. Department of the Treasury Community CDFI Fund Website: <http://www.cdfifund.gov/>. Rural Community Assistance Corporation (RCAC) Website: <http://www.rcac.org/>. ShoreBank Website: <http://www.sbk.com/bins/site/templates/splash.asp>. The Community Preservation Corporation Website: <http://www.communityp.com/>. Community Preservation and Development Corporation Website: <http://www.cpd.org/>.

ELECTRONIC SERVICES

U.S. Environmental Protection Agency: Water and Wastewater Pricing Website

Description: The U.S. Environmental Protection Agency Water and Wastewater Pricing Website is a valuable source of technical and training information geared towards water systems operators, local utilities, and state and local regulators. It focuses on the “four pillars” of efficient water use and distribution, which are: enhancing utility management, saving water through efficiency measures, cooperative ventures via the watershed approach, and full cost pricing. Full cost pricing plays an important role in providing the public with clean and safe water.

EPA defines full cost pricing as “factoring all costs- past and future, operations, maintenance, and capital costs- into prices.” This approach is important to meeting the infrastructure needs of America. The site describes six different types of full cost pricing, and a type of pricing called “lifeline pricing” designed to make water more affordable for low income households. The four types of pricing described on the site as being most effective in encouraging conservation are increasing block rates, time of day pricing, water surcharges, and seasonal rates. The two types described as being less effective in encouraging water conservation are uniform rate structures and flat fee rates.

Reference for Further Information: Water and Wastewater Pricing Website:
<http://www.epa.gov/water/infrastructure/pricing/index.htm>.

Catalog of Federal Domestic Assistance

Description: The Catalog of Federal Domestic Assistance (CFDA) is an online database listing all federal programs, projects, services, and other initiatives providing financial benefits and other forms of assistance to the public. The CFDA contains detailed information on financial and non-financial assistance programs administered by departments, agencies, commissions, and other federal government establishments. Financial assistance programs listed in the CFDA include grants and loans, and non-financial assistance programs listed include loans of equipment and provision of specialized services. Information provided for each form of assistance includes program objectives, types of assistance, use and restrictions, eligibility requirements, application and award processes, and post assistance requirements. In addition, financial information such as range and average of financial assistance is provided, followed by program accomplishments; regulations, guidelines, and literature; information contacts, and examples of funded projects.

Reference for Further Information: Catalog of Federal Domestic Assistance Website:
<http://12.46.245.173/cfda/cfda.html>. A printed copy of the Catalog may be purchased from the Government Printing Office (GPO) by calling toll free 1-866-512-1800 or by logging on to the GPO's website at <http://bookstore.gpo.gov/>.

U.S. Environmental Protection Agency: Catalog of Federal Funding Sources for Watershed Protection

Description: The Catalog of Federal Funding Sources for Watershed Protection is a searchable online database of funding sources available for a range of different watershed protection activities. The Catalog contains information on more than 80 federal funding sources covering a wide variety of grant, loan and cost-sharing assistance programs. The Catalog's Website also has a link to "other funding sources" that provides users with an extensive listing of public and private sector sources, including publications and funding-related web sites, that could help secure additional sources of funding. The Catalog was created, and is administered, by the U.S. Environmental Protection Agency (EPA) Office of Wetlands, Oceans, and Watersheds.

On the Website, the user has a choice of two different types of searches. One type of search is based on subject matter criteria, and the other is based on words in the title of the funding program. Criteria searches consist of the type of organization, type of assistance sought, and keywords. The information provided for each program in the Catalog includes contact information, funding history, typical past awards, eligibility requirements, application deadlines, and matching funds/criteria requirements.

Reference for Further Information: See the Catalog's Website at: <http://www.epa.gov/watershedfunding>, or alternatively, at <http://cfpub.epa.gov/fedfund/>.

Boise State University Environmental Finance Center: Directory of Watershed Resources

Description: The Directory of Watershed Resources is a searchable online database for sources of watershed restoration funding. It produced and maintained by the U.S. Environmental Protection Agency (EPA) Environmental Finance Center (EFC) at Boise State University. The Directory includes information on funding programs from Federal, State (Oregon, Washington, Idaho, Alaska, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont), and private sources, and from other sources as well. Users can query the information in a variety of ways, including agency source or keyword, or they can opt to do a more detailed search.

The Boise State EFC points out on its Website that this Directory is a work-in-progress. Information is added to it and updated regularly. The EFC strives to maintain the most current information, but it still recommends that users visit the funding program Websites or contact the funding program administrators for the most up-to-date information. The Environmental Finance Center at the University of North Carolina has also developed a similar database that includes funding information for Alabama, Florida, Georgia, Mississippi, North Carolina and South Carolina.

Reference for Further Information: See <http://sspa.boisestate.edu/efc/> and click on "Directory of Watershed Resources: Search online for Funding Sources" under "What's New," or go directly to the Directory of Watershed Resources at: <http://efc.boisestate.edu/>. Contact: Crystal Morehead at the Boise State EFC, Phone: (208)426-1567, E-mail: cmorehea@boisestate.edu.

Boise State University Environmental Finance Center: Plan2Fund

Description: Plan2Fund is a Watershed Planning Tool developed and maintained by the U.S. Environmental Protection Agency's Environmental Finance Center (EFC) at Boise State University. The tool walks users through estimating the costs of their Watershed Program Plan's Goals and Objective, assessing any local matching funds, and determining funding needs to meet their Goals and Objectives. Plan2Fund prompts users to enter specific information on their programs and then generates a series of reports based on that information. The results from Plan2Fund can be used to search for funding sources utilizing the Environmental Finance Center's internet-based [Directory of Watershed Resources](#).

Reference for Further Information: See <http://sspa.boisestate.edu/efc/> and click on "Plan2Fund – New Budgeting and Planning Tool Available" under "What's New," or go directly to Plan2Fund at: http://sspa.boisestate.edu/efc/Tools_Services/Plan2Fund/plan2fund.htm. For information or assistance, or to request a Plan2Fund CD, call the Boise State EFC toll free at 866-627-9847.

Boise State University Environmental Finance Center: CAPFinance

Description: CAPFinance is an easy-to-use, icon-driven software program that helps public and private water systems with their financial decision-making. It was developed by the U.S. Environmental Protection Agency's Environmental Finance Center (EFC) at Boise State University. The reason for its development is because small water systems often have trouble estimating and budgeting for future replacement costs. The program helps local officials to understand the impacts of funding capital replacement, and it provides a simple method of analyzing funding options for renewal and replacement of assets. System management in CAPFinance can set the reserve accumulation goal for every component and subcomponent of the water system.

CAPFinance forecasts capital financing needs for 25 years or more. The program helps water utilities inventory capital infrastructure facilities and discover financing requirements, offering unlimited "pay now" or "pay later" scenarios. It produces a report with a detailed view of the future replacement costs and goals for each and every system component. The output from the program can be integrated into financial decision making such as rate setting and capital planning. This planning can help the water supply system to meet customer demands, maintain quality of service, maintain compliance with provisions of Safe Drinking Water Act, and secure the financial resources necessary to fund these efforts.

Reference for Further Information: For information on CAPFinance, or to download a CAPFinance Demo, see the Boise State University EFC's web site at http://sspa.boisestate.edu/efc/Tools_Services/CAPFinance.htm. CAPFinance can also be acquired in CD form by contacting Crystal Morehead at the Boise State University EFC by e-mail at cmorehea@boisestate.edu or by phone at 208-426-1567.

FEES

Connection Fees

Description: Connection fees, also called hookup fees, are charged to property owners at the time they connect with existing municipal drinking water and wastewater treatment facilities. Connection fees are generally levied by local governments or county governments. Some local governments charge low or no connection fees, particularly for businesses, essentially subsidizing the costs for drinking water and wastewater treatment and distribution with general revenues. Charging connection fees would provide local governments with a reliable source of revenues to finance drinking water and wastewater treatment plants and allow general revenues to be used for other purposes. Stockton, California and Camden County, New Jersey are examples of jurisdictions charging water and sewer connection fees.

Reference for Further Information: Raftelis Financial Consultants, Inc. Website:

<http://www.raftelis.com/default.html>, phone # 704-373-1199.

Raftelis, George, *Comprehensive Guide to Water and Wastewater Finance and Pricing*, third edition, CRC Press, 2005; available at <http://www.amazon.com>.

Stockton, California Website: http://www.stocktongov.com/MUD/General/permits_fees.cfm.

Camden County, NJ Website: <http://www.ccmua.org/connfees.html#whatis>.

Septic System Inspection Fees

Description: Septic system inspection fees are the charges for inspections of septic systems carried out by states and counties. Some states and counties require septic system inspections to be done periodically; and they charge septic system fees to finance the inspections. Prospective home buyers routinely have septic system inspections done before they purchase their homes. The State of Arizona mandates septic system inspections and finances them with septic system fees; and Leelanau County, Michigan considered doing the same. Septic system inspection fees capture revenues from households not connected to municipal sewers, but potentially impacting water quality due to septic tank leakage. Septic system inspection fees could be used to finance the creation of septic tank management districts to monitor and prevent spillage. Approximately 25% of the population in North America relies on septic tanks for sewage treatment.

Reference for Further Information: Wikipedia: http://en.wikipedia.org/wiki/Septic_tank.

Arizona Department of Environmental Quality Website:

<http://www.azdeq.gov/environ/water/permits/wastewater.html#onsitefees>.

“Septic inspection resurrected,” *Leelanau Enterprise*, available at

<http://www.leelanaunews.com/editorial.php?id=456>.

Aquifer Protection Area Fees

Description: Aquifer Protection Area fees are charged for withdrawals of subterranean water and on-site sewage disposal within Aquifer Protection Areas. Aquifer Protection Areas are delineated around wells serving as public water supplies. For example, the State of Washington authorizes counties within its borders to establish Aquifer Protection Areas and charge Aquifer Protection Area fees. The revenues raised with these fees are used to fund initiatives including the construction of wastewater treatment facilities and the preparation of a comprehensive plan to protect, preserve, and rehabilitate subterranean water. Spokane County, Washington charges Aquifer Protection Area fees for water withdrawal and on-site sewage disposal within the Spokane-Rathdrum Aquifer Protection Area. In 2004, a ballot measure to collect the Aquifer Protection Area fees for twenty more years was approved by Spokane County voters.

Reference for Further Information: Washington State Legislature Website:

<http://apps.leg.wa.gov/RCW/default.aspx?cite=36.36>.

Spokane County Website: <http://www.spokanecounty.org/utilities/faq.asp?faqid=8§ion=Aquife>.

“Spokane County Voters extend aquifer fees; Aquifer Protection Area,” *Spokesman Review*, Nov. 11, 2004, available at: http://findarticles.com/p/articles/mi_qn4186/is_20041111/ai_n11705929.

Water and Wastewater Utility User Fees

Description: User fees are the charges to industrial, commercial and residential customers for the use of water and wastewater utility services. These fees are used to finance the utility services. Customers receiving services are connected to central publicly or privately-owned facilities. Water meters and pollutant tracking have led to sophisticated billing procedures and rate structures based on volume and toxicity. Utilities can assess rates to cover their full costs including capital cost recovery (“full cost pricing”), or subsidize the costs of service with general revenues. User fees are limited to localities. A basic issue in rate-setting is the rate base and structure. Ascending block rates are sometimes used for conservation and other purposes.

Reference for Further Information: Raftelis Financial Consultants, Inc. Website:

<http://www.raftelis.com/default.html>, phone 704-373-1199.

Raftelis, George, *Comprehensive Guide to Water and Wastewater Finance and Pricing*, 3rd edition, CRC Press, 2005; available at <http://www.amazon.com>.

American Water Works Association, *Principles of Water Rates, Fees, and Charges*, 5th edition, 2000; available at <http://www.awwa.org/bookstore/product.cfm?id=30001>.

See “U.S. Environmental Protection Agency: Water and Wastewater Pricing Website,” a tool in Section 5 of this Guidebook. U.S. Environmental Protection Agency Water and Wastewater Pricing Website: <http://www.epa.gov/water/infrastructure/pricing/index.htm>.

Permitting Fees for Projects Affecting Navigable Waters

Description: Many states and local governments levy fees on permit applications for proposed projects affecting the course, current, or cross-section of lakes, wetlands, rivers, and streams. The revenues from these fees are often used to cover the processing costs for the permit applications. These permits include federal Army Corps of Engineers permit programs under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. They also include state and local permit programs, such as the Minnesota Department of Natural Resources' Public Waters Work Permit Program, Wetland Conservation Act permits administered by local governments in Minnesota, and permits under the Virginia Water Protection Permit Program. These types of permits help to protect wetlands and other water bodies from the impacts of development because specific environmental protection requirements must be met for the permits to be approved.

Reference for Further Information:

U.S. Army Corps of Engineers Website: <http://www.usace.army.mil/cw/cecwo/reg/ocecover.htm>.

Minnesota Department of Natural Resources Website:

http://www.dnr.state.mn.us/waters/watermgmt_section/pwpermits/applications.html.

Virginia Department of Environmental Quality Website:

<http://www.deq.virginia.gov/wetlands/permitfees.html>.

Professional Certification Fees

Description: Professional certification fees are charged to companies or individuals for the privilege of obtaining specific professional certifications. Fees are charged for certifications in disciplines including: construction management, wastewater system operation, water supply and wastewater engineering, air pollution control, general environmental engineering, hazardous waste management, industrial hygiene, radiation protection, solid waste management, and disposal and reuse of construction and demolition materials. The revenues raised with these fees can be used to fund environmental protection programs and training for professionals in environmental protection related industries.

Reference for Further Information: American Academy of Environmental Engineers Website:

<http://www.aace.net/Website/WhyCertified.htm>. Water Environment Federation Website:

<http://www.wef.org/ConferencesTraining/TrainingProfessionalDevelopment/WastewaterOperatorsCertification/>.

Solid Waste Association of North America Website:

<http://www.swana.org/www/EDUCATE/CERTIFICATION/ConstructionDemolitionMaterials/tabid/94/Default.aspx>. Construction Institute Website:
<http://www.construction.org/index.php?src=gendocs&link=ProfessionalCertification&submenu=Education>.

State Public Water Supply Withdrawal Fees

Description: State public water supply withdrawal fees are charged for permits for large quantity water withdrawals, generally 10,000 gallons per day or more. Virginia and Michigan are examples of states that charge these water withdrawal fees. Virginia charges public water supply withdrawal fees to subdivisions, public water systems, stores, and other entities for the right to withdraw water in quantities ranging from 10,000 gallons to over 100,000 gallons per day. “Large quantity withdrawals” are defined by the State of Michigan as water withdrawals of greater than 100,000 gallons per day averaged over a consecutive 30-day period. Michigan requires permits for certain new or increased large quantity water withdrawals, including water withdrawals from a Great Lake and water withdrawals from inland lakes or streams; and the state charges a \$2,000 fee for these permits. The demand for public water, particularly by industry, is relatively inelastic, resulting in stable and predictable revenues from these fees.

Reference for Further Information: Virginia Department of Environmental Quality Website:

<http://www.deq.state.va.us/gwpermitting/pnarchive.html>.

Announcement of new water withdrawal law for Michigan:

<http://www.deq.state.mi.us/documents/deq-wd-withdrawallaw-summary.pdf>.

Water Rights Application Fees

Description: State water rights application fees are imposed on applicants for water appropriations. A water appropriation is an authorization granted by a state to make private, beneficial use of the state’s water resources. Approved appropriations exist in the form of permits authorizing the use of either ground water or surface water. Fees are charged for applications for new appropriations; and they may be charged on a recurrent basis as well. Most western states charge water rights application fees. Revenues from water rights application fees are used to cover the costs states incur when they carry out various activities necessary to process the applications for new appropriations. These activities include site investigation, performance of environmental and hydro geologic analyses, investigation into whether the water is available or would impair other water users, and preparation of a report with the investigators’ findings and a recommendation of whether or not to approve the application.

Reference for Further Information: Bureau of Land Management Website:

<http://www.blm.gov/nstc/WaterLaws/abstract1.html>. Washington State Department of Ecology

Fact Sheet: <http://www.ecy.wa.gov/pubs/0511016.pdf>. South Dakota Department of Environment

& Natural Resources Website: <http://www.state.sd.us/denr/des/waterrights/faqwr.htm>.

Septic System and Well Permit Fees

Description: Many states, counties, and municipalities charge fees for the issuance of construction and use permits for septic systems and wells. Septic system permit fees are charged for permits required for new septic system installations, review of abandoned septic systems, septic system operators' licenses, and septic system pumping. Well permit fees are charged for permits required for the drilling of residential wells, well repairs and modifications, and inspections of wells, and for permits required for licensing companies and individuals who construct wells. Randolph, New Jersey and Monroe County, Michigan are examples of jurisdictions that charges fees for septic system and well permits. Delaware is an example of a state that charges fees for well permits. These fees help to cover the administrative costs of issuing these permits. The permits help to ensure that septic systems and wells are properly constructed and maintained in accordance with environmental laws and health regulations.

Reference for Reference for Further Information: Town of Randolph, New Jersey Website:

http://www.randolphnj.org/townhall/septic_wells_permits/.

Monroe County, Michigan Website: <http://www.co.monroe.mi.us/monroe/default.aspx?PageId=256>.

Delaware Division of Water Resources Website:

<http://www.dnrec.state.de.us/water2000/Sections/WatSupp/WellPermits/WSSWellPermits.htm>.

National Pollutant Discharge Elimination System Permit Fees

Description: The National Pollutant Discharge Elimination System (NPDES) Permit Fees legislation, passed in 2004, amends the Natural Resources and Environmental Protection Act (NREPA) and authorizes state environmental departments to collect NPDES Permit Fees consisting of annual permit fees and permit application fees. The NPDES Permit Fees are used as a means to obtain the appropriate funding to effectively operate the NPDES program. In addition, the Permit Fee Incentive for Clean Water Act (CWA) Section 106 Grants, an amendment proposed in 2006, would be a means for the U.S. Environmental Protection Agency (EPA) to provide a financial incentive for states to utilize a fee program that is adequate to provide sufficient funding when implementing an authorized NPDES permit program. EPA proposed this CWA Section 106 amendment, through an official publication in the Federal Register in 2007, to provide the Agency with the authority to allot a permit fee incentive amount. This action would not be effective prior to fiscal year 2008.

Reference for Further Information: U.S. Environmental Protection Agency Website:

<http://cfpub.epa.gov/npdes/> and <http://www.epa.gov/owm/cwfinance/npdes-permit-fee.htm>.

Michigan Department of Environmental Quality Website: http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3713-90130--,00.html.

Illinois Environmental Protection Agency Website: <http://www.epa.state.il.us/fees/npdes.html>.

Exactions

Description: Exactions, also called proffers, are conditions or financial obligations imposed on developers to aid local governments in providing public services needed to support new developments. They are administered by local governments. Exactions can take a number of different forms. They can include financing of existing infrastructure facilities or infrastructure improvements, donations of in-kind services, and donations of land, water and sewer lines, and road and parking facilities. Exactions can also take the form of impact fees paid in lieu of the types of donations described above. Exactions have the benefit of allowing more flexibility than impact fees because they are not required to be financial contributions. They may be offered voluntarily by developers; and local governments often negotiate them with each developer. Most localities use exactions in some form. Some localities assign building permits competitively based on the level of exactions offered by different developers.

Reference for Further Information:

Facenet: http://www.facsnet.org/tools/env_luse/nat9exactions.php3.

Public Policy Institute of California Website: <http://www.ppic.org/main/publication.asp?i=106>.

County of Albemarle, Virginia Website:

<http://www.albemarle.org/department.asp?department=planning&relpage=7084>.

BONDS

Advance Refunding Bonds

Description: Advance refunding is the issuance of a new bond to pay off another outstanding bond prior to the date on which the earlier bond can be redeemed or paid. Advance refunding is undertaken primarily to adjust outstanding debt to current interest rates, and/or to alter debt reserve requirements. The proceeds from the sale of the refunding bonds are used to buy taxable government securities, which are deposited in an escrow account. The escrow account is structured so that the principal and interest earned on the securities are enough to pay all principal, interest, and call premium, if any, on the outstanding bonds up to and including the call date. The 1986 Tax Reform Act limits each governmental activity bond issue to one advance refunding if the original issue was after 1985. Thus, bond leveraged State Revolving Funds are limited in their use of advance refunding.

Reference for Further Information: Graham, William; Shinn, P.; Petersen, J., *State Revolving Funds Under Tax Reform*, Council of Infrastructure Financing Authorities (CIFA) Monograph No. 2, Washington, D.C.: June 1989, to order contact CIFA at cifa@navigantconsulting.com.
CIFA Website: <http://www.cifanet.org/publications.html>.
WM Financial Strategies Website: <http://www.munibondadvisor.com/refunding.htm>.
Investopedia.com Website: <http://www.investopedia.com/terms/a/advancedrefunding.asp>.

Anticipation Notes

Description: Anticipation notes are short-term bond instruments repaid with anticipated revenues from various sources. They can be used to acquire immediate capital when other funding sources are delayed or not yet identified. For example, if a city anticipated a future federal grant for a project, the government might issue a revenue anticipation note to meet interim construction costs. State and local governments widely use anticipation notes. There are four primary types of anticipation notes: 1.) *Tax Anticipation Notes (TANs)*, which are short-term, tax-exempt notes issued in anticipation of tax receipts and paid from those receipts; 2.) *Revenue Anticipation Notes (RANs)*, which are issued in anticipation of other sources of future revenues, such as federal or state aid; 3.) *Bond Anticipation Notes (BANs)*, which are designed to provide financing until a future bond offering is made, and 5.) *General Obligation (GO) notes*, which are not backed by any particular revenue source, but by the full faith and credit of the issuing government. Interest rates for anticipation notes are typically higher than those for longer-term securities.

Reference for Further Information:

Investopedia.com Website: <http://www.investopedia.com/terms/r/ran.asp>.
First Public, LLC Website: <http://www.firstpublic.com/cities/financing/tan.shtml>.

Appropriation-Backed Bonds

Description: Appropriation-backed bonds are state special obligation bonds using a pledge of future state direct appropriations, typically annual appropriations, as the form of pay back to the bondholders. Such bonds may be either tax-exempt or taxable. State bond issuance is authorized by state legislatures, and the issuing authority may enter into a service contract or lease arrangement with the state or state agency undertaking the activity being financed. These bonds can be useful as a financing device to cover special needs which may fall outside of the normal budgeting cycle of state legislatures. Appropriation-backed bonds have been challenged legally in a number of states, on the grounds that legislative appropriation of funds does not constitute adequate assurance for the bondholders. This has made many states cautious about using them. In some states, use of such bonds is prohibited by the state constitution.

Reference for Further Information: The Bond Market Association, *Fundamentals of Municipal Bonds*, Fifth Edition: New York, NY, 2001, available through the Bond Market Association Website at <http://www.bondmarkets.com/story.asp?id=788>.
New York State Citizen's Guide: <http://www.budget.state.ny.us/citizen/financial/capital.html>.

Asset-Backed Securities

Description: An asset-backed security is a type of bond that is backed by a pool of financial assets. The financial assets in the pools backing these securities include credit card debt, accounts receivables, and mortgages. The mortgage-backed security market is so large, however, that it is often seen as separate from other asset-backed securities. For asset-backed securities, assets are pooled to make otherwise minor and uneconomical investments worthwhile, while reducing risk by diversifying the underlying assets. When a large portfolio of liquid assets is pooled together; the assets can be converted into instruments that may be offered and sold freely in the capital markets. A significant advantage of asset-backed securities is that they bring together a pool of assets that otherwise could not be traded easily in their existing form. That advantage could help small communities to use asset-backed securities for the purpose of funding environmental protection initiatives.

Reference for Further Information: Hayre, Lakhbir, *Solomon Smith Barney Guide to Mortgage-Backed and Asset-Backed Securities*: John Wiley & Sons, Inc., 2001, available at www.amazon.com. Wikipedia: http://en.wikipedia.org/wiki/Asset_backed_security.

Capital Appreciation and Zero Coupon Bonds

Description: Capital appreciation bonds (CABs) and zero coupon bonds (zeros) are used in the issuance of state and local general obligation and revenue-backed debts. CABs and zeros provide investors a guaranteed reinvestment rate, so they are most attractive to investors when interest rates are expected to fall. They are original issue discount bonds that are sold at face value (par). The issuer is not required to make periodic interest payments on CABs and zeros. Instead, the interest component is held by the issuer and compounded at a stated rate so the investor receives a lump sum multiple of the principal and interest when the bond matures. CABs and zeros are sold at deep discount from their face value. At maturity date, the security is redeemed at face value. The investor receives a rate of return based on the appreciation from the discounted price to the full face value. CABs are different from zeros in that the investment return on CABs is in the form of compounded interest rather than accreted original issue discount. CABs result in more bond proceeds for the same use of debt capacity (total par value) than do zero coupon bonds.

Reference for Further Information: Springsteel, Ian, "Who Needs Equity?: zero-coupon convertible bonds," *CFO: Magazine for Senior Financial Executives*, July 2001, available at http://www.findarticles.com/p/articles/mi_m3870/is_7_17/ai_77290112. Investorguide.com Website: <http://www.investorguide.com/igup1-advanced-bond-concepts.htm>.

Certificates of Participation

Description: Certificates of participation (COPs) are financial instruments used to finance capital projects. COPs are backed by the leasing of real property and physical assets, such as wastewater plants or equipment. The assets are held by a trustee, and the certificate issuer pays yearly lease payments to the certificate holders until the debt is repaid. If the certificate issuer defaults on the lease payments, the trustee is responsible for selling the physical assets and using the proceeds to reimburse the certificate holders. Certificates of participation can only be issued to finance capital projects where a real asset exists that is suitable as collateral, and only in jurisdictions where local authorities are allowed to negotiate long-term leases. COPs are similar to mortgage bonds and asset-backed bonds, but are not legally classified as such, so state and local governments can issue them without voter approval and without affecting their overall bonding capacity. Certificates of participation do not count against debt capacity limits. COP payments to private investors are tax-exempt. This financing mechanism is used in more than half of U.S. states.

Reference for Further Information: O'Meara, Kelly P., "Creative financing: dozens of municipal projects in Los Angeles County have been financed using bondlike instruments called COPs, which critics charge have allowed officials to enter into.....," *Insight on the News*, April 15, 2002, available at http://www.findarticles.com/p/articles/mi_m1571/is_13_18/ai_84804831. Orrick Website: http://www.orrick.com/practices/public_finance/leaseRevenue.asp.

Derivatives

Description: A derivative is a financial instrument which derives its value from a specific, underlying market or index. From an accounting perspective, a derivative is defined as having two characteristics: 1.) the holder has the right to participate in some or all of the price change experienced by the underlying market or index, and 2.) the instrument's value at maturity can be settled in cash as opposed to taking ownership of the underlying market or index. For example, a bond paying an interest rate based on changes in the stock market may be called a derivative because its value changes in response to a market. The market may be measured by an index such as Standard and Poor's 500. Many different financial instruments; including swaps, caps, options, puts, calls, and collars; are classified generically as derivative products. These financial instruments all derive their value from the performance of specific indices or cash markets.

Reference for Further Information: The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed.; John Wiley & Sons, Inc.; 2001, available at <http://www.amazon.com>. Wikipedia: http://en.wikipedia.org/wiki/Derivative_%28finance%29.

Double-Barrel Bonds

Description: A double-barrel bond is a municipal revenue bond secured by a pledge of two or more sources of payments, typically a user fee and, secondarily, by the credit of the issuing government through *ad valorem* taxes, which are taxes based on the assessed value of property. State and local governments use double-barrel bonds to finance environmental improvements, including renovation of wastewater treatment plants, construction of drinking water utilities, and creation of storm water management districts. The revenue stream pledge may be in the form of multiple taxes, such as the real estate transfer tax or special assessment taxes. Double-barrel bonds can provide cheaper capital than conventional revenue bonds for projects that generate revenue. They are a good means for states or localities, particularly those with low credit ratings or low debt capacity, to obtain lower interest rates on bond issues compared to conventional revenue bonds.

Reference for Further Information: The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed., John Wiley & Sons, Inc.; 2001, available at <http://www.amazon.com>. Answers.com: <http://www.answers.com/topic/municipal-bond>.

General Obligation Bonds

Description: General Obligation (GO) bonds are backed with the guarantee that the issuing government will use its taxing power to repay them. GO bonds are regarded as safer than bonds backed by a single revenue source, and generally command lower interest rates and lower reserve fund requirements. There are two primary types of GO bonds: unlimited *ad valorem* tax debt and limited *ad valorem* tax debt. *Ad valorem* taxes are based on the assessed value of property. Unlimited *ad valorem* tax debt occurs when the government pledges its full faith and credit with no limitations on possible property tax rates. Limited *ad valorem* tax debt occurs when the government pledges its full faith and credit, but with a cap or restriction on possible property tax rates. Occasionally, a GO bond may be backed by a specific revenue source. State and local governments use GO bonds to finance capital projects for environmental protection initiatives such as lands purchases. State referendum environmental bonds, which are often very large, are GO bonds paid for by a variety of sources of revenue including appropriations. GO bonds are suitable for financing projects that require large amounts of capital up-front. Voter approval is frequently required for GO bonds.

Reference for Further Information: The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed., John Wiley & Sons, Inc.; 2001, available at <http://www.amazon.com>. Answers.com: <http://www.answers.com/topic/municipal-bond>. Municipal Bond Information Guide: <http://www.southwest.msus.edu/RDIC/gobond.html>.

Mini/Baby Bonds

Description: Mini Bonds are characterized by direct marketing from issuers to investors. They are also called baby bonds because of their relatively low face or par values which are generally below \$1000. Modeled after federal savings bonds, they bring segments of the bond market within reach of small investors and open a source of funds to issuers without access to the large institutional market. Mini bonds have characteristics designed for investors with various objectives. For example, some are structured as capital appreciation bonds so investors do not have to reinvest periodic interest earnings (see “Capital Appreciation and Zero Coupon Bonds” in this section of the Guidebook). Mini bonds have been used extensively at the state and local levels since the 1970's. They could be used to finance relatively small, targeted environmental investments, such as nonpoint source pollution control measures and stream restoration.

Reference for Further Information: Melvin, Sean P., “Itsy-bitsy bonds: Raising money: No more waiting around till your company hits the multimillion-dollar mark- now bonds are for businesses of all sizes,” *Entrepreneur*, January 2002, available at http://www.findarticles.com/p/articles/mi_m0DTI/is_1_30/ai_83790627. Business Editors, “Lower Colorado River Authority-TX-Rev Mini-Bonds RTD ‘AAA,’” *Business Wire*, New York, Feb. 3, 2000, available at http://www.findarticles.com/p/articles/mi_m0EIN/is_2000_Feb_3/ai_59169468.

Moral Obligation Bonds

Description: A moral obligation bond is a bond secured with revenues from a financed project, as well as a non-binding pledge that any deficiency in pledged revenues will be reported to the state legislature, which may appropriate state monies to make up the shortfall. Under most state laws, if a draw down of the bond's debt reserve occurs, the bond trustee must report the amount used to the governor and the state legislature. The state legislature is then authorized to appropriate the requested amount to repay the bondholders, although there is no legally enforceable obligation to do so. New York, the first state to issue moral obligation bonds, used the bonds to finance a housing authority. Moral obligation bonds can be used to acquire project capital at lower rates than revenue bonds. They generally do not count against debt issuance limitations. Moral obligation bonds can obtain interest rates almost as low as general obligation bonds because they are backed by the pledge of repayment.

Reference for Further Information: Council of Development Finance Agencies Website: <http://www.cdfa.net/cdfa/cdfaweb.nsf/pages/sep2003tlc.html>. The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed., John Wiley & Sons, Inc.; 2001, available at <http://www.amazon.com>. Investopedia.com: <http://www.investopedia.com/terms/m/moralobligationbond.asp>.

Private Activity Bonds

Description: “Private activity” or “exempt” is a term used to describe industrial development bonds and other similar types of bonds which meet one of a number of tests under federal tax law measuring private involvement in a bond financing. The most commonly used definition includes bonds which meet both the private business use test and the private payment definition. The private business use test is met when no more than ten percent of bond proceeds are used by an entity other than a state or local government unit. The private payment test is satisfied when no more than ten percent of debt service on the bonds is directly or indirectly paid or secured by a private entity. Most of these restrictions fall under the 1986 Tax Reform Act. State and local private activity bonds may be issued on a tax-exempt basis for specifically identified purposes if a myriad of specific rules are satisfied. Although interest on such bonds is exempt from the regular income tax, interest on the bonds (other than for bonds issued for 501(c)(3) charitable organizations) is an item of “tax preference” for purposes of the alternative minimum tax. Private Activity Bonds are used to fund facilities for the furnishing of water and sewage, solid waste disposal facilities, and qualified educational facilities.

Reference for Further Information: The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed., John Wiley & Sons, Inc.; 2001, available at <http://www.amazon.com>. Internal Revenue Service, Tax Exempt and Government Entities, “Tax Exempt Private Activity Bonds,” 2004, available at <http://www.irs.gov/pub/irs-pdf/p4078.pdf>.

Revenue Bonds

Description: “Revenue bond” is a broad term used to describe bonds on which the debt service is payable mainly from revenue generated through the operation of the project being financed, or from other non-property tax sources. They may be issued by state and local governments, or by an authority, commission, special district, or other unit created by a legislative body for the purpose of issuing bonds for facility construction. Revenue bonds now account for the clear majority of municipal bonds used to finance water, sewer, and solid waste infrastructure in the United States. Revenue bonds are usually tax-exempt. Bond interest rates may be higher for revenue bonds compared to general obligation bonds, and even higher for taxable revenue bonds. Revenue bonds do not count against debt ceilings, but the national rating agencies take them into account in financial capability analyses. State Revolving Fund (SRF) bonds, private-activity industrial development bonds, and mortgage lease-backed bonds are examples of revenue bonds.

Reference for Further Information: The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed.; John Wiley & Sons, Inc.; 2001, available at <http://www.amazon.com>.
Municipal Bond Information Guide: <http://www.southwest.msus.edu/RDIC/revbond.html>.
State of Montana Website: <http://www.mtfinanceonline.com/typesofbonds.asp>.

Short-Term Municipal Bonds

Description: Traditionally, the phrase “short-term municipals” has meant short-term municipal bonds and short-term securities known as notes. There are two main types of notes, anticipation notes and general obligation notes. All of these instruments generally have maturities ranging from a few months to a few years, have fixed interest rates, and are issued in anticipation of a bond issue, grant proceeds, or tax collections. In the 1980s a new, broader class of “short-term municipals” was developed. These new “short-term municipals” are known as demand obligations or variable rate demand obligations. They are long-term bonds with yields determined as if they were short-term notes. The bond holders can demand purchase of their bonds at par (the principal due at maturity), plus accrued interest. The interest rates vary at predetermined intervals, and are higher than the rates for many other types of bonds. State and local governments issue “short-term municipals” of all types, traditional and new, to meet capital needs while waiting for long-term funding revenues. These bonds are issued to fund activities such as urban renewal and wastewater treatment.

Reference for Further Information: The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed., John Wiley & Sons, Inc.; 2001, available at <http://www.amazon.com>. Answers.com: <http://www.answers.com/topic/municipal-bond>.

Special Assessment Bonds

Description: Special assessment bonds are issued by local governments and/or special authorities and are secured by special taxes, charges, or fees. These bonds are sold to finance specific public infrastructure improvements that directly benefit the property owners in limited, identifiable areas. Assessments are levied on properties in the areas in direct relation to the benefits received from the projects. The assessments are based on property measurement systems related to the benefits such as street front-footage or square footage owned. The system for collecting assessments is usually tied to the collection of *ad valorem* property taxes, which are taxes based on the assessed value of property. Most special assessment bonds have maturities of 15 years or less. Examples of projects funded by special assessment bonds include the construction, maintenance, and/or repair of water and sewer lines, storm drains, sidewalks, and roadways, and public improvements including parks, bicycle paths, and landscaping.

Reference for Further Information: Standard and Poor's Corporation, *Standard and Poor's Municipal Finance Criteria*, S & P Publications: 1993. The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed.; John Wiley & Sons, Inc.: 2001, "special assessment bonds" listed in index under "Bonds," available at <http://www.amazon.com>.

Special Tax Bonds

Description: Special tax bonds are backed by pledges of proceeds from specific tax sources. They are usually issued by local governments to finance specific types of facilities or environmental protection initiatives. For environmental purposes, particularly for the financing of parks and open space purchases, localities use special tax bonds financed out of local sales tax surcharges or property tax surcharges. Such surcharges may be approved for a limited time period or to collect a specified amount of money. Special tax bonds have long been issued by highway authorities, paid for out of highway taxes, to finance highways, roads and bridges. Special tax bonds combine some of the characteristics of revenue bonds, general obligation bonds, and special assessment bonds. They differ from special assessment bonds in that tax rates are a flat percentage as opposed to being proportional to the benefit being received from the new project by individuals paying the tax.

Reference for Further Information: The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed.; John Wiley & Sons, Inc.; 2001, "special-tax" is listed in the index under "Bonds," available at <http://www.amazon.com>.

State Revolving Fund (SRF) Revenue Bonds

Description: State Revolving Fund (SRF) revenue bonds are issued to expand, or leverage, loan funding sources for local projects that meet the eligible project criteria under the Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF). States use SRF dollars as security or as a source of revenue for the payment of principal and interest on bonds. Although SRF revenue bonds are issued at market rates, local borrowers receive loans at below market interest rates, subsidies provided in part by investments of the large bond debt reserve funds. SRF revenue bonds may be issued to provide for the required 20% state match to SRF federal capitalization grants. Many CWSRFs have received AAA ratings for their SRF revenue bonds. The bond leveraging approach has resulted in more loans being made, and more projects being funded, compared to the direct loan approach.

Reference for Further Information: See “U.S. Environmental Protection Agency: Clean Water State Revolving Fund” and “U.S. Environmental Protection Agency: Drinking Water State Revolving Fund” in Guidebook Section 2b. “Fitch Rates Missouri SRF’s \$23.5MM Revenue Bonds ‘AAA,’” Business Wire, Sept. 23, 2005, available at http://www.findarticles.com/p/articles/mi_m0EIN/is_2005_Sept_23/ai_n15627483. Water Infrastructure Network Website: <http://win-water.org/legislativecenter/103101farrell.shtml>. Oklahoma Water Resources Board Website: <http://www.owrb.state.ok.us/financing/news/fanews.php>.

Tax Increment Bonds

Description: Tax increment bonds, which differ slightly from special assessment bonds, are tax-exempt bonds issued by local governments for special assessment or improvement districts where the benefit from the project being financed is specifically manifested through higher property values. Tax increment financing is used to generate revenue for bond repayment from the incremental change in property values caused by the financed improvement. After the creation of a special financing district by ordinance, two sets of tax records are maintained, one that reflects the property's value before the enhancement, and a second that reflects growing assessed values (and payments) after the enhancement and serves as the source of bond repayment. Tax increment financing bonds for revitalization projects may be backed by revenue pledges in addition to anticipated increases in property value, called "value capture," which makes them highly leveraged.

Reference for Further Information: “Tax Increment Financing” in Guidebook Section 8. “Special Assessment Bonds” in this section of the Guidebook. The Bond Market Association; Temel, Judy W.; *The Fundamentals of Municipal Bonds*, 5th ed.; John Wiley & Sons, Inc.; 2001, “tax-increment” listed under “Bonds” in index, available at <http://www.amazon.com>.



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