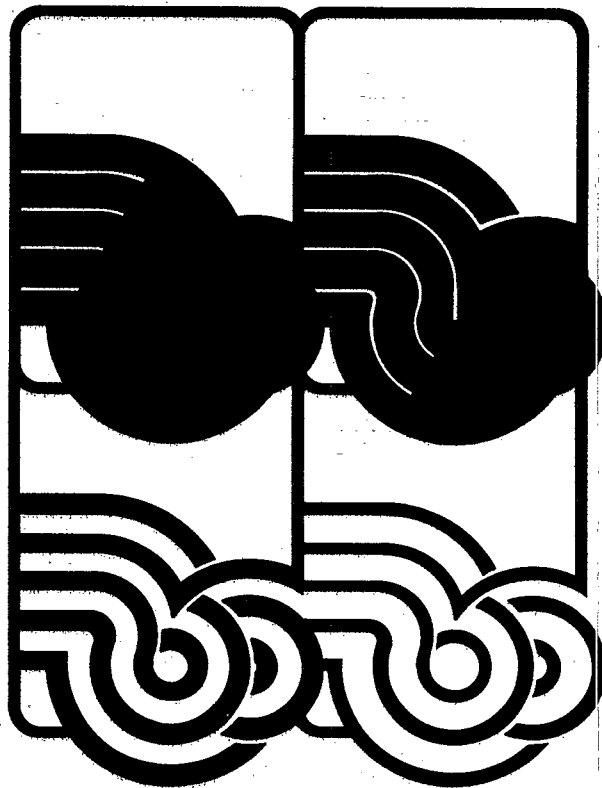
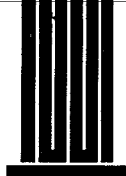


# **Building Blocks . . .**

**For  
Self-Sustaining  
Municipal  
Wastewater  
Facilities**





## Federal Guidance and Assistance

To assist the community in developing the financial resources to plan, build and manage a self-sustaining wastewater treatment facility, the EPA has prepared the following materials.

### **Financial Capability Guidebook**

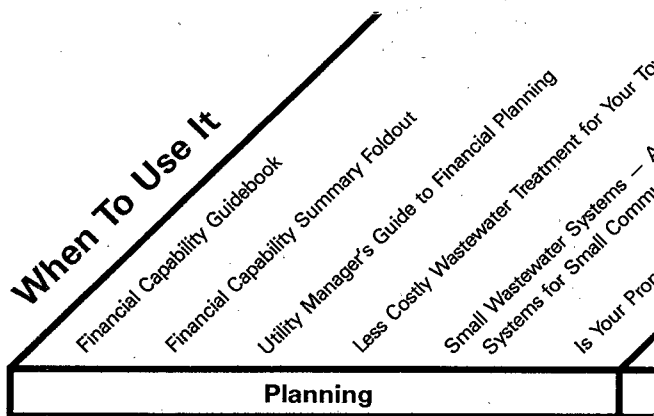
Provides a detailed approach to analyzing the financial capability of a community to build, operate, and maintain a wastewater treatment facility.

### **Financial Capability Summary Foldout**

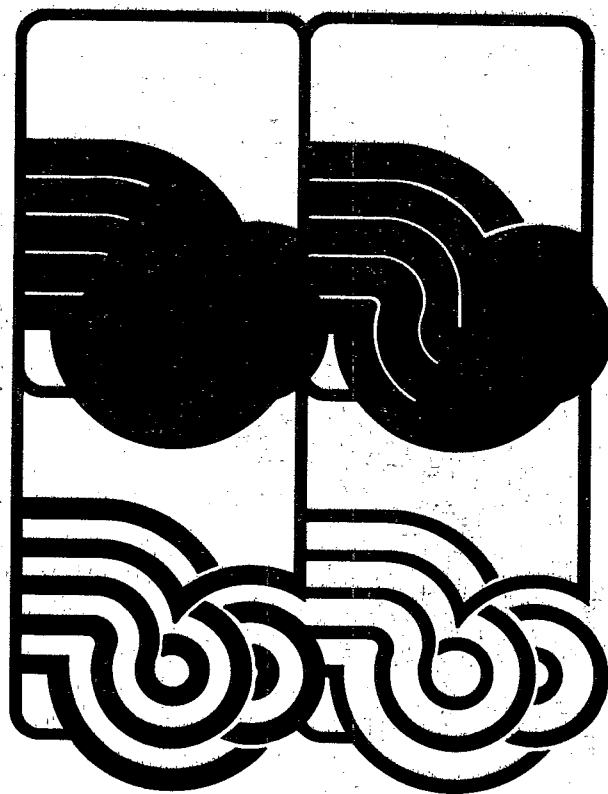
Provides a smaller, simpler version of the approach used in the Financial Capability Guidebook to assist communities that do not need detailed guidance for conducting a financial capability analysis.

### **Utility Manager's Guide to Financial Planning**

Provides local officials with an overview of the elements of financial planning and the financial management process necessary to support a wastewater treatment system and keep it self-sustaining.



# **Municipal Wastewater Treatment:**





## Community Role



## Planning

During the planning phase a community identifies its wastewater treatment needs and evaluates alternative solutions. It selects the alternative that will do the best job at the least cost over the entire life of the facility. In selecting an alternative, the community should examine the resources necessary to operate the facility and the method of financing its design, construction, and operation. Both the capital cost to build the facility and the cost of operation and maintenance must be considered. The goal is to develop a self-sustaining wastewater treatment facility — one that has the financial and management resources to support the system during its entire life. This goal can only be achieved through careful financial planning in conjunction with facilities planning. An adequate financial analysis should consider the following questions:

1. How much will the facility cost, both to construct and to operate?
2. How will construction, operation and maintenance be financed?
3. What is the annual cost per household?
4. How will the public view these costs?
5. What is the community's financial condition? Take the following into account:

- outstanding indebtedness
- state finance laws and legal debt limits
- household or per capita income
- trends in revenue sources
- reasonableness of population projections

If the answers to these questions lead to the conclusion that the system is beyond the financial resources of the community, the financial and technical alternatives should be re-examined to seek an affordable solution.



## State Agency Role

- Establish water quality standards.
- Issue and enforce wastewater discharge permits.
- Establish a priority list that identifies local projects scheduled for EPA funding.
- Manage the day-to-day aspects of the construction grants program.
- Provide technical and financial wastewater management assistance to communities.
- Review and approve local wastewater treatment projects.



## EPA Role

- Develop regulations to implement the Clean Water Act.
- Establish national clean water policies and objectives.
- Establish national technology based standards (e.g., secondary treatment).
- Provide overview of progress toward achieving national objectives.
- Provide guidance and assistance to State and local agencies.
- Oversee implementation of the construction grants program.

combination of customer charges, general taxes or other revenue sources available to the community.

The community should identify all revenue sources and ensure that they are adequate to maintain a self-sustaining facility. The method of financing, normally evaluated during the planning phase, is finally selected during the design phase when the community begins making the necessary financial arrangements to build the system. This may include applying for assistance through a construction grant from the EPA, a State assistance program, or another source such as the Farmers Home Administration.

Necessary local funds must be raised. This may include issuing revenue or general obligation bonds, acquiring loans from lending agencies or banks, or attracting private investment. Revenue bonds are paid off from the revenues of the treatment system. General obligation bonds, in which the full faith and credit of the issuing government is pledged to ensure payment, are paid off from general revenues such as taxes.



## Construction

During the construction phase, the community not only arranges for the building of the wastewater treatment system but also monitors and controls the costs of construction, disburses funds to pay for the work, and accounts for the money spent.

This requires that community officials or their engineers inspect the contractor's work, monitor construction progress, resolve disputes arising from changed construction conditions, and agree to any necessary adjustments to the construction costs. At this time it is also essential to develop a system to account for costs and manage grant disbursements.



## Operations

Operating a completed wastewater treatment facility often places the most critical burden on the community. Continued financial and management commitments must ensure sustained performance of the wastewater treatment system to meet the permit limits.

Technical, financial, and management information should be collected and analyzed to identify operational and management problems and their causes and solutions before they affect performance.

# Who is Responsible?

The greatest responsibility for the goal of clean water lies with the community. While clean water for the nation must be achieved by mutual commitment of all levels of government — local, State and Federal — it is the community that must make sure that wastewater treatment facilities are planned and constructed properly. It is also the community that makes the long-term commitment to operate and maintain the system throughout its useful life. To meet these responsibilities successfully, communities must provide adequate financial resources and effective financial management. This brochure describes the financial steps that communities must take in order to build and operate a self-sustaining wastewater facility and identifies guidance materials available to help accomplish each step.

In the effort to clean up pollution caused by municipal wastewater, communities, State agencies, and the U.S. Environmental Protection Agency (EPA) have the following prescribed roles and responsibilities.

User charge and capital cost recovery systems must be reviewed and updated to ensure revenues sufficient to support the facility on a self-sustaining basis.

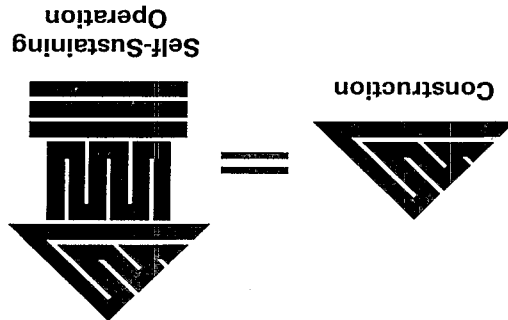
Preventive maintenance systems must be implemented and adequately funded to prevent failure or the premature deterioration of the wastewater treatment system.

cost estimates of the system. It is important during this phase to identify those items essential to operation and maintenance and those items that are optional. For example, sidewalks, concrete gutters and paved roadways can significantly increase costs without affecting the operation or safety of the system.

If, during the design phase, the engineer determines that the cost estimates have increased significantly over those of the planning phase, the community should review its financial analysis to determine if the system is still within the financial means of the community. Indeed, anytime the community's financial status changes (for example, an increase in unemployment) the financial analysis should be reviewed. During design, the community should begin to develop the management and financial systems necessary for a self-sustaining facility. These include the operating budget, a user charge system, and a program for debt repayment or recovery of capital costs.

The operating budget identifies the basis for determining the annual operation, maintenance, and equipment replacement (O, M&R) costs as well as the costs of personnel, material, energy and administration.

The user charge system specifies how customers are charged for wastewater treatment service. For example, customer charges can be based on the cost per gallon of wastewater treated, a flat rate, the value of property (where appropriate) or a combination of several methods. Also included in a user charge system is a financial management system that accurately accounts for revenues generated by the system and expenditures for operation and maintenance, including replacement of major equipment. At a minimum, the user charge system should:



- generate revenues adequate to recover costs and
- charge customers in proportion to their use of the facilities.

The system for recovering capital costs is sometimes separate from the user charge system for recovering O,M&R costs. Capital costs may be recovered through a

### **Less Costly Wastewater Treatment for Your Town**

Highlights the type of appropriate technology suitable for wastewater treatment in small communities and the comparative costs for each.

### **Small Wastewater Systems — Alternative Systems for Small Communities and Rural Areas**

Acquaints the layperson with some representative alternative treatment systems that are appropriate for small communities and rural areas.

### **Is Your Proposed Wastewater Project Too Costly?**

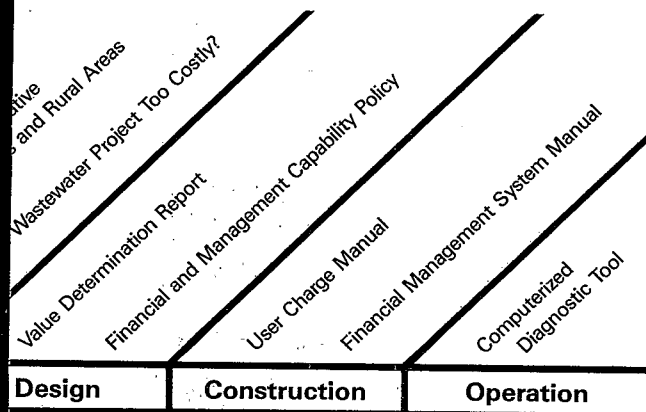
Contains information on the financing and management problems faced by small communities using centralized sewer systems. It offers guidance for identifying potential problems and suggests possible corrective measures.

### **Value Determination Report**

Describes North Carolina's highly successful review procedures for reducing project cost by eliminating items which are not needed for adequate performance.

### **Financial and Management Capability Policy**

Explains the requirement to demonstrate financial capability in order to receive construction grants assistance.



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Agency

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Program Operations  
Washington, D.C. 20460

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