

FUNDING SEPTIC SYSTEM REPAIRS IN GWINNETT COUNTY THROUGH THE CLEAN
WATER STATE REVOLVING FUND

by

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(Under the Direction of Laurie Fowler)

ABSTRACT

Gwinnett County, in metropolitan Atlanta, Georgia has one of the highest concentrations of onsite sewage systems in the state with approximately 100,000 septic systems. Failing septic systems can be a contributing source of fecal coliform bacteria which is a contaminant in some of Gwinnett County's waters. Through the Total Maximum Daily Load program of the federal Clean Water Act, Gwinnett County is responsible for monitoring and reducing the levels of fecal coliform pollution in its waterways. There are limited options for financial assistance to help homeowners pay for repairs to failing septic systems. The Clean Water Act State Revolving Fund (CWSRF) program is a potential funding source. Through the CWSRF program, states maintain revolving loan funds to provide low-cost financing for water quality improvement projects. This thesis evaluates the feasibility of having a municipality, Gwinnett County, establish a linked deposit lending program to access CWSRF financing for septic system repairs.

INDEX WORDS: Septic system, Clean Water State Revolving Fund, Linked deposit lending

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DEDICATION

This thesis is dedicated to Theresa Margaret Smith Kiser. I will always remember her wonderful laugh, love of life, and garden parties. She is dearly missed.

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CHAPTER 1

INTRODUCTION

PURPOSE OF STUDY

The purpose of this thesis is to explore the feasibility of establishing a linked deposit lending program using Clean Water State Revolving Funds to finance septic system repairs in Gwinnett County, Georgia. Gwinnett County, in metropolitan Atlanta, has one of the highest concentrations of onsite sewage systems in the state with approximately 100,000 septic systems. Failing septic systems have been identified as a contributing source of fecal coliform bacteria which is a contaminant in some of Gwinnett County's waters. Through the Total Maximum Daily Load (TMDL) program of the federal Water Pollution Control Act, Gwinnett County is responsible for monitoring and reducing the levels of fecal coliform pollution in its impaired waterways. Currently there are limited options for financial assistance to help homeowners pay for repairs to failing septic systems, especially for low-income individuals who can not obtain financing from traditional sources. One potential funding option is the Clean Water Act State Revolving Fund (CWSRF) program. Title VI, Section 601 of the Federal Water Pollution Control Act provides funding to the states to maintain revolving loan funds for water quality infrastructure projects.

The goal of this thesis is to provide a road-map for how a municipality or community can set up a linked deposit program to disburse CWSRF funds to homeowners. In a linked deposit lending mechanism, an SRF agency partners with lending institutions and municipalities so that borrowers can access CWSRF low-interest loans. This model has been used successfully in other states and is attractive because it provides access to low-interest loans, limits the county's

involvement, and ensures that the financial and banking transactions are handled by institutions that are designed and organized to manage those functions. The Georgia CWSRF has not used this type of financing mechanism to date.

Successful implementation of a linked deposit lending program is contingent upon providing necessary incentives for all parties involved. The participants in a linked deposit program are the CWSRF agency, approving authorities at the county level, lending institutions, and borrowers. Any party that is considering participation in the program will weigh their own costs against their own benefits. A homeowner will consider the benefits such as access to reduced interest rate loans and thus, financial savings against costs such as the time needed to meet the administrative requirements to sign up for the program. A lending institution may not be willing to participate unless it can realize profits or some other gain. If a septic system maintenance requirement existed, it would increase the benefit and incentive for homeowner participation in this type of program. Alternatively, in the absence of a legal enforcement measure, the cost to the homeowner may be decreased by providing access to low-interest loans which are subsidized through the SRF program.

METHODOLOGY

This project is interdisciplinary in that it combines legal, scientific, political, and financial components. The research process can be organized into the following three areas: literature and website review, personal interviews, and the synthesis of information into the roadmap for implementation of a linked deposit lending program for septic system repairs in Georgia.

The literature and website review involves analyzing data gathered from a wide range of sources including federal, state, and local government documents and reports and laws and

regulations. Government policy and technical documents are the primary source for the literature review because there are, to the best of my knowledge, limited academic journal articles on this specific topic. The interviews were conducted with scientists, researchers, and other staff from various federal, state, county, and city government agencies and organizations including, but not limited to, the Georgia Environmental Facilities Authority (GEFA), the Environmental Protection Division (EPD) in the Georgia Department of Natural Resources (DNR), the U.S. Environmental Protection Agency (EPA), the Gwinnett County Department of Water Resources (DWR) Stormwater Management Division, the Environmental Finance Center at the University of North Carolina (UNCEFC), the University of Georgia, and environmental agencies and finance authorities in other states. Employees from private organizations such as financial lending institutions were also interviewed. The interview subjects were chosen based on their knowledge and expertise on the topic.

The state programs used as case studies were chosen based on information gathered in the literature review such as the 2005 CWSRF Performance and Innovation in the SRF Creating Environmental Success (PISCES) awards which are granted to states that are leaders in implementing creative programs using the CWSRF (CWSRF PISCES Awards 2005 report) and on recommendations from employees at GEFA, EPD, and EPA. There is some variation in the amount and type of information provided for the different case studies. This discrepancy is because some programs are more relevant and potentially applicable to Georgia and because the state representatives contacted provided different levels of information.

The interview protocol and sample questions were developed per and received approval from the University of Georgia's Institutional Review Board's Human Subjects Office (Approval number 2006-10536-0). The personal interviews were conducted via email, telephone, and in

person. A standard questionnaire was not used because the questions varied depending on the interviewee. The administrator of a CWSRF program has different information to contribute than a county health department staff member. Also, CWSRF programs differ from state to state so the same questions might not be applicable for each CWSRF administrator. Thus, the questions were tailored for each interview subject.

The final synthesis and roadmap involves documenting case studies from other states where the CWSRF linked deposit lending program has been successfully implemented and detailing a strategy for establishing the program in Georgia, including identifying potential barriers and methods to overcome those barriers. Several factors were considered when analyzing other state programs such as regulatory similarities and differences and SRF organizational structure. For example, differences in laws or ordinances regarding septic system maintenance, the level of enforcement for those laws, and the penalties for non-compliance with those laws or ordinances can vary from state to state and have a significant impact on the incentive for borrowers to participate in a linked deposit lending program. The organizational structure of each state's revolving fund is different and also must be taken into consideration. The size of the program can vary in terms of personnel and available capital funds and in the type of projects eligible for funding per the state's SRF Intended Use Plan (IUP).

CHAPTER 2

BACKGROUND

CLEAN WATER STATE REVOLVING FUND

The Clean Water State Revolving Fund (CWSRF) was established in 1987 when the U.S. Congress passed amendments to the Clean Water Act (CWA). Per Title VI (the State Water Pollution Control Revolving Funds), the CWSRF program was created to replace the long-standing federal Construction Grants program. The act authorizes the CWSRF program to fund a wide variety of water quality projects including all types of nonpoint source, watershed protection or restoration, and estuary management projects as well as more traditional municipal wastewater treatment projects. Through the CWSRF program, each state and Puerto Rico maintain revolving loan funds to provide independent and permanent sources of low-cost financing for a wide range of water quality infrastructure projects.

Federal government grants and state matching funds (equal to 20 percent of the federal government grants) are used to establish or capitalize the individual state CWSRF programs. Each state CWSRF program operates as a self-sustaining environmental infrastructure bank which loans funds to communities and then cycles the loan repayments back to the program (main funding pool) so that new water quality protection and improvement projects can be funded. The revolving nature of these programs ensures that there will be a continuous source of funding.

States may offer a wide variety of assistance options under the CWSRF including loans, refinancing, purchasing, or guaranteeing local debt and purchasing bond insurance. States can set specific loan terms, including interest rates (from zero percent to market rate) and repayment

periods (up to 20 years) and customize the terms to meet the needs of and provide greater subsidies to small and disadvantaged communities. States have the flexibility to target resources to their particular environmental needs which can include contaminated runoff from urban and agricultural areas, wetlands restoration, groundwater protection, brownfields remediation, estuary management, and wastewater treatment. CWSRF programs are available to a variety of borrowers including municipalities, communities of all sizes, farmers, homeowners, small businesses, and nonprofit organizations. CWSRF authorities partner with other organizations such as banks, nonprofits, local governments, and other federal and state agencies to implement the various financial assistance programs (EPA Clean Water State Revolving Fund – How the CWSRF Program Works website). Figure 1 depicts the cash flow for the CWSRF as money moves from the government to the eligible water quality improvement projects.



Figure 1: CWSRF process

Source: EPA Office of Wastewater Management website

Georgia’s CWSRF program is administered by two organizations. The Georgia Environmental Facilities Authority (GEFA) manages the financial component of the program and the Georgia EPD provides technical guidance. GEFA was created by the Georgia General Assembly in 1986 and serves as the central state organization for assisting local governments in financing the construction, expansion, renovation and replacement of public works facilities. As directed in the enabling legislation,¹ GEFA is governed by a managing eleven-member Board of Directors; there are three ex-officio members and the Governor of Georgia appoints the other

¹ O.C.G.A. § 50-23-3

eight board members.² GEFA also administers the Drinking Water State Revolving Fund (DWSRF) program which has a similar structure as the CWSRF and is designed to fund drinking water projects. Through an interagency agreement, Georgia EPD provides certain professional services to GEFA including, but not limited to, project ranking, development, review, approval, and inspection; information tracking; environmental planning reviews including issuance of findings of Notices of No Significant Impacts (NONSI); construction management; and assistance with the National Information Management System (NIMS) (GEFA State of Georgia Clean Water State Revolving Loan Fund Program 2005 Annual Report). The state Attorney General provides legal services to GEFA.

LINKED DEPOSIT LENDING

Through the Institute for Watershed Excellence: Upper Altamaha Pilot program, a representative from Gwinnett County's Department of Water Resources expressed interest in establishing a CWSRF linked deposit lending program to help Gwinnett County homeowners finance septic system repairs. Ohio EPA led the way with this innovative concept by successfully developing a CWSRF linked deposit lending program for agricultural BMPs in the early 1990's and later creating a parallel program for septic system financing.³

A linked deposit lending approach involves the state CWSRF partnering with lending institutions to disburse loans to borrowers for non-point source pollution control projects. Specifically, the agency administering the CWSRF agrees to accept a reduced rate of return on an investment (e.g., certificate of deposit or note) and the lending institution agrees to provide a loan to a borrower at a similarly reduced interest rate. For example, if the market interest rate on a certificate of deposit (CD) is five percent, the CWSRF might agree to receive only two percent

² The three ex-officio board members are the Commissioner of the Department of Community Affairs, the state auditor, and the Commissioner of Economic Development.

³ The Ohio CWSRF linked deposit program was modeled after a State Treasurer's Office agricultural program.

interest from the CD and, in exchange, the lending institution agrees to provide a loan to a borrower at an interest rate that is three percentage points lower than the market rate for the borrower. The term “linked deposit loan” is used because the CWSRF investment or deposit is linked to a low-interest loan. According to the U.S. EPA “Funding Nonpoint Source Activities with the Clean Water State Revolving Fund” report:

“Linked deposit loan programs provide benefits for CWSRF programs, local financial institutions, and borrowers. CWSRF programs can support high priority nonpoint source projects and place risk and management responsibilities with local lenders. Financial institutions earn profits from the linked deposit agreements and offer an additional service for their customers. Borrowers save money with low-interest loans and can comfortably work with their local bank or credit union.”

The linked deposit loan model has been used to finance septic system repairs in Ohio, Maryland, and Iowa. Arkansas, Maryland, and Ohio have also used the linked deposit method to fund other non-point source pollution control projects such as agricultural best management practices (BMPs).

TOTAL MAXIMUM DAILY LOADS

The 1972 federal Clean Water Act (CWA) requires the creation of a Total Maximum Daily Load (TMDL) for a body of water that is not achieving compliance with a water quality standard. The purpose of a TMDL is to assess the assimilative capacity of a waterway for a particular pollutant and allocate loads to different pollutant source categories so that the water quality standard may be met. The goal of a TMDL implementation plan is to develop a strategy to enable a body of water to reach attainment of the water quality standard (such as drinkable,

swimable, fishable, etc.) by establishing management measures that limit the amount of the pollutant of concern that can enter the water.

In order to ensure compliance with the TMDL requirement of the CWA, Gwinnett County is pursuing enhancements to and expansion of its TMDL implementation plan for fecal coliform bacterial pollution. Fecal coliform pollution comes from a variety of sources including waste from pets, livestock and wildlife, failing or leaking septic systems,⁴ illicit sewer connections, leaking sewer lines, and National Pollutant Discharge Elimination System (NPDES) permitted point sources. Current measures used to manage fecal coliform pollution in Gwinnett County include the NPDES permit program, stormwater management ordinances, land development BMPs, and a septic-to-sewer transition. Establishing a linked deposit lending program as a financial tool to help repair failing septic systems would help improve Gwinnett County's TMDL implementation plan for fecal coliform bacteria and improve water quality in its impaired streams.

SEPTIC SYSTEMS

Introduction and background

Septic systems are also known as septic tanks, septic tank systems, decentralized wastewater treatment systems, individual sewage management systems, and on-site sewage management systems. This study will simply use the general term “septic system”. There are two common elements to all septic systems: an underground tank to separate wastewater from solid waste which is broken down by bacteria and an absorption field which is also known as a drainfield or leachfield to distribute the partially treated wastewater into the soil.⁵ Figure 2 illustrates a traditional septic system configuration. For regions with steep slopes, high water

⁴ The waste from animals and failing septic systems can be transported into waterways through stormwater runoff.

⁵ The subsurface soil is sometimes considered a third element of septic systems.

tables, shallow bedrock, or impermeable soils such as heavy clay, traditional tank and drainfield systems are not suitable and alternative systems should be used. Alternative systems include mound, sand filter, constructed wetland, and aerobic treatment systems.⁶ For the purposes of this paper, the term septic system refers to traditional systems.

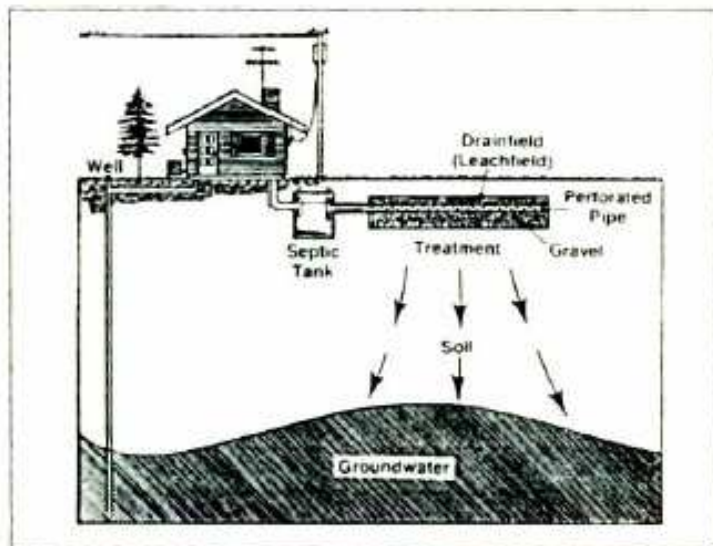


Figure 2: Conventional septic system

Source: On-site Sewage Management System: An Owner's Reference Manual

If a septic system is properly sited, designed, and maintained, it can function for 20 to 30 years. This time frame applies to the drainfield, not the tank. Septic system tanks should be pumped out every three to five years to remove the sludge remaining in the tank. Drainfields do not last indefinitely; eventually the soil will not be able to process the wastewater and the drainfield will fail. When a septic system fails the untreated wastewater can leak to the surface where it washes into waterways and can seep into groundwater. Failing septic systems can lead to contaminated waterways which can pollute drinking water and also can spread viruses and pathogenic bacteria that can cause illnesses including diarrhea, hepatitis A, dysentery, and, in

⁶ Alternative systems sometimes have a mechanical component such as a pump.

rare cases, typhoid fever. Failing septic systems can also be a source of E.coli which can cause serious illness and even death, especially in children and the elderly.

Septic system repairs and regulations in Georgia

In the metro-Atlanta area, it costs approximately \$275 to \$350 to pump out a 1,000 gallon septic system. Most septic system repairs cost between \$3,000 and \$5,000 but can cost as much as \$10,000 to \$15,000. One of the most common repairs is the installation of a new drain field. A drain field repair charge is usually based on an average amount of \$17 to \$22 per square foot of drain or leach field; a three-bedroom home usually has a 150 square foot drain field. Using this example, the drain field repair charge would range from \$2,550 to \$3,300. This price does not include landscaping costs. Improper maintenance and illegal home modifications are common sources of failure for septic systems. For example, homeowners might finish a basement themselves and not realize that the capacity of the septic system needs to be expanded to accommodate the wastewater from an additional bathroom.

Whenever a property is bought or sold in Georgia, there is no legal requirement to indicate if the property is served by a septic system or to have that system inspected or pumped out. If the seller fills out a Seller's Property Disclosure Statement form, they must indicate what type of sewage system the property has (public, private, septic tank). It is important to note that these disclosure forms are an addendum to and not a required part of a real estate contract; they are filled out at the buyer's or buyer agent's request. Nothing prevents a homeowner from filling out the form incorrectly or marking the "Don't Know" box; however, a seller could be sued for misrepresentation or fraud if they knowingly fill out the form incorrectly. Some lenders require a septic system certificate of inspection, particularly for Federal Housing Administration (FHA) loans which are insured by the federal government.

Georgia's septic system regulation is detailed in "Act 280" which became state law in April 1997. This Act gave the Georgia Department of Human Resources (DHR) "the authority as it deems necessary and proper to adopt state-wide regulations for on-site sewage management systems, [and] to provide an exemption for prior approved systems."⁷ The Act also gave DHR the authority to delegate certain powers to local county and municipal health departments, including "the authority to adopt standards and requirements relating to such systems."

This legislation left the authority for determining siting requirements to the DHR. The DHR promulgated regulations establishing certain minimum requirements for the placement and construction of septic systems. The standards for receiving a valid construction permit are stipulated in DHR Rules 290-5-26. Specific requirements related to the physical space where a septic system will be located are detailed in subsection three of this rule. These rules are intended to prevent inappropriate siting and installation of new septic systems. They also discuss the siting and approval of alternative and experimental systems, where appropriate. This is comparable to most other states' legislation regarding septic systems (Evans, 1999).

While the local health departments have the authority to enforce the rehabilitation of a failing or malfunctioning system, they are explicitly prohibited from enacting and enforcing a regular maintenance schedule to prevent malfunctions and failures from occurring. O.C.G.A. § 31-3-5 confers authority over septic systems to the local health department but sub-section (b)(6) details the maintenance prohibition: "Such regulations shall include and limited to the following: (6) Providing for ongoing maintenance of such systems, except for nonmechanical residential sewage management systems." While some alternative septic systems employ a mechanical function, such as a pump, the majority do not. This stipulation bars health departments from managing standard septic systems from a maintenance standpoint. This is contrary to most states

⁷ O.C.G.A. § 31-2-7(b) (2005).

which do not prohibit septic maintenance provisions by local health departments and some which actually require it (Evans, 1999).

Septic systems in Gwinnett County

Gwinnett County has more septic systems than any other county in Georgia with approximately 100,000 systems.⁸ Approximately 80 percent of the county's systems are for residential use. (Septic Systems Status and Issues Working Paper, Metropolitan North Georgia Water Planning District, March 2006). According to an aerial color infrared (ACIR) photography study conducted by the Gwinnett County Department of Public Utilities in spring of 2004 to detect failing septic systems, there were approximately 121 surface failures, 508 seasonal failures, and 449 seasonal stress sites (See Figures 3 and 4). Unlike surface and seasonal failures, seasonal stress sites do not exhibit effluent at the ground surface and therefore are not technically categorized as failures. The 449 seasonal stress sites are not represented in Figures 3 and 4.

The ACIR technique relies on the fluctuations in the color of vegetation (color signatures) to detect leaking septic systems (Perrin, 2005). The nutrients from the septic effluent that surfaces when a system fails promote enhanced vegetation growth. In severe cases of septic system failure, there is dead vegetation, bare ground, and surface effluent, which also results in a distinct color signature. The Gwinnett County survey had an accuracy or verification rate of approximately 78 percent. The true false-negative error rate could vary due to some characteristics of the ACIR survey method.

There are many factors or limitations of the ACIR method that may affect the accuracy of the results. These include the season of the photograph because the greatest differences between healthy and stressed vegetation are observed during the spring season. The line-of-sight

⁸ Gwinnett County covers 437 square miles and has a population of approximately 751,693 according to the Gwinnett County Forecasting and Research Division 2006 estimate.

limitation must be considered when analyzing ACIR results because the method relies on direct observation of the ground. Dense tree canopies, structures, and even the spaces between branches on an individual tree can form shadows. The shadows affect the amount of light reflected by bare soil making it difficult to accurately detect color signatures and failing systems (Warner et al, 2000). During Gwinnett County's ACIR survey, approximately 14 percent of the county, or 3,703 acres, was obscured by tree cover, primarily from evergreen or pine trees. Soil types vary greatly in color and consequently change the range of exposure settings. Warm season grasses such as Centipede, Zoysia, and St. Augustine are commonly used on lawns in the area and are dormant (brown) until May in Gwinnett County and therefore will not provide a good color signature, especially for seasonal failures which do not have as many identifying characteristics as surface failures. Moisture is another important variable affecting the reflection of background soil and vegetation (NASA, 1980). The ACIR survey method is used to identify failures that manifest through the discharge of effluent near to or at the ground surface. Systems that are illegally directly connected to storm drains or waterways or that are contaminating groundwater due to inappropriate installation or location would most likely not be identified using this method. A photograph is a snapshot of one moment in time. A septic system could be failing but not manifesting that failure during the time when the study was being conducted (Leo, 2006).

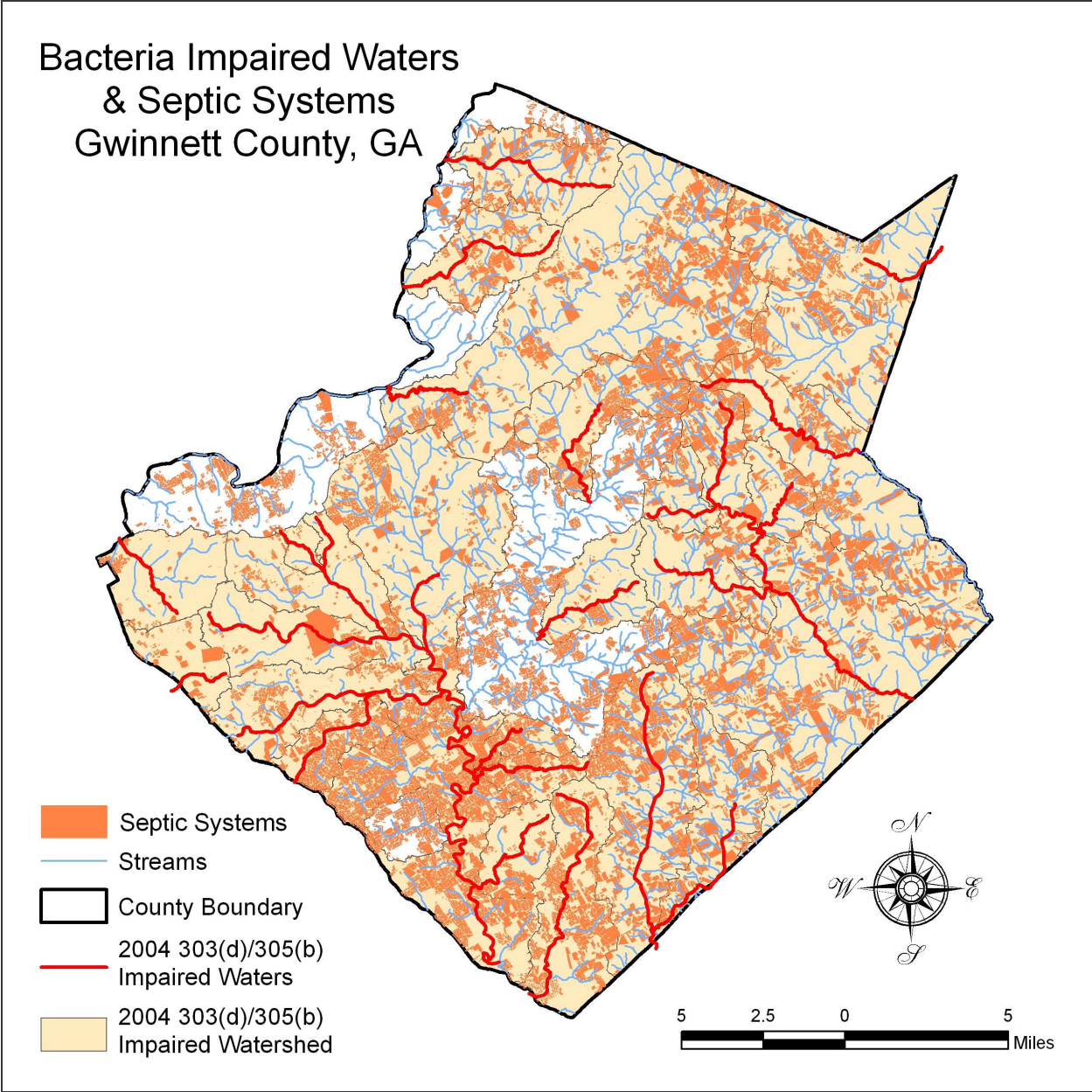


Figure 3: Fecal coliform bacteria impaired waters and property parcels served by septic systems in Gwinnett County, GA

Source: Gwinnett County Department of Water Resources

Map by: UGA River Basin Center

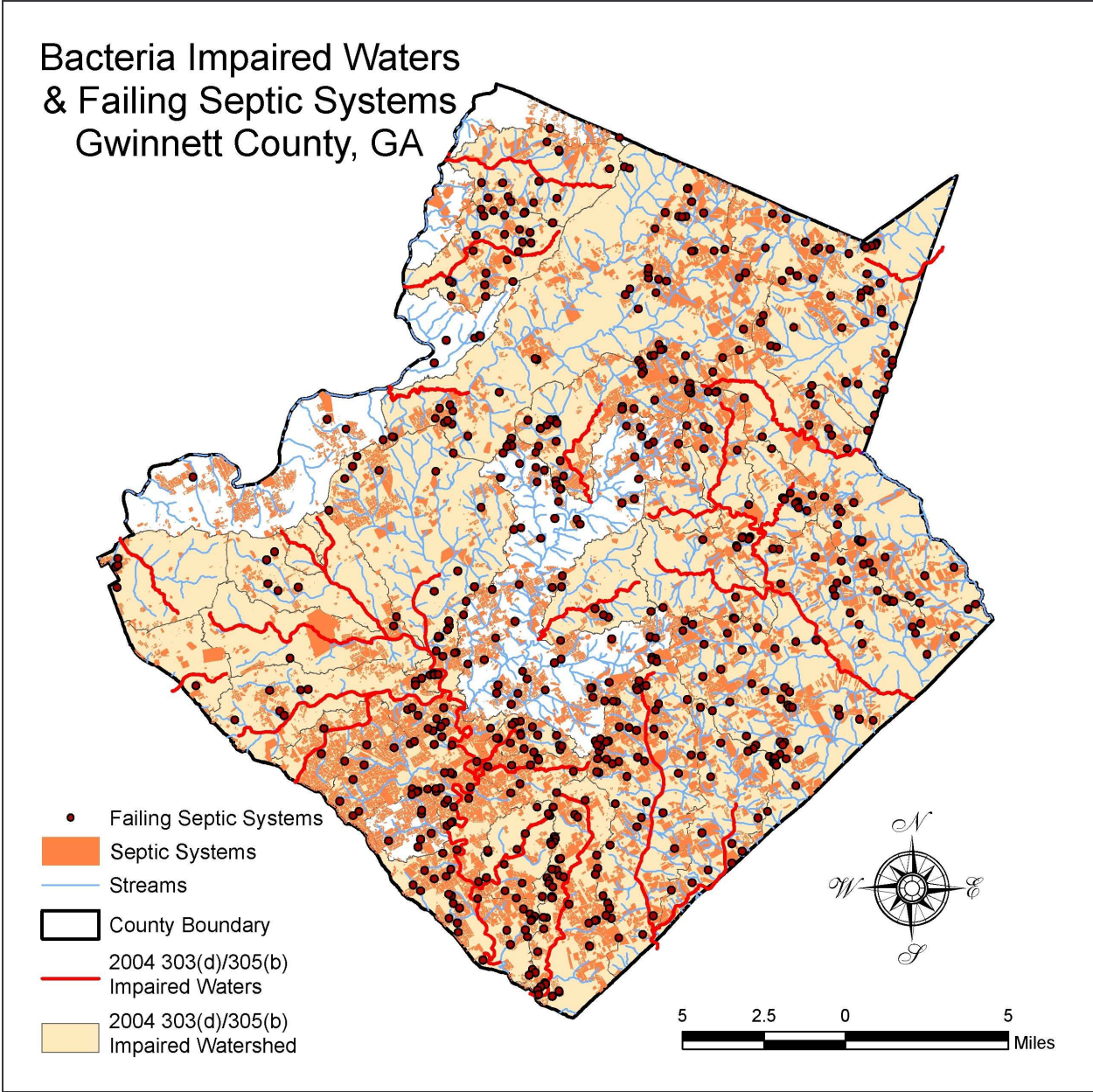


Figure 4: Fecal coliform bacteria impaired waters and property parcels with failing septic systems in Gwinnett County, GA

Source: Gwinnett County Department of Water Resources

Map by: UGA River Basin Center

CHAPTER 3

CASE STUDIES

CWSRF PROGRAM TYPES

A number of states have CWSRF programs to help homeowners repair or replace their septic systems. States use a variety of methods to loan money to borrowers. The lending methods can be organized into two major categories – direct lending and conduit lending. Conduit lending methods involve a partnership with an organization such as a bank, municipality, or state agency to help the CWSRF program distribute the loan funds. Linked deposit and pass-through loan programs are examples of conduit lending. In a pass-through loan program, the state CWSRF provides a loan to a local government or another state agency and that municipality or agency then issues a loan to a private borrower. Loan programs involving pass-throughs to communities often have different characteristics than agency partnership loan programs. Even though they are both considered to be types of pass-through programs, in this paper the programs will be treated as two distinct types of loan (USEPA Nov 2003).

Both types of programs provide benefits to the CWSRF program, the borrower, and the third-party organization (the lending institution for linked deposit; the county, town or government agency for pass-through). The linked deposit and pass-through programs provide similar benefits to the CWSRF program and the partner organization. In both cases, the CWSRF program benefits because the lending institution or partner organization bears the financial risk and most, if not all, of the management associated with the loan. Both mechanisms enable the CWSRF program to help address high priority non-point source projects. Benefits to the lending institution include profit earnings from the linked deposits, the opportunity to provide extra

services to their customers and to increase the bank's outstanding loan balance and deposits, and the chance to cross-sell other products such as car loans. Banks also have the opportunity to issue loans that will help them comply with the Community Reinvestment Act. The Community Reinvestment Act (CRA) was enacted by Congress in 1997 (12 U.S.C. 2901). The purpose of the CRA is to encourage lending institutions to help meet the borrowing or credit needs of the communities in which they operate, including low- and moderate-income neighborhoods, consistent with sound banking operations (FFEIC 2006). Under the CRA, lending institutions are required to track and report their efforts to help meet the credit needs of their communities. A lending institution's CRA record is taken into consideration when it applies for deposit facilities, including mergers and acquisitions. Hence, lending institutions may have an additional economic incentive to participate in the CWSRF linked deposit lending program.

Both programs are economical for borrowers because they provide low-interest loans. With a linked deposit program, borrowers have the convenience of working with a local bank. Pass-through programs can sometimes offer lower interest rates to borrowers than private lending institutions. Also, local government agencies may be able to provide loans to borrowers who otherwise might not qualify for a loan from a private bank.

There are corresponding costs and shortfalls to both programs as well. Tracking all of the individual loans for a linked deposit program can create an administrative burden for a CWSRF program. Borrowers with poor credit history might not meet the lending institution's criteria to qualify for a linked deposit loan. If market interest rates are relatively low, it might be difficult for borrowers to realize significant savings with a linked deposit loan, especially if bank fees associated with loan initiation are high. The marginal interest rate savings coupled with the extra paperwork sometimes associated with a linked deposit loan might make a home equity line of

credit or loan more appealing to a homeowner. Lending institutions may not believe the benefits outweigh the costs associated with participating in the program, especially if borrower demand for the linked deposit loans is low. If a pass-through partner agency uses more flexible eligibility criteria in order to reach borrowers with weak credit records, they face the risk of loan defaults.

As with the implementation of any new program, administrative costs must be considered. The federal CWSRF enabling legislation allows states to use no more than four percent of the federal capitalization grants to cover the costs for administering the state CWSRF programs. EPA recognized that administrative costs can exceed the four percent allowance and issued guidance in October 2005 allowing CWSRF programs to charge loan fees. Despite the option to charge fees, most CWSRF programs have small staffs and must consider the management burden associated with different lending programs. The overhead limitation provides incentive to CWSRF programs to share the burden for administering loans.

Many CWSRF programs use an agency partnership or a pass-through mechanism to help fund septic system repairs. Only three states, Ohio, Maryland, and Iowa, have linked deposit programs to finance septic system repairs or upgrades. The California CWSRF program started a linked deposit lending program for septic system repairs in the late 1990's but it did not generate enough participation; the state instead pursued a community loan program. A few states have implemented successful CWSRF linked deposit programs to fund agricultural BMPs. In order to determine if a linked deposit program for septic system repairs will work in Gwinnett County (and potentially other counties in Georgia), it is important to evaluate and review not just the septic system linked deposit programs but also the agricultural linked deposit programs and the agency partnership and pass-through septic system repair programs to gain a better

understanding of the strengths and weaknesses of the different programs. The analysis focused on the septic system repair linked deposit programs because that is the thrust of this research.

Ohio, Iowa, Maryland, and Arkansas all have CWSRF linked deposit programs. The first three of these state programs are used to fund septic system repairs or replacement and other non-point source water quality improvement projects, including agricultural BMPs. Arkansas' program is designed to fund only agricultural BMPs. Maine, Massachusetts, Minnesota, Pennsylvania, and Washington all have types of CWSRF pass-through programs to fund septic system repairs. Finally, Delaware's CWSRF program uses direct loans to fund septic system repairs. The following diagram illustrates the linked deposit lending process.

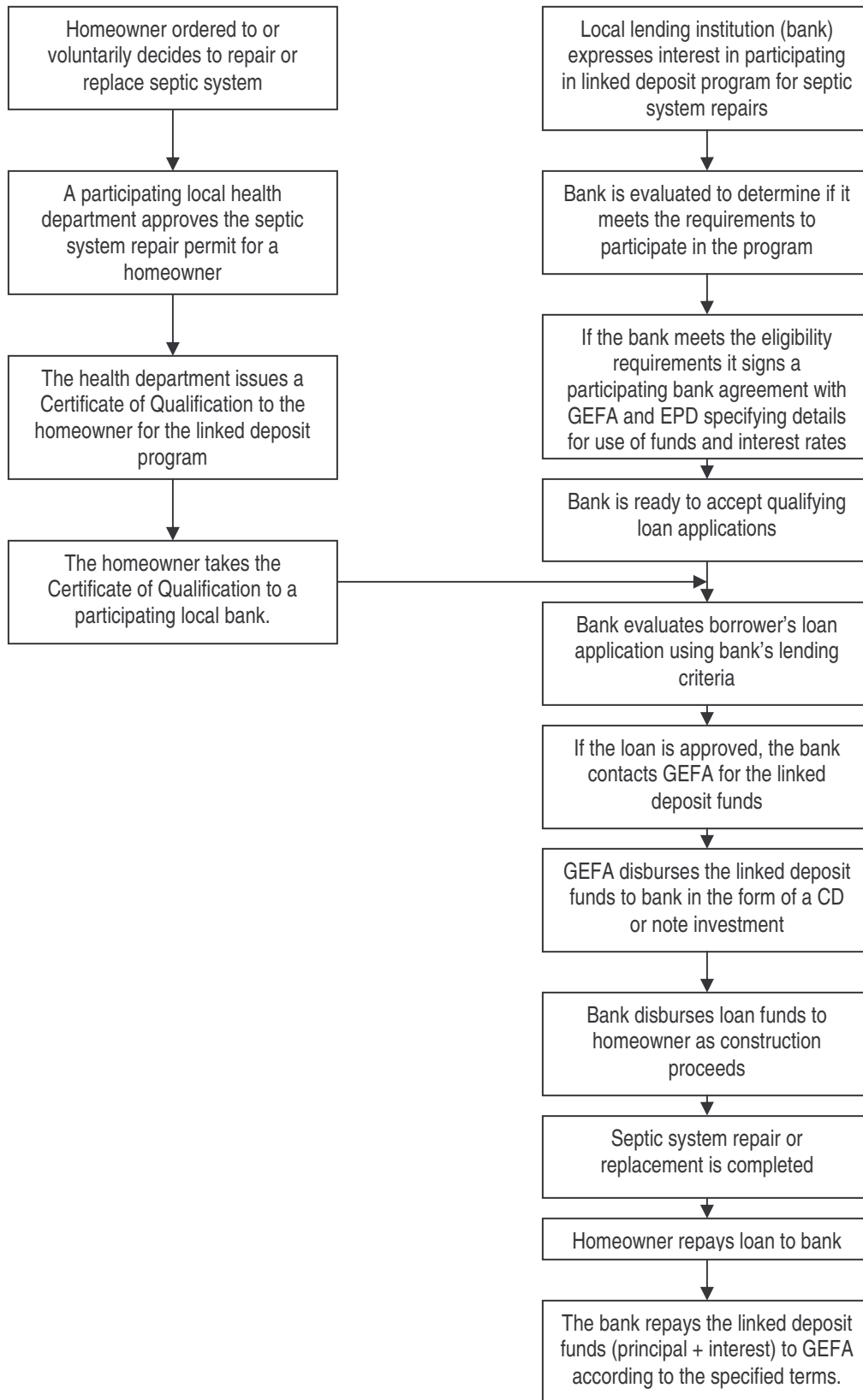


Figure 5: Linked deposit lending flowchart

LINKED DEPOSIT PROGRAMS

Ohio

Background and overview

To enact the CWSRF program, the Ohio legislature created the Ohio Water Pollution Control Loan Fund (WPCLF). The Division of Environmental and Financial Assistance (DEFA) within the Ohio Environmental Protection Agency (EPA) manages the WPCLF program. The Ohio Water Development Authority (OWDA) serves as the financial manager for the fund.

In 1993, Ohio EPA developed a linked deposit loan program to fund agricultural non-point source best management practices based on a State Treasurer's Office program. In 1997, Ohio adapted the program to fund septic system repairs and replacements. The program is also available for forestry best management practices. The linked deposit program for septic systems can be used to finance replacement of or repairs to septic systems or to connect homes to the sanitary sewer. There are approximately 980,000 septic systems in Ohio. The program is implemented at the county level.⁹ If a county is interested in the program, the appropriate agency or organization (Soil and Water Conservation District for agricultural linked deposit program or county health department for septic system linked deposit program) works with DEFA to set up a linked deposit program in that county.

Since its inception, the Ohio linked deposit program has processed \$39.5 million in loans. The septic system repair program has processed 43 loans for approximately \$374,000 of that total amount. Cuyahoga and Mahoning Counties are the only two counties actively participating in the septic system linked deposit program. Five other counties and a town have been approved to participate in the program but there has not been any loan activity in the counties most likely

⁹ The agricultural BMP linked deposit loan program is implemented at a watershed level.

due to the lack of participating banks. Ten watersheds have been approved to participate in the agricultural linked deposit program.

Process for setting up the program

The steps involved in setting up a linked deposit lending program in Ohio are described below. A county contacts Ohio EPA and a management plan is developed as a collaborative effort between Ohio EPA and the interested groups (e.g., county health departments for septic system programs, county Soil and Water Conservation Districts (SWCD) for agricultural programs, etc.).

For an agricultural linked deposit program, the Ohio EPA works with the SWCD to develop a Watershed Management Plan (WMP) which discusses the nature of the watershed, pollution sources, potential pollution control strategies, prioritization of pollutants and abatement, funding for abatement, and an implementation schedule. The Ohio EPA drafts an assessment document discussing the environmental impacts of the proposed WMP; the assessment is open for public comments for 30 days. At the end of the public comment period, if it is determined that the project will not cause any serious environmental effects, Ohio EPA will issue a Finding of No Significant Impact and formally approve the WMP. A Memorandum of Understanding (MOU) between Ohio EPA and the SWCD is then drafted and outlines how the groups will coordinate to implement the WMP projects.

During this time, local banks are contacted either by Ohio EPA or by SWCD to see if they are interested in participating in the program. If so, a Participating Bank Agreement between the lender, Ohio EPA, and OWDA is prepared. A farmer or landowner who is interested in using the linked deposit program to fund best management practices (BMPs) on their land will work with their county SWCD to develop an individual soil and water conservation plan that

must conform to the WMP for that watershed. When the WMP is approved and the MOU and Participating Bank Agreements are in place, individual linked deposit loans can then be awarded. A homeowner obtains a Certificate of Qualification from the interested party. With the Certificate of Qualification in hand, the landowner applies for a loan from one of the local participating banks.

The steps are similar for the septic system linked deposit program except that Ohio EPA works with county health departments, thus the MOU is between Ohio EPA and the county health department. The health department has to develop a county-wide plan for home wastewater management (Home Sewage Treatment System Management Program Plan). This plan should include the planned location of future sanitary sewer lines. The responsibility for finding banks to participate in the program falls mostly to the health departments although Ohio EPA will assist with this step if necessary. The health departments advertise the program with flyers, brochures, and septic system packets that are available from their office.

Loan process for borrower and finance terms

The process for the linked deposit program begins with a homeowner requesting a repair permit from their county health department. The health department notifies the homeowner about the septic system linked deposit program. If the homeowner is found to be eligible, the health department will issue them a Certificate of Qualification. Eligibility requirements include: residence in the participating county, and the proposed repairs or replacement system must meet county standards (i.e., only non-discharging systems are eligible). In Cuyahoga County, the septic system must be located in an area of the county identified as having little or no potential for sanitary sewer installation in the foreseeable future. The homeowner takes the certificate to a participating bank and fills out a loan application. The bank runs a credit check, and if the

homeowner is approved, the bank issues a loan. The financial terms and conditions of the loan are set using the following guidelines.

A linked deposit borrower can secure a loan from a participating lender with a lending rate that is equal to the lender's normal lending rate minus a rate discount that the Ohio EPA and OWDA grant when OWDA invests the SRF funds with the lender. For example, assume a homeowner qualifies for a \$5,000 loan at a 9 percent market lending rate to be repaid over 5 years. In this case, the OWDA makes a matching \$5,000 deposit in the bank in the form of a note or Certificate of Deposit (CD). The annual interest rate earned on the CD by OWDA is the maximum of the reported U.S. Treasury Notes and Bonds interest rate minus 5 percent, or 1 percent (the minimum rate set by OWDA). In the current example, if the U.S. Treasury Notes and Bonds interest rate is 7 percent, then the annual interest rate earned on the OWDA CD is 2 percent (7 percent minus 5 percent). The participating homeowner's lending rate in this case is 4 percent (9 percent minus a 5 percent reduction). The effective rate for the borrower will ultimately depend upon the lender's normal rate structure and lending criteria. Details of the aforementioned numeric example are listed in the following chart.

Table 1: Ohio CWSRF Septic System Linked Deposit Program Finance Terms Example

U.S. Treasury Notes and Bonds interest rate ¹⁰ :	7 %
Linked deposit annual interest rate for OWDA CD:	7% - 5% = 2%
Linked deposit lending rate reduction:	7% - 2% = 5%
Market lending rate charged by lending institution:	9%
Borrower's linked deposit lending rate:	9% - 5% = 4%
Other terms affecting linked deposit loans include the following:	
Repayment rate:	Per bank loan agreement
Late payment penalty:	Per bank loan agreement
Loan term:	No more than 20 years
Closing costs or administrative fees:	Per bank loan agreement; these may be incorporated into the loan amount. OWDA does not charge any fees. An origination fee is considered a closing cost.

Per the Participating Bank Agreement, the lending institution bears all the financial risk associated with the loan. If the borrower defaults on the loan, the bank is still obligated to repay the OWDA and can not apply any OWDA investments toward a defaulted loan. The lender or bank can secure the loan using the borrower's home as collateral or by other means. Finally, the lender reports quarterly on the status of the linked deposit loans and makes CD repayments (principal plus interest) to OWDA semi-annually.

There is a profit incentive for a bank to participate. As shown in the previous example, a lender receives a \$5000 deposit from the OWDA which is equal to the loan amount granted to a qualified borrower. Although the lender pays 2 percent interest on the deposit to OWDA, the lending rate charged to the borrower on the \$5,000 loan is 4 percent. Hence, the lender nets 2 percent overall. The incentive for the borrower is a reduced lending rate on their loan. In addition, the interest payments on the loan may be tax deductible depending on the homeowner's financial circumstances.

¹⁰ As reported in *The Bond Buyer* on the Friday of the preceding week, for notes and bonds with a term closest to the term of the applicant's loan.

OWDA makes individual deposits for each loan and tracks the loans using an investment management software program. OWDA reconciles their accounts with all lenders on a monthly basis. The linked deposit program was originally funded with CWSRF federal capitalization grants but is now a self-sustaining program and new loans and CDs are funded with repayments from outstanding CDs.

Discussion

When the Ohio EPA discussed adapting the agricultural linked deposit program for septic system repair, the counties expressed enthusiasm for the potential program and indicated that there was a lot of need for it. Participation rates have not corresponded to that interest level and the septic system linked deposit program has not seen as much activity as Ohio EPA expected.

There are a variety of possible explanations for the lower participation rates. Interest rates have been relatively low from the late 1990's through 2005 so it has been difficult for the program to compete with other funding options, particularly home equity loans or home equity lines of credit. Program administrators have not noticed an increase in participation in response to rising interest rates.

It has not been as easy to find banks to participate in the septic system repair linked deposit program as the agricultural linked deposit program. There are fundamental differences between the programs which could explain this discrepancy. The banks participating in the agricultural linked deposit program were already familiar with the linked deposit mechanism. These banks are usually small, local financial institutions that have long-term relationships with their rural, farming customer base. There might be only one or two banks in town and the bankers know all the local farmers and vice versa and have different customer-client relationships than those found in an urban or suburban market. The banks have incentive to

provide a variety of services to their loyal, repeat customers. The agricultural linked deposit loans are usually for larger amounts (tens of thousands of dollars per loan versus an average of \$5,000 to \$10,000 for septic system loans). While there are septic systems in both rural and suburban areas, the counties in Ohio that are participating in the septic system program contain the metropolitan areas of Youngstown and Cleveland. There is not as much incentive for the banks in those areas to participate in the linked deposit program because they do not have the same type of banker-customer relationship and the loans are smaller.

Other possible contributing factors to lower participation rates include lack of borrower awareness of the program and the fact that homeowners with poor credit history oftentimes do not qualify for the loan program.

Wes Vins, the Director of Wastewater Programs with the Mahoning County District Board of Health, is a proponent of the septic system linked deposit loan program. He thinks it is important for the Mahoning County District Board of Health to be able to offer funding options to homeowners who want or need to repair or replace their septic systems. He believes that many of the homeowners in his area care about water quality protection and want to properly maintain, repair, or replace their septic systems but do not follow through because of financial constraints.

The Mahoning County District Board of Health has been participating in the program since its inception in 1997. The Board of Health markets the program through a packet of materials offered to homeowners. While there have been only 33 loans in Mahoning County, Mr. Vins believes that the program has been successful because it provides an alternative funding option for homeowners. Mr. Vins identified several shortcomings of the program. Only non-mechanized septic systems are eligible for the linked deposit program – mechanized or non-traditional systems are not eligible. Oftentimes, the borrowers who most need financing help do

not meet the bank's criteria to qualify for a loan. The program in Mahoning County is usually used for septic system replacement, not repair. Most of the septic systems in the area were installed in the 1960's and are more than thirty years old, and more importantly, were designed before the Clean Water Act making it very difficult, if not impossible, to bring the old systems up to new standards.

Maryland

Background and overview

The Maryland Water Quality Financing Administration (WQFA), in conjunction with the Maryland Department of the Environment (MDE), administers the state's CWSRF which is managed under the Water Quality Revolving Loan Fund (WQRLF). In 1997, the Maryland General Assembly amended the law governing the WQRLF to allow the WQFA to use a linked deposit mechanism to provide low interest loans to private entities for eligible, non-point source pollution control projects. In 1999, the WQFA started making linked deposit loans to borrowers. The non-point source linked deposit program has processed 44 septic system repair loans for a total of \$318,641. The overall program has loaned out \$9,401,916 since its inception. The septic system repair loans represent 3.39 percent of this total amount. The other 96 percent comes mainly from loans for agricultural BMPs. There are approximately 420,000 septic systems in Maryland; accurate data on the number of failing systems is not available.

The linked deposit program was designed to provide a source of low-interest financing to encourage private landowners and water system owners to abate non-point source pollution and ultimately reduce the delivery of nutrients to the Chesapeake Bay and its tributaries and provide safe drinking water. The program cannot be used to design and construct facilities to address point source pollution control problems. For example, any agricultural operation defined as a

Concentrated Animal Feeding Operation (CAFO) would not be eligible for such loans. The Clean Water Act precludes the use of CWSRF program funds for wastewater ("point source") projects at privately owned facilities. However, non-point source pollution control projects for privately owned facilities are eligible. In addition, the linked deposit program can be used to fund private drinking water projects. The linked deposit loans for drinking water projects are funded from the Maryland Drinking Water State Revolving Fund (DWSRF).

There are two major categories of non-point source projects that are eligible for SRF linked deposit loans – agricultural BMPs and non-agricultural BMPs. Grade control structures, sediment control ponds, and grazing land management systems such as fences are a few examples of qualifying agricultural BMP projects. Eligible non-agricultural BMPs include homeowner septic system repairs or replacements, community stormwater BMPs, and shoreline erosion control.

Process for setting up loan program

The MDE and the Maryland Departments of Agriculture and Natural Resources developed an eligible project list and a project certification process. In order for a financial institution to participate in the program, it must be eligible to make commercial loans, be a public depositor of state funds, agree to receive linked deposits, and be insured by the Federal Deposit Insurance Corporation (FDIC). Participating lenders enter into a Deposit Agreement with the WQFA whereby they agree to be accountable for processing, underwriting and servicing the loan and to evaluate the credit worthiness of each applicant according to their underwriting criteria. The banks can charge origination, servicing and other such fees normally associated with loans issued by the institution. The banks assume all risk of default and neither the state nor the WQFA or MDE can be held liable to reimburse a participating bank for any losses or

expenses associated with loans under the program. The loan agreement is solely between the lending institution and the borrower. The MDE works with county health departments and Soil and Water Conservation Districts (SWCD) to advertise the program.

The linked deposit program is a state-wide program. Individual counties do not have to meet any eligibility requirements to “sign up” or participate in the program. Any homeowner with a septic system in Maryland is eligible to participate in the program. If there is no local participating lending institution then the homeowner and county agency attempt to find a bank to sign up for the program.

Projects funded by federal financial assistance programs must meet the requirements of a wide range of federal laws, executive orders and government-wide policies such as the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) among many others. In order to ensure that the requirements of these federal authorities, commonly referred to as cross-cutters, are met, CWSRF projects must go through a comprehensive planning and environmental review process. This process can be burdensome and impractical for small non-point source projects such as septic system repairs. The Council for Environmental Quality (CEQ) regulations implementing NEPA contain a provision exempting groups or categories of actions from the environmental assessment and environmental impact statement requirement if those actions would have little or no environmental effect (40 CFR 1508.4). This is referred to as a categorical exclusion. A program or project must go through a public notice process and receive EPA approval in order to be granted a categorical exclusion.

The MDE and WQFA successfully claimed a categorical exclusion for septic system repair projects so they do not have to go through the NEPA process. Another way for a CWSRF program to circumvent the cross-cutter requirements is to fund a program using CWSRF loan

repayments, which are not considered to be federal funds. The WQFA funds the septic system repair program using repayment funds so the projects are not subject to the federal cross-cutter authorities.

Loan process for borrower and finance terms

A borrower must receive a Certificate of Qualification from the local approving authority (i.e., health department or SWCD) before going to a participating lender to apply for a loan. A list of eligible lenders is available at the WQFA linked deposit website. Applicants are encouraged to contact several lenders to compare rates and fees in order to obtain the best financing package.

Following a successful credit evaluation, the lender sends an investment request form identifying the landowner, loan terms, and a copy of the Certificate of Qualification to MDE. Once the WQFA approves the financing terms and the Water Management Administration in MDE determines that the project is eligible, the CWSRF makes an investment with the bank that is equal to the amount of the borrower's loan and for the same term as the loan. The amount of the interest rate reduction or discount for the borrower is determined by taking the market interest rate for the loan minus the lending institution's 5-year CD interest rate plus .01 percent (which is the designated rate of return to the WQFA). So if the borrower qualifies for a loan with a 7 percent interest rate and the 5 year CD rate is 4.75 percent then the borrower's loan will have a 2.26 percent interest rate. As the borrower makes repayments to the lender, the lender makes payments of principal plus .01 percent interest to WQFA.

Table 2: Maryland CWSRF Septic System Linked Deposit Program Finance Terms Example

5-year CD market interest rate:	4.75%
Market lending rate charged by lender:	7.00%
Linked deposit annual interest rate for WQFA:	.01%
Linked deposit lending rate reduction:	$4.75\% - .01\% = 4.74\%$
Borrower's linked deposit lending rate:	$7\% - 4.75\% = 2.25\% + .01\% = 2.26\%$
Other terms affecting linked deposit loans include the following:	
Repayment rate:	Per bank loan agreement
Late payment penalty:	Per bank loan agreement
Loan term:	No more than 20 years
Closing costs or administrative fees:	Per bank loan agreement; these may be incorporated into the loan amount.

Discussion

There has not been a lot of demand for septic system repair loans – only approximately 15 to 20 loans a year. The agricultural BMP component of the linked deposit program has higher participation rates. There were 70 agricultural linked deposit loans in the past year. Possible reasons for the low number of loans could be that homeowners would rather obtain a traditional home equity loan that can be used for multiple projects, not just septic system repairs. Although the septic system repair component of the program is small, it still helps the WQFA address the issue of septic systems as a non-point source of pollution and the WQFA plans to continue the linked deposit program in its current format. Jag Khuman, Director of the WQFA, personally believes that an enforcement mechanism such as a state law or local ordinance requiring maintenance might be a more effective way to address the issue of failing septic systems. Maryland does not have a state-wide septic system management requirement. Some counties have ordinances requiring homeowners to provide a certificate of inspection for their septic system when selling the property.

1st Mariner Bank has been the most active lender in the septic system program. A 1st Mariner representative who manages the bank's septic system loans thinks it is a simple,

straightforward program (Baker, 2006). The bank secures the loan using the borrower's home as collateral through a deed of trust or lien. Low income homeowners can still qualify for loans depending on their credit history. Most of the septic system repair loans the bank processes are for waterfront properties in Anne Arundel County. 1st Mariner is a mid-sized regional bank serving the Baltimore metropolitan and Eastern shore area. A representative from Bank of America said that initially the bank participated in the program but no longer does because there was too much administrative overhead involved to process the loans. The interest rate reduction had to be manually entered which was difficult to do because Bank of America has large automated systems.

In 2004 Maryland enacted the Bay Restoration Fund (BRF). The purpose of the BRF is to control nutrient (nitrogen and phosphorous) pollution to the Chesapeake Bay. The top three nutrient pollution sources are effluent from wastewater treatment plants, and agricultural and urban runoff. The Bay Restoration Fee, also known as the "Flush Fee," is a \$30 fee that is collected from every household, with exceptions for low-income and disadvantaged households. The fees from homeowners who are on public sewer systems will be used to upgrade wastewater treatment plants. The fees collected from homeowners using septic systems will be used to provide grants to homeowners to make nitrogen pollution removal septic system upgrades (60 percent) and grants to farmers to implement nutrient reducing BMPs, specifically cover crops (40 percent). Of the roughly 420,000 septic systems in Maryland, priority will be given to failing septic systems in designated Critical Areas. The septic system portion of the Bay Restoration Fee has not been implemented yet.

Iowa

Background and overview

The Iowa Department of Natural Resources (DNR) administers the CWSRF with financial guidance from and management by the Iowa Finance Authority. In 2002, the DNR implemented a linked deposit lending program, the Onsite Wastewater Systems Assistance Program (OSWAP), to help fund the replacement and repair of outdated septic systems. According to DNR estimates, there are roughly 250,000 septic systems in Iowa. There are approximately 100,000 homes in Iowa (almost all in rural areas) served by failing, often outdated septic systems that do not adequately treat household wastewater. Many of these systems have pipes directly discharging to drainage ditches or farm tile systems. As of August 31, 2006, there were 484 loans in 71 counties for a total of \$3 million. Iowa law requires that all septic systems, regardless of age, must have a secondary wastewater treatment system such as a drain field or leachfield. The OSWAP is designed to provide financial assistance to help homeowners comply with this requirement.

Process for setting up loan program

The program is implemented at the county level. A county must have an environmental health program that meets the onsite sewage system standards listed in subrule 93.4(2) of 567 Iowa Administrative Code Chapter 93 (i.e., the county must have adopted, and thus, agreed to enforce, the construction codes related to septic system installation and inspection). The county sanitarian's responsibilities include evaluating the site and proposed septic system to be installed, issuing a permit for the system, filling out and signing the OSWAP approval form that details the deficiencies of the existing system and authorizes the replacement or upgraded system (together the construction permit and OSWAP approval form serve as the Certificate of Qualification for

the borrower to take to a lender), performing a follow-up inspection once a replacement system has been installed, creating an onsite system management plan for each system replaced or repaired, and performing once-a-year walkover inspections to ensure that the on-going maintenance requirement of the loan is met.

For a traditional soil absorption septic system, the onsite system management plan basically consists of a maintenance schedule detailing when the county sanitarian will send out a reminder for the system to be pumped out. For a non-traditional or discharging septic system, the onsite system management plan specifies how often the effluent will be tested to ensure it meets state and federal discharge standards. The majority of the county sanitarians in Iowa are eligible to participate in the program – 92 out of 99 total counties.

When the Iowa DNR was developing the SRF septic system program, counties provided input that the environmental review process and all the paperwork it entailed would be too onerous a burden and would deter counties from participating. In response to this feedback, the Iowa DNR applied for a categorical exclusion from the NEPA process for its linked deposit septic system program. In addition, in order to avoid the other cross-cutting federal authorities, the Iowa DNR funds the OWSAP from CWSRF loan repayment funds. See the Maryland section for more detailed information about the cross-cutter authorities.

Loan process for borrower and finance terms

Only owners of existing homes in unincorporated areas not served by a public sewer who need to repair or replace their current system are eligible to participate in the program. Lending institutions must sign a Participating Agreement to become an eligible lender. There are 181 participating lenders. In order to participate, a homeowner must receive a wastewater system construction permit from their county sanitarian. The county sanitarian must develop a

management plan for each system to be installed or repaired. The borrower then obtains bids for the work from eligible contractors. The county sanitarians usually maintain lists of local septic system contractors. The borrower then applies for a loan from a participating lending institution. The lending institution determines whether or not to approve the loan. If a borrower's loan application is denied at one bank they may apply again at another lender. If a loan is approved then the DNR makes a deposit with the lender at a zero percent interest rate for the same amount and terms as the loan. The lender makes a repayment to the CWSRF once a year.

Table 3: Iowa CWSRF Septic System Linked Deposit Program Finance Terms Example

Linked deposit annual interest rate for DNR:	0%
Borrower's linked deposit lending rate:	0% to 3%, depending on bank fees
Loan amount:	Minimum of \$2,000, no maximum limit
Other terms affecting linked deposit loans include the following:	
Repayment rate:	Per bank loan agreement
Late payment penalty:	Per bank loan agreement
Loan term:	No more than 10 years
Closing costs or administrative fees:	Per bank loan agreement. There is a sliding scale for bank fees. If a bank charges a higher interest rate they are required to charge lower fees, per the participating bank agreement.

The Iowa CWSRF deposits the funds for the linked deposit loans as CDs with the same terms as the borrower's loan. The financial component of the OSWAP is managed by an outside Certified Public Accountant (CPA) agency, Williams & Company. The agency is paid a flat monthly rate, a fixed fee per loan, plus an annual bond. The DNR anticipates that this function will eventually be transferred to the Iowa Finance Authority.

Discussion

If a borrower does not qualify for the OSWAP, they may be eligible for a USDA Rural Development assistance program. There are two USDA Rural Development programs – a grant

program and a loan program; the grant program has age requirements and the loan program has income requirements. If a borrower does not qualify for either of these programs there are few other assistance options.

Dan Olson, the Environmental Specialist with Iowa DNR who is responsible for managing the OSWAP has collected anecdotal information indicating that many of the lenders do not require collateral and estimates that more than half of the loans in the OSWAP are unsecured. Lenders will not always use the borrower's home as collateral; tractors and other large farm equipment have been used to secure the loans. Almost all of the participating lenders are small, regional banks in rural towns which signed up for the program because one of their customers wanted to apply for an OSWAP loan. Some lenders, such as Veridian Credit Union, signed up to participate in the OSWAP as a way to attract more customers. U.S. Bank is a larger bank that has a few branches making loans through the program but the participating agreement is for the individual branches, not the entire U.S. Bank system.¹¹ Wells-Fargo has a large presence in the Iowa market. It elected not to participate in the program because the loan volume would not be large enough to justify the administrative overhead for participating.

Some lenders in the urban areas of Iowa require septic system inspections for home mortgages. Twenty-one counties in Iowa require septic system inspection when a property is transferred. A bill to enact a state-wide inspection requirement has been proposed and failed in the last three Iowa legislative sessions. Mr. Olson thinks that the success of a linked deposit program hinges upon it being attractive and accessible to county sanitarians, lenders, and borrowers. The Iowa program was designed to meet federal and state environmental requirements while not placing unreasonable administrative burden on the program participants. To this end, the lenders only have to fill out two forms to sign up for the program and county

¹¹ U.S. Bank has branches in 24 states.

sanitarians have a streamlined list of eligibility requirements. Homeowners sign up for the program for a variety of reasons – sometimes because they have been cited for having a failing or illegal system (direct discharge) but more often because they recognize that the system needs to be upgraded, perhaps because they are planning to sell the property.¹² A perceived shortfall of the program is that small incorporated communities are not eligible to participate.

Arkansas

Background and overview

The Arkansas Natural Resources Commission (ARNC) administers the CWSRF in conjunction with the Arkansas Development Finance Authority.¹³ In 2000, they implemented the Agriculture Water Quality Loan Program which uses a linked deposit mechanism to help farmers fund agricultural BMPs to improve water quality. The program processed over 400 loans in 2005 and has up to \$25 million deposited in banks. Septic system repairs are not eligible for the program. The program process is outlined to provide comparison to the other state linked deposit programs.

Program process and finance terms

In order for a county to participate, the local Soil and Water Conservation District (SWCD) and a lending institution must sign participating agreements with the ARNC. Thirty counties (out of the 75 in the state) are participating. In order to participate, farmers work with their local SWCD office to develop a Conservation Plan showing that the best management practices they will implement are practicable for the county and will help mitigate water pollution. Once the SWCD approves the plan they issue the farmer a Certificate of Qualification. The farmer then contacts one of the 80-plus participating banks to apply for a loan. The bank

¹² The county sanitarian relies on complaints to identify failing systems.

¹³ The Arkansas Natural Resource Commission is also referred to as the Arkansas Soil and Water Conservation Commission.

checks the borrower’s credit history and determines what collateral to use to secure the loan. If the loan is approved, the ARNC will make a corresponding deposit, with a zero percent rate of return, to the bank. The interest rate that banks can charge the borrower is set at 3.0 percent. The SWCD charges ½ of one percent (.005) of the total loan amount as an administrative fee. The banks make quarterly payments of principal to the CWSRF. The program has been successful and there has been more demand from farmers than the program funds can meet; in fact, there is a waiting list to participate in the program. The program is capped every quarter until more funds become available.

Table 4: Arkansas CWSRF Agriculture BMP Linked Deposit Program Finance Terms

Linked deposit interest rate for ANRC:	0%
Borrower’s linked deposit lending rate:	3%
Maximum loan amount:	\$100,000
Other terms affecting linked deposit loans include the following:	
Repayment rate:	Per bank loan agreement
Late payment penalty:	Per bank loan agreement
Loan term:	No more than 10 years
Closing costs or administrative fees:	The banks are allowed to charge fees. The SWCD charges ½ of one percent (.005) of the total loan amount as an administrative fee.

PASS-THROUGH PROGRAMS

Maine

Background and overview

The Maine Municipal Bond Bank (MMBB) serves as the financial manager for the Maine Clean Water State Revolving Fund in conjunction with the Maine Department of Environmental Protection. In 1995, the MMBB and the Maine State Housing Authority (MSHA), which is Maine’s housing finance agency, partnered to make low-interest loans to homeowners to finance septic system repair and replacement. The two organizations entered into a Memorandum of

Understanding which specifies that the MMBB will set aside a certain amount of money from the CWSRF to finance the septic system repair loans portion of the MSHA home rehabilitation program. The program has been renewed several times, most recently in 2001.

The loans are made through the MSHA home rehabilitation program (Maine Home Repair Network) which provides funds to low-income homeowners to make home repairs. The MSHA partners with various state and federal agencies, including the Maine Department of Economic and Community Development and the Maine Community Action Program (CAP) agencies, to administer the program. Since 2001, the MMBB has processed between \$2 million to \$3 million worth of loans with this program. The average loan size ranges from \$5,000 to \$7,000.

Program process and finance terms

Homeowners apply for the program through local CAP Agencies. In order to be eligible, borrowers must have an income that is 80 percent or less of the area median income. Also, the homeowners must renovate the entire home, bringing it up to Maine housing quality standards.

Loan terms include an interest rate no higher than one percent over 20 years; loan amounts and other conditions are set by the MSHA and CAP agencies and vary according to the repair needs. The one percent from the borrowers is used to defray MSHA's administrative costs for servicing the loan and collecting payments. Thus, the payback to MMBB and the SRF fund from MSHA is for principal only. There is also an origination fee charged by the loan originator that is normally given to the issuing entity (CAP agency).

Once a borrower is approved for a septic system repair loan, the MSHA "bills" the MMBB for that amount which is then paid out from the Maine CWSRF. The cash flow works as follows: MSHA processes a loan, for example, for \$5,000 to a borrower for a septic system

repair. MSHA bills MMBB for the \$5,000. MMBB sends \$5,000 to MSHA. As the borrower repays the loan, MSHA keeps 1 percent and sends only the principal back to the MMBB.

The finance terms of the pass-through loan program are summarized in the following table.

Table 5: Maine CWSRF Septic System Repair Pass-Through Loan Program Finance Terms

Borrower's lending rate:	1%
Interest rate for repayment to MMBB:	0%, only principal is repaid to MMBB
Interest rate MSHA receives:	1% (= borrower's rate)
Other terms affecting loans include the following:	
Repayment rate:	Per bank loan agreement
Late payment penalty:	Per bank loan agreement
Loan term:	No more than 20 years
Closing costs or administrative fees:	Loan originator can charge origination fee. This is normally given to the issuing entity (CAP agency).

Discussion

Robert Lenna, the Executive Director of the MMBB, thinks this loan format works well for Maine. The program has enabled the Maine CWSRF to fund non-point source pollution projects which is an EPA priority. He does not think a linked deposit program would be a good option for Maine because as a small, rural state it would be difficult to generate sufficient loan volume to make the unit cost per loan efficient.

Pennsylvania

Background and overview

The Pennsylvania Infrastructure Investment Authority (PENNVEST) administers the Pennsylvania Clean Water State Revolving Fund. The septic system funding program (Individual On-lot Sewage Disposal System Funding) is administered by PENNVEST in conjunction with the Pennsylvania Housing Finance Agency (PHFA) and the Pennsylvania Department of Environmental Protection (DEP).

The program can be used for the rehabilitation, improvement, repair or replacement of an existing septic system located on a single family, owner-occupied property which is the primary residence of the owner. Small flow treatment systems with a discharge are eligible if a standard or alternative subsurface disposal system is not an option due to soil and topography conditions. A professional engineer (PE) must design the system and it must be permitted by DEP. Project costs may include construction fees and costs, permit fees, loan origination fees and legal fees. Projects are ineligible for funding from this program if construction begins prior to loan approval.

In order to be eligible to participate in the program, the household or family income must not exceed 150 percent of the statewide median household income, adjusted annually for inflation. The applicable maximum through December 31, 2006 is \$69,183. All areas are eligible to participate unless a public community sanitary system is either in place or will be constructed in the next five years.

Program process and finance terms

A homeowner contacts a participating local lending institution to see if they qualify for credit approval of a loan. A \$65 application fee is collected which is reimbursed if the loan is closed and disbursed. If the homeowner qualifies for a loan, they must get certification from local municipal officials that the proposed project is not in an area currently served by a public sewer system and that the area will not be served by a public sewer system within five years. Next, the homeowner must work with the local sewage enforcement officer (SEO) to ensure that the proposed repair or new system installation meets all local and state regulations and code requirements. The homeowner must receive written bids for the work to be done; a minimum of three bids is recommended. The SEO or designing PE also must certify that the proposed repair

or new system installation is the most cost-effective option available for the property. Finally, the SEO issues a permit for the system. The homeowner then takes the permit application, permit, bids, and certification forms from the designer, SEO, and municipal officials to the participating lending institution.

The maximum loan amount is \$25,000. The interest rate on the loans is 1 percent plus a .75 percent service and insurance fee per year. The .75 percent fee goes to the PHFA and the repayments (principal plus 1 percent interest) go to PENNVEST. Loan origination fees are charged in connection with a loan. Borrowers are subject to credit history checks. The loans are secured with a mortgage on the borrower's home. The maximum loan term is twenty years and loan repayment begins within sixty days after the date of loan closing. If the property is sold or transferred, the loan must be immediately repaid in full. A basic requirement of the loan is that the borrower has to keep the new, upgraded, or repaired system in good working condition, which includes regular inspections and pump-outs, to ensure it does not malfunction. Pumping frequency schedule and reporting requirements are detailed in the loan agreement.

Table 6: Pennsylvania CWSRF Septic System Repair Pass-Through Loan Program Finance Terms

Borrower's lending rate:	1% + .75% = 1.75%
Interest rate for repayment to PENNVEST:	1%,
Interest rate PHFA receives:	.75%
Maximum loan amount:	\$25,000
Other terms affecting loans include the following:	
Repayment rate:	Per individual borrowing agreement
Late payment penalty:	Per individual borrowing agreement
Loan term:	No more than 20 years
Closing costs or administrative fees:	\$65 application fee plus loan origination fee

Discussion

When PENNVEST started the program in 1996, agency representatives thought there would be a lot of demand for it. At first the program processed between \$300,000 and \$500,000 in loans every quarter. The demand quickly tapered off and the program now processes approximately \$100,000 to \$300,000 every quarter. Homeowners provided feedback saying that the high bank fees and the requirement that the loan be approved before construction could begin were disincentives to participate in the program. Another possible explanation for the decreased participation could be that the banks try to “cross-sell” other lending options to the borrowers with better credit histories thereby siphoning off potential customers. PENNVEST is evaluating the future of the program and strongly considering other options, most likely another partnership program with the PHFA.

Massachusetts

Background and overview

The Massachusetts Department of Environmental Protection (DEP) administers the Water Pollution Abatement Trust (CWSRF) with financial guidance from the state Department of the Treasurer. Revisions to the Massachusetts state law in 1995 require private septic systems must be inspected when the properties using them are transferred, expanded, or converted to another use.¹⁴ If a system is deemed as failing, it must be repaired or replaced (MA DEP, 2005). In 1995, the CWSRF implemented the Massachusetts’ Community Septic Management Program (CSMP) to help homeowners comply with the new regulations. The CSMP uses a pass-through mechanism to loan funds to municipalities to finance homeowner septic system repairs. The program has funded more than 3,000 projects.

Program process and finance terms

¹⁴ Massachusetts State Environmental Code, Title 5 § 310 CMR 15.000.

In order to participate, a community must develop a septic system management plan and a local betterment loan program which is the organizational structure used to administer the loans. The management plans identify and prioritize areas with septic systems that require monitoring, maintenance, and rehabilitation (EPA Innovative Use of CWSRF for Nonpoint Source Pollution). A community can develop a plan with an inspection component that will meet the Title 5 requirements. According to Massachusetts law, a betterment assessment is a charge imposed on a property that receives a benefit from a public improvement.¹⁵ Traditionally, betterment assessments have been imposed to pay for road, sidewalk, or sewer improvements. The CSMP uses betterment agreements to allow homeowners to receive a betterment loan for septic system rehabilitation and to allow the community to “tie” the loan to the borrower’s property tax bill, thus ensuring that the loans will be repaid. If a homeowner defaults on a loan, the community can place a lien on the property. Municipalities can receive state grants of up to \$20,000 to support the development and administration of the betterment loan program.

Once a community has developed the septic management plan and betterment loan program, it can borrow hundreds of thousands of dollars from the CWSRF program (most communities borrow around \$200,000). Typically, the CWSRF funds are loaned at zero percent interest for 20 years. Homeowners usually receive 20-year loans at a two to five percent interest rate. Communities can use the interest accrued on the loans to support the administrative costs of the program. They must begin to repay the CWSRF within one year of disbursing a loan. This program has been successful but it is important to note that it was developed based on and in response to a regulatory requirement.

Washington

Background and overview

¹⁵ Massachusetts Betterment Law, M.G.L. Chapter 80.

The Washington Department of Ecology's (DE) Water Quality Program administers the Washington State Water Pollution Control Revolving Fund (CWSRF) in addition to the Centennial Clean Water Fund and the Section 319 Nonpoint Source Grants Program. The CWSRF developed the On-Site Septic System Repair and Replacement program in the early 1990's. The program uses a pass-through mechanism to provide loan and grant funds to municipalities to set up loan programs to help homeowners rehabilitate failing septic systems. The program is funded from the CWSRF and the Centennial Clean Water Fund. Through June 2006 almost \$16.7 million had been loaned to local jurisdictions. In 2006, the Washington legislature earmarked funds for the program to focus on improving water quality and public health in the twelve counties in the Puget Sound region through the Puget Sound On-Site Septic System Repair and Replacement Financial Assistance Pilot Program.

Program process and finance terms

Under Washington state law, only public entities such as a county, city, conservation district, or political subdivision, can receive CWSRF and Centennial funds. In the Puget Sound program, the DE loans funds to communities at an interest rate of zero percent to 3.1 percent. Communities or local jurisdictions can receive up to \$250,000 in CWSRF loans and \$50,000 in Centennial grants. The jurisdictions must apply for a 50/50 loan-to-grant match. For example, a \$40,000 CWSRF loan must be applied for in conjunction with a \$40,000 grant. Additional grants are also available, for up to seven percent of the total loan and grant amount, to use for program administration which can include development, implementation, marketing, outreach, etc. Communities can use a qualified private lending institution or nonprofit organization to administer the funds. If a community chooses this option, they must develop a contract agreement or Memorandum of Understanding with the external administrator.

According to Brian Howard with the DE, the Water Quality Program has explored the possibility of using a linked deposit mechanism to distribute loan funds. Changes to the enabling legislation would be necessary in order for a private entity to receive program funds.

Minnesota

Background and overview

Minnesota's Water Pollution Control Revolving Fund (WPCRF) or CWSRF is managed by the Minnesota Public Facilities Authority (MPFA), a board of six state commissioners from the Departments of Employment and Economic Development (DEED), Finance, Health, Agriculture, Transportation and the Minnesota Pollution Control Agency (MCPA). Minnesota's CWSRF program has done more non-point source pollution control lending than any other state. They have a number of agency partnership and municipal pass-through loan programs to help fund septic system repairs or replacements.

The Clean Water Partnership Loan program is administered by the MCPA and makes loans to eligible local units of government such as counties, cities, and watershed districts to fund non-point source pollution control projects including septic system replacement. The Agriculture Best Management Practices Loan Program is administered by the Minnesota Department of Agriculture. CWSRF funds are allocated to counties, soil and water conservation districts, and joint powers organizations to provide the seed money to establish revolving loan accounts to implement the local comprehensive water plan component of Minnesota's Nonpoint Source Management Program (319 plan). Septic system repairs or replacements are one of the eligible BMPs. The Tourism Loan Program is administered by DEED to provide loans to tourism-related businesses to fund septic system upgrades. Part of the total loan is provided by a private lending institution. The CWSRF provided funds to capitalize the program but is not

making contributions in fiscal year 2007. The discontinued Small Cities Septic System Loan Program was administered by DEED and provided funds to small communities for septic system repairs.

DIRECT LENDING PROGRAM

Delaware

Background and Overview

The Delaware Department of Natural Resources and Environmental Control's Division of Water Resources' Financial Assistance Branch administers the Delaware Water Pollution Control Revolving Loan Fund (CWSRF) program with technical assistance from the Underground Discharges Branch. In 1993, the CWSRF implemented a direct loan program to assist low to moderate income homeowners with septic system rehabilitation. The program has made over 300 loans since its inception. The CWSRF also administers a grant program in conjunction with the septic system repair loan program.

Program process and finance terms

Homeowners with failing septic systems must meet designated income guidelines in order to participate in the program. Eligible individual homeowner projects include septic system design and construction, connection to a public sanitary sewer system, and septic system abandonment. Eligible costs include site evaluation, construction costs, permit fees, and closing costs. Community system or mobile home park septic system repairs are also eligible to participate in the program. The loans are secured using the home as collateral.

Table 7: Delaware CWSRF Septic System Repair Direct Loan Program Finance Terms

Interest rate for DNREC:	3% or 6%
Borrower's lending rate:	3% or 6%, depending on eligibility per income guidelines
Loan amount:	\$1,000 to \$25,000 for individual systems Up to \$250,000 for community systems
Other terms affecting loans include the following:	
Repayment rate:	Monthly
Loan term:	5 years to 20 years
Closing costs or administrative fees:	Non-refundable application fee of \$15.00 (individual system) or \$30.00 (community system) to cover credit check costs

Carla Waller, the loan officer with the Financial Assistance Branch thinks the program is successful. A direct lending program would not be a suitable option for all states but because Delaware is a small state in terms of size and population,¹⁶ this mechanism is an efficient way to disburse funds to help low to moderate income homeowners repair septic systems.

¹⁶ Delaware is the second smallest state in the U.S. and has the least number of counties (three) of any state.

CHAPTER 4

IMPLEMENTATION IN GEORGIA

FIRST STEPS AND BORROWER DEMAND

As the case studies illustrated, no two CWSRF loan programs are identical. There are lessons to be learned by evaluating the different processes other states used to establish linked deposit and other lending programs to fund septic system repairs. When developing loan programs, the state CWSRF organizations must address environmental priorities while balancing economic constraints. In addition, these programs must be designed to meet the unique needs of a particular state. For example, a lending mechanism that works well in a mostly rural state might not be appropriate for or successful in a state that contains large metropolitan regions.

The process to establish a CWSRF linked deposit program to fund septic system repairs in Georgia can be divided into two major steps – setting up the program at the state agency level and implementing the program at the local (county) level. The Georgia Environmental Facilities Authority (GEFA) and the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (DNR) are the two agencies that would work together to establish the program. Roadblocks and strategies to overcome the roadblock for both of these steps are discussed in detail in the corresponding section within this chapter and summarized in Table 8. Although not required to establish a program, an assessment of potential demand by borrowers may prove to be a significant “first” step. Thus this topic is discussed prior to the other steps.

Potential demand by borrowers is a key issue that must be addressed when considering whether or not to establish this funding program. As illustrated in the case studies, particularly in Ohio and Pennsylvania, perceived levels of interest by potential borrowers does not necessarily

equate to actual participation. A program can appear to be efficient and beneficial on paper then prove to be burdensome and ineffective in practice. Lower levels of participation can be attributed to a number of factors including low market interest rates that make the program less attractive to potential lenders, burdensome programmatic barriers that deter counties with fewer organizational resources from participating, and a lack of marketing of the program to publicize its availability. The linked deposit mechanism has proven to be a successful method for funding agricultural BMPs in a few states and has had varied success as a funding method for septic system repairs. Ohio has led the way by implementing the program for agriculture then trying to build on that success with a septic system rehabilitation program. Since 1997, the agriculture program has generated almost \$40 million in loans while the septic system program has generated 43 loans for a total of less than \$400,000. Part of the difference between the program loan amounts is because most farmers need BMPs (which are usually very costly) while septic systems fail more sporadically and the repairs cost less than BMPs. Maryland's program has produced 44 loans for a total of \$318,641. In contrast, Iowa's septic system linked deposit program has processed \$3 million in loans since 2002.

In order to approximate potential demand for the program, a survey was developed to distribute to septic system repair permit applicants in Gwinnett County.¹⁷ Steve Leo from Gwinnett County, Jason Bodwell at GEFA, and Jeff Hughes and Stacey Isaac Berahzer at the UNC Environmental Finance Center helped draft the survey. The intent of the survey is to provide data indicating how the permit applicants are planning to finance their septic system repairs and to gauge their interest in a potential financial assistance program. The results may prove to be a useful source of information for GEFA, EPD, and Gwinnett County as they move

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to implement a viable program. The survey results are still being collected and are not available to reference in this thesis.

ESTABLISHING PROGRAM AT STATE AGENCY LEVEL

As mentioned earlier, GEFA and EPD work together to administer the CWSRF. GEFA manages the financial component of the program which includes underwriting and servicing the loans. EPD provides environmental technical guidance through individual project reviews to ensure that the water quality improvements being funded with CWSRF loans comply with all applicable federal and state requirements.¹⁸

GEFA produces several documents that outline CWSRF operational procedures and the process to apply for loans. All of these documents are available at GEFA's CWSRF website: <http://www.gefa.org/cwsrf.html>. The "Georgia's State Revolving Loan Fund Guidance for Project Requirements Clean Water SRF" document, developed by GEFA and EPD, details the loan application process including a list of and format for the documents required to comply with the applicable federal and state regulations. Georgia's CWSRF loan policies are explained in the "Clean Water State Revolving Loan Program Policies (Water Quality Projects)" document.

Projects funded by federal assistance financial programs, such as the CWSRF, must meet the requirements of a wide range of federal laws, executive orders and government-wide policies (DWSRF guidelines). In order to ensure that the requirements of these federal authorities (commonly referred to as cross-cutters) are met, CWSRF project applications must go through a comprehensive planning and environmental review process. One part of the planning and environmental review process is the Georgia State Environmental Review Process (SERP). The SERP conforms with and thus fulfills the requirements of the Georgia Environmental Policy Act (GEPA) and the federal National Environmental Policy Act (NEPA). The SERP uses a State

¹⁸ GEFA and EPD have an interagency contract arrangement that specifies EPD's role and responsibilities.

Clearinghouse mechanism whereby the planning documents for a project are sent to other state agencies for review. The planning and environmental review process ensures that the potential environmental, economic, social, and cultural impacts of a proposed project are evaluated according to federal guidelines.

A cost-effectiveness analysis is a required component of the process as well as a detailed environmental checklist review that seeks to measure the impact of the project on wetlands, air quality, estuaries, protected species, farm land, disadvantaged communities and populations, along with a host of other categories. The Engineering and Technical Support Program for Wastewater within the Watershed Protection Branch at EPD oversees these reviews. Once an initial environmental review is completed and a proposed project appears environmentally acceptable, EPD issues a “Notice of No Significant Impact” (Georgia’s SRF Guidance). According to the state rules and regulations, only projects defined under CWA Section 212 are required to have environmental impact reviews.¹⁹

The Intended Use Plan (IUP) is prepared by GEFA annually to describe how the Georgia CWSRF plans to spend its yearly budget and how the funded projects will support the goals of the CWSRF.²⁰ The IUP includes the prioritization systems that GEFA uses to distribute loan funds. There are two prioritization systems – one for traditional wastewater or construction projects and one for non-point source projects. The key criteria used to rate non-point source projects are planning requirements, environmental benefits, and bonus points.²¹ GEFA also produces an Annual Report to document the program’s accomplishments. The IUP for the

¹⁹ Georgia state rules and regulations 391-3-6.14

²⁰ The IUP is a requirement per Section 606(c) of the 1987 Amendments to the CWA.

²¹ Bonus points are available, for example, if a project involves acquisition of buffer zones along state waters or if the project involves construction of structural non-point source pollution controls, etc.

upcoming year along with an application for funds are submitted to EPA sometime in the first half of the year (May in 2006).²²

In order to comply with federal guidance detailed in the “The Clean Water State Revolving Fund Funding Framework,” the Georgia CWSRF established a long-term goal to fund more non-traditional projects such as non-point source projects (2004 IUP). According to the 2006 IUP, eligible non-point source projects include almost any activity identified in a state’s non-point source management plan that is in compliance with the CWA and is approved by EPA. Wastewater from failing septic systems is considered to be a non-point source of pollution and is listed in the “Georgia Nonpoint Source Management Program” document. However, private septic systems are not explicitly listed as an eligible project in GEFA’s enabling state legislation or in the 2006 IUP. It would be advisable for GEFA to get official confirmation from either EPD or the state Attorney General that private septic system repairs are eligible for CWSRF loans in Georgia.²³

To date the CWSRF program in Georgia has funded three non-point source projects. Two of the loans were to fund the purchase of street-sweepers and the other loan was to fund a stormwater BMP project in Gwinnett County.²⁴ One possible reason municipalities have not sought CWSRF loans for non-point source projects is because it is difficult to establish revenue streams for repaying these non-traditional projects. Another reason is that other potentially more attractive funding sources are available such as the CWA Section 319 grant program or the option to issue municipal bonds. The lack of precedent-setting example projects could also be a contributing factor. Sometimes a new program must be tested by a few “early adopters” and

²² The annual report is required by Section 606(d) of the 1987 Amendments to the CWA.

²³ O.C.G.A. § 50-23-5.

²⁴ The Gwinnett County project consists of multiple watershed improvement projects (such as streambank restoration) for Sweetwater Creek and the Upper Yellow River Watershed.

proven successful to create momentum. Once communities can evaluate the example set by the pilot projects it might not seem like as big of a risk to implement a new funding program.

The project planning and environmental review process was originally designed to evaluate traditional CWSRF projects such as wastewater treatment facility construction or expansion. Wastewater treatment facility projects are subject to the regulation of CWA Section 212 and are required to go through the project planning and environmental review process. This requirement is also supported by the Georgia DNR Rules and Regulations for the SRF.²⁵ The rules do not list an environmental planning requirement for projects defined in CWA Section 319 (non-point source projects). However, the only major non-point source project that has received Georgia CWSRF funding, the Gwinnett County stormwater BMP project, went through a modified environmental planning and review process similar to the one used for CWA Section 212 projects.

Non-point source pollution control projects have very different characteristics than construction projects in that they are much more varied, ranging from septic system repairs to wetland conservation; they are usually smaller in size and take less time to implement than a traditional construction project. It would be highly impractical for all of the project applications for repairs to individual septic systems to go through a full planning and environmental review process. Representatives from EPD suggested grouping together the septic system projects and processing them as a package program as a way to make the planning and environmental review requirement more proportional to the size of the project. This approach was used with the Gwinnett County stormwater BMP CWSRF project.

GEFA and EPD should work closely together to determine what type of planning and environmental review process should be required for non-point source projects funded by the

²⁵ Georgia DNR rules and regulations § 391-3-6.14

Georgia CWSRF. If they choose to use a modified version of the existing CWA Section 212 planning and environmental review process, it would be helpful for them to carefully consider how to adapt that process to efficiently manage non-point source pollution control projects while still meeting applicable federal and state requirements. This is an important step if GEFA is to accomplish its goal of funding more non-point source projects using the CWSRF.

As discussed in the case studies chapter, both the Maryland Department of the Environment (MDE) and the Iowa Department of Natural Resources (DNR) applied for categorical exclusions for their linked deposit septic system programs to bypass the federal NEPA environmental review requirement. Maryland received a categorical exclusion while Iowa decided to pursue another route. GEFA and EPD could pursue a categorical exclusion for a CWSRF septic system repair linked deposit program as a way to circumvent the environmental review process requirement

Another strategy for addressing the cross-cutter requirement barrier is to finance a program from a different CWSRF pool of funds. The CWSRF has three main sources of incoming funds – federal capitalization grants, state matching funds, and loan repayments. Loan repayments are not considered to be federal funds so projects financed using equity funds would not be subject to the same cross-cutter requirements. The Iowa CWSRF eventually adopted this option instead of the categorical exclusion. Maryland also funds its septic system repair program via repayment funds so the projects will not be subject to cross-cutter authorities. Iowa's rules for administering the SRF designate the pools of funds from which money is set-aside to fund non-point source pollution control projects. These rules had to be changed to specify loan repayments as the funding source for the OSWAP. If GEFA decides to establish a septic system

repair linked deposit program financed with loan repayment monies, they should confirm that they have the authority to fund the program from that source.

Currently GEFA does not have the authority to make loans to private entities such as a commercial bank.²⁶ GEFA can make CWSRF loans only to counties and municipalities.²⁷ The federal CWSRF guidelines allow state programs to use linked deposit mechanisms, but the enabling state legislation must give that authority to GEFA for the program to be established in Georgia. If GEFA and EPD choose to develop a linked deposit lending program, the enabling state legislation would need to be modified to give GEFA this authority.

Another related legal barrier is more fiduciary in nature. The money that GEFA would deposit with a lending institution to match a borrower's loan in a linked deposit program would actually be considered an investment rather than a loan.²⁸ The GEFA Board is authorized to invest CWSRF money in vehicles that will provide maximum returns. However, in a linked deposit program, a CWSRF agrees to take a reduced return on an investment. For example, a CWSRF may only earn a two percent return on a CD instead of a five percent return in order for a lender to pass along the interest rate discount to a borrower. This interest rate discrepancy creates the profit incentive for a bank to participate. Again, the enabling legislation would need to be modified to provide GEFA the authority to invest CWSRF money in vehicles with reduced rates of return. A bill proposing a change to state law requires a legislative sponsor. As Gwinnett County is the proposed pilot county for the septic system repair linked deposit program, it would be appropriate for a state legislator who represents Gwinnett County to sponsor such a bill.

²⁶ This interpretation of O.C.G.A. § 50-23 is per unofficial opinion of the State Senior Assistant Attorney General. An official opinion has been requested.

²⁷ More specifically, the municipality or county must be certified as a Qualified Local Government by the Georgia Department of Community Affairs (DCA) (GEFA, 2006 IUP).

²⁸ This interpretation of O.C.G.A. § 50-23 is per unofficial opinion of the State Senior Assistant Attorney General. An official opinion has been requested.

ESTABLISHING PROGRAM AT LOCAL LEVEL

In order to successfully implement a linked deposit program, a local approving authority and lending institutions must “sign up” to participate in the program and borrowers must find the program attractive enough to use as a financing option for their septic system repairs. The programs in Ohio and Iowa require that a county fulfill eligibility requirements in order to participate in the program. Maryland implemented its program at the state-wide level and does not have any requirements for counties to participate. GEFA and EPD would need to determine what entity would serve as the local approving authority and whether or not to establish participation criteria for the local approving authority.

It would be logical for the local and municipal boards of health to serve as the approving entity because those departments have authority over the installation of new septic systems and the enforcement of failing or malfunctioning systems.²⁹ County departments of health issue permits for septic system installation and repair so these departments would serve as the initial source of contact and provide information about the program for potential borrowers.³⁰ Typically counties and lending institutions sign up by meeting program guideline eligibility requirements and then sign an official agreement to participate (Reference Appendix C).

If a septic system repair linked deposit program in Georgia is going to require counties to sign up to participate, GEFA and EPD first would need to develop program guidelines for county eligibility requirements. The requirements for eligibility could range from a county watershed management plan along the lines of the Ohio septic system repair program to the more minimal requirements of the Iowa OSWAP. The latter requires that counties have environmental health

²⁹ Per O.C.G.A. § 31-3-5, the Georgia Department of Human Resources’ (DHR) Division of Public Health has these authorities and delegates them to the local level.

³⁰ The DHR Division of Public Health has grouped counties into Public Health Districts. This organizational structure should not have any impact on how GEFA and EPD would grant eligibility to individual counties.

plans meeting state minimum standards and that county health departments agree to perform pre- and post-installation site evaluations, to develop septic system management plans, and to perform yearly walkover inspections of the rehabilitated systems.

Instead of introducing new water quality planning requirements for the counties to meet in order to be eligible to participate in the linked deposit program, GEFA and EPD could tie into the several existing statewide planning processes such as the CWA 305(b) water quality assessment process, the CWA 303(d) TMDL and TMDL implementation planning process, the CWA 319 Nonpoint Source Management program and Coastal Nonpoint Source Management program, the watershed assessment and watershed management planning process required for communities with MS4 level NPDES permits, and the statewide river basin management planning process. Another eligibility requirement could be that county environmental health codes for septic systems must meet minimum state standards.³¹ The county health departments in Georgia typically do not have a wealth of resources so it would be critical for GEFA and EPD to carefully consider the administrative burden that the eligibility requirements would place on the county. The less burdensome the eligibility requirements, the more likely a county will sign up to participate in the program.

Many of the other state septic system repair loan programs have a septic system maintenance requirement. The maintenance requirement could be implemented at the county, borrower, or lender level. It is important to again note that county health departments in Georgia are explicitly prohibited from requiring or enforcing any type of regular maintenance of traditional (i.e., non-mechanical) septic systems.³² Thus, GEFA and EPD could not stipulate that county health departments agree to develop septic system maintenance programs (such as a

³¹ Per DHR Division of Public Health Environmental Health Section Rules and Regulations for On-Site Sewage Management Systems, Chapter 290-5-26.

³² O.C.G.A. § 31-3-5(b)(6).

schedule for pump-outs or inspections) as a requirement for participating in a linked deposit lending program unless this state legislation is amended. Implementing a septic maintenance requirement at the borrower level would involve county health departments requiring homeowners to agree to perform septic system maintenance as part of the borrower eligibility certification process. It is unclear whether or not county health departments currently would have the authority to implement this program requirement. GEFA could request an opinion on the legality of this option from the State Attorney General if they want to pursue this route.

Unless a change is made to the law prohibiting county health departments from requiring septic system maintenance, the best option for implementing a linked deposit program maintenance requirement would be at the lender level. A lender can require septic system maintenance as part of a septic system repair loan contract analogous to the way that lenders can require home inspections before approving a home loan (mortgage). The lender has the right to make contract requirements to protect the collateral of the loan investment provided that the requirements are within applicable state and federal laws. Another example illustrating this point is that lenders can require a borrower to purchase collision insurance coverage for a car loan. This is above and beyond the minimum state requirement of liability insurance coverage but serves as a means to protect the bank against the risk of a complete loss should the borrower be at fault for totaling the car in an accident.³³ GEFA could include a clause in the participating bank agreement specifying that the lending institution must require septic system maintenance in any loan contracts for the linked deposit program.

If GEFA and EPD wanted to implement a septic system maintenance requirement at the county level without pursuing a legislative change, there are ways to circumvent the health department septic system maintenance prohibition. Two Georgia municipalities have established

³³ The minimum auto insurance requirements vary from state to state.

septic system management ordinances.³⁴ In both cases, the power to enforce regular maintenance of septic systems has been delegated to an entity other than the local health department such as the City Clerk or an independent water authority. The justification for the power delegation can be found in the police power granted to the states by the United States Constitution. This clause gives local governments the authority to act in order to preserve and protect public health and welfare. The preservation of a clean water supply falls within those grounds. If GEFA and EPD were to choose to include a maintenance requirement in the guidelines for any type of septic system rehabilitation loan program, then counties would have to pursue a similar way to work around the health department maintenance prohibition.

Once a county has been approved to participate in the program, its main roles are to market the program to septic system owners who apply for repair permits and then to issue certificates of qualification to eligible borrowers. GEFA and EPD must outline the eligibility requirements for a borrower to participate in the program guidelines. Typically a program will be open to residents of a participating county who have met the requirements for a permit to repair or replace the septic system for their existing, residential, single-home property. Other buildings on residential properties, such as work shops or home offices, are usually also eligible. The programs can not be used to pay for installation of new septic systems for new construction. GEFA and EPD would have to determine if owners of multi-unit buildings or commercial buildings would be eligible to participate in the program. Most of the other state linked deposit loan programs limit participation to owners of existing, single-home properties with septic systems.

Some state septic system repair loan programs, such as those in Ohio and Pennsylvania, require that the county certify that a sanitary sewer connection will not be available to the

³⁴ The City of Berkeley Lake, in Gwinnett County and Douglas County and the City of Douglasville.

property for five years. This requirement does not apply to the Iowa OSWAP because the program is only available in unincorporated areas. It could prove challenging for county health departments to obtain certification from the Gwinnett County Department of Water Resources (DWR) (formerly known as the Department of Public Utilities) that a sanitary sewer connection will not be available for a specified timeframe, say, five years. DWR does not have detailed plans mapping out all future sanitary sewer service areas. The focus for DWR Capital Improvement Programs is to connect un-serviced areas that are near or surrounded by existing sewer lines, similar to the infill land development concept, and to retire outdated wastewater treatment facilities. Gwinnett County DWR manages most, but not all, of the wastewater treatment plants, also known as water reclamation facilities, and sanitary sewer lines in the county. Some towns, such as Buford and Norcross, own and manage their sewer systems. There are separate systems for the sanitary sewer and the stormwater sewer in Gwinnett.

Most of the sewer system in Gwinnett County is built by developers. Once built, ownership and management of the sewer system and pump stations is taken over by the DWR. Pump stations are facilities that pump the sewer wastewater to water reclamation facilities (WRF) for treatment. Before building a new sewer system, a developer has to receive approval from the county ensuring that the connecting sewer lines and WRFs have capacity to process the additional wastewater. When developers build a pumping station, they pay a \$190,000 flat fee to cover the maintenance and operation of the facility. They also pay phase out fees to cover DWR's management and operation costs for the additional sewer lines and increased wastewater processing.

The Gwinnett DWR Water and Wastewater Master Plan Update (November 2003) projects the percentage of each major river basin and corresponding service area in the county

that will have residential sewer service from 2010 to 2050. The 2050 projections range from 75 percent to 95 percent per river basin. It is difficult to develop a master plan for future sewer lines because DWR does not know what sewer line size and capacity will be needed. It will depend on whether a tract of land is developed with single family homes or a high-rise office complex. Planning for the proper alignment and location of sewer lines and pump stations is not as difficult because that is largely determined by the county's watershed topography.

For the purposes of establishing a linked deposit lending program for septic system repairs, the Gwinnett DWR could certify whether or not there are Capital Improvement Programs planned to add sewer service to a particular area within a certain timeframe. It is important to note that this would not preclude a developer from building sewer lines in that area someday. Gwinnett County's rapid growth over the past two decades has driven up land prices. As a cost-savings measure in response to the high land prices, developers are collaborating together to build on tracts of land that up until recently had been considered unsuitable or impractical for development.

A certificate of qualification for a county in Georgia could consist of an approval form stating that the homeowner meets the permit and program requirements. The process for issuing a repair permit basically includes approval of the proposed septic system repairs plus a site inspection before and after the repair is performed. The homeowner then takes the certificate of qualification to a participating lending institution to apply for a loan.

Lending institutions are the other entity that GEFA and EPD must sign up in order to establish a program. The lending institutions usually sign up by completing a Participating Bank Agreement. Banks might sign up for the linked deposit program because a current customer wants to use their bank to participate in the program or because the CWSRF agencies persuade

them to participate. Lending institutions seem to sign up in response to a customer request most often in rural communities. As discussed in chapter three, the incentive for the bank to participate includes the profit earnings from the linked deposits, the opportunity to provide extra services to their customers and to increase the bank's outstanding loan balance and deposits, and the chance to cross-sell other products such as car loans. There is also the potential for the banks to make loans that will help them comply with the Community Reinvestment Act. Most of the banks participating in the Iowa program are small, local banks in rural areas. This reflects the fact that the program is limited to unincorporated areas and that Iowa is a mostly rural state. Ohio has had a harder time finding banks to participate in the program. The reasons for this were discussed in detail in chapter three.

Gwinnett County has a robust banking market and a large number of banks – as of June 2005 there were 37 banks operating in the county. According to the FDIC, Gwinnett County ranks second in Georgia for its banking institutions, banking offices, and deposits. There are several community banks whose market is Gwinnett County and the metro-Atlanta region. As of June 2005, there were 23 community banks in Gwinnett; 18 of those banks were based in the county according to the FDIC (Gwinnett Business Journal Feb 2006). Some of these community banks focus on specific ethnic populations. For example, the American United Bank, Haven Trust Bank, and Quantum Bank market to the local Indian population. Nara Bank National Association and Summit National Bank predominantly market to the Asian population along with Hispanics. The Brand Banking Company has been in Gwinnett County since 1905 and has the largest presence of any community bank in the county with five locations. There are several larger regional and national banks in the county, mainly SunTrust, Bank of America, and Wachovia. SunTrust has the largest number of branches (43); Wachovia has the largest market

share with 23.5 percent of all deposits. The Brand Banking Company ranks fourth in deposits, behind Bank of America and SunTrust (Gwinnett Business Journal). These statistics on the banking market in Gwinnett County support using Gwinnett as the pilot or test county for implementing a CWSRF linked deposit program for septic system repairs in Georgia.

Given the suburban demographics of Gwinnett County, GEFA and EPD should develop a strategy to work with the county health departments to market the program to local lending institutions rather than rely on borrower requests as a driving force behind bank participation. As illustrated in the case studies, larger regional and national banks are not as likely to sign up so the focus should be on the community banks. Fortunately there are a large number of community banks in the county. As the largest and oldest community bank in the area, the Brand Banking Co. would be a logical choice to top the list of lending institutions to contact to participate in the program. GEFA, EPD, and the county health department can set up meetings with potential lending institutions to share information about the program and encourage banks to sign up. GEFA will need to work with its Board of Directors to develop a participating bank agreement and to decide what kind of fees the bank and/or the county health department can charge and what method to use to determine the interest rate for the borrowers.

GEFA could set a flat interest rate for the borrowers similar to the Iowa and Arkansas programs or it could have a floating interest rate reduction that is tied to the market interest rates for treasury notes and bonds or CDs which is the method used in Ohio and Maryland. As mentioned earlier, changes to the enabling state legislation would be necessary to allow GEFA to make an investment in a low-interest-bearing account when higher-interest-rate accounts are available. The participating bank agreement also specifies that the lending institution assumes all the risk associated with any possible loan defaults. The bank can not use the money deposited by

the CWSRF to cover any losses incurred if borrowers in the linked deposit program should default on their loan. If GEFA and EPD wanted to implement the maintenance requirement through the loan contract, then the participating bank agreement could specify that the lending institutions include the maintenance requirement in the loan contracts for the program.

Once a county and lending institution have signed up to participate in the program, the next and final step is attracting potential borrowers. Low participation has been a challenge for some of the other septic system repair linked deposit programs so it would be critical for GEFA and EPD to develop an outreach plan to market the program to homeowners. The program could be marketed to borrowers by the banks, county health departments, and the Gwinnett County DWR using marketing materials such as brochures, posters, signs, websites, and inserts in water bills. The inserts would not reach homeowners who use wells for drinking water but could still reach a large number of potential borrowers. Georgia Power might be willing to include inserts with the power bill which would reach everyone. The DWR hosts septic system training sessions and the program could be mentioned then. Additionally, the program could be marketed to local septic industry professionals who could then share that information with clients. Septic system professionals could be reached through the state septic system certification process and through professional organizations such as the American Water Works Association, the Air & Waste Management Association, and the American Water Resources Association. Perhaps the local Gwinnett County newspaper, the Gwinnett Daily Post, could run a story on the linked deposit program. There are a variety of creative ways that could be used to spread the word about the new financial assistance program.

Table 8 provides a roadmap identifying challenges and potential solutions that must be considered when establishing a linked deposit lending program in Georgia.

Table 8: Roadmap for Establishing a Septic System Repair Linked Deposit Program in Georgia

Considerations and Roadblocks	Recommended Steps and Potential Solutions
Lack of information about potential borrower demand for program could result in low participation rates.	Gauge and quantify potential demand through survey of homeowners who have applied for septic system repair permits
Do septic system repairs qualify as eligible projects for CWSRF loans?	Although it appears that they qualify, it would be advisable for GEFA and EPD to verify that they are eligible projects. Confirmation could be obtained from EPA and the State Attorney General.
What level and type of planning and environmental review is required for non-point source projects receiving CWSRF loans?	<p>GEFA and EPD should work closely together to determine what type of planning and environmental review process should be required for non-point source projects funded by the Georgia CWSRF.</p> <p>If they choose to use a modified version of the existing CWA Section 212 planning and environmental review process, it would be helpful for them to carefully consider how to adapt that process to efficiently manage non-point source pollution control projects while still meeting applicable federal and state requirements.</p>
If the planning and environmental review process required to ensure that projects meet all federal cross-cutting authorities is too onerous, it can deter counties from participating.	<p>GEFA and EPD can apply for a categorical exclusion for the septic system repair linked deposit program to exempt the projects from the environmental assessment and environmental impact statement requirement.</p> <p>GEFA can finance the program using loan repayment funds. Loan repayments are not considered to be federal funds so projects financed from that source would not be subject to all of the federal cross-cutter requirements.</p>
GEFA does not have the authority to make loans to private entities such as a commercial bank. ³⁵ GEFA can make CWSRF loans only to counties and municipalities.	The enabling state legislation would need to be modified to give GEFA the authority to loan CWSRF funds to private entities. ³⁶
The deposits GEFA would make in a linked deposit program would be considered	The state enabling legislation would need to be modified to provide GEFA the authority to

³⁵ This interpretation of O.C.G.A. § 50-23 is per unofficial opinion of the State Senior Assistant Attorney General. An official opinion has been requested.

³⁶ O.C.G.A. § 50-23

Considerations and Roadblocks	Recommended Steps and Potential Solutions
<p>investments rather than loans. GEFA does not have the authority to invest money in vehicles that will provide a reduced rate of return.</p>	<p>invest CWSRF money in vehicles with reduced rates of return.³⁷</p>
<p>GEFA and EPD would need to determine what entity would serve as the local approving authority and whether or not to establish participation criteria for the local approving authority.</p>	<p>Local and municipal boards of health are the logical organization to serve as the approving entity because those departments have authority over the installation of new septic systems and the enforcement of failing or malfunctioning systems.</p> <p>GEFA and EPD must decide if they want counties to “sign up” to participate or if they want to implement the program at a statewide level.</p>
<p>If GEFA and EPD decide to implement the program at the county level and establish eligibility requirements they must consider the workload placed on the county by the requirements. If the county water quality planning requirements are too burdensome, it could deter counties from participating.</p>	<p>GEFA and EPD could tie the county eligibility requirements into the several existing statewide water quality planning processes such as the CWA Section 305(b) water quality assessment process, the CWA Section 303(d) TMDL and TMDL implementation planning process, the CWA Section 319 Nonpoint Source Management program, etc. Another eligibility requirement could be that the counties have environmental health plans meeting state minimum standards.</p>
<p>Many of the other state septic system repair loan programs have a septic system maintenance requirement stipulating that the repaired or replaced system must be properly maintained through regularly scheduled inspections and/or pump-outs.</p>	<p>County health departments are explicitly prohibited from requiring or enforcing any type of regular maintenance of traditional (i.e., non-mechanical) septic systems.³⁸ Thus, GEFA and EPD could not ask county health departments to develop septic system maintenance programs as a requirement for the county to participate in a linked deposit lending program. The ways to circumvent this legal barrier are discussed in Chapter 4.</p> <p>Barring a legislative change, the best option would be for lenders to require septic system maintenance as part of a septic system repair loan contract. GEFA could include a clause in the participating bank agreement specifying that the lending institution must require septic system maintenance in any loan contracts for</p>

³⁷ O.C.G.A. § 50-23

³⁸ O.C.G.A. § 31-3-5(b)(6)

Considerations and Roadblocks	Recommended Steps and Potential Solutions
<p>In the program guidelines, GEFA and EPD must outline the eligibility requirements for a borrower to participate.</p>	<p>the linked deposit program.</p> <p>Typically a program will be open to residents of a participating county who have met the requirements for a permit to repair or replace the septic system for their existing, residential, single-home property.</p> <p>Some programs require that the county certify that a sanitary sewer connection will not be available to the property for five years. This requirement could be difficult to implement in some counties in Georgia where most of the sewer lines are built by developers. The Gwinnett DWR could certify whether or not there are Capital Improvement Programs planned to add sewer service to a particular area within a certain timeframe. This would not preclude a developer from building sewer lines in that area during that timeframe.</p>
<p>Will the program be appealing to local banks?</p>	<p>GEFA will need to work with its Board of Directors to develop a participating bank agreement and to decide what kind of fees the bank and/or the county health department can charge and what method to use to determine the interest rate for the borrowers.</p> <p>GEFA and EPD should develop a strategy to work with the county health departments to market the program to local lending institutions. Banks can earn profits on the deposits that GEFA makes to match the borrower loans. Another potential incentive is that participation in the program might help a bank comply with the Community Reinvestment Act.</p> <p>Gwinnett County has a robust banking market including a large number of community banks. GEFA and EPD should focus on marketing the program to these local lending institutions.</p>
<p>How can the program be marketed to potential borrowers in order to encourage participation rates?</p>	<p>Participating banks, the county health department, and the Gwinnett County DWR can advertise the program using marketing materials such as brochures, posters, signs, websites, and inserts in water bills.</p>

CHAPTER 5

SUMMARY

Septic systems serve nearly 25 percent of all U.S. households which translates to roughly 60 million people relying on septic systems to treat their wastewater (USEPA 2005b). There are approximately 1.5 million homes using septic systems in Georgia (GA DNR 2006).³⁹ Improperly functioning septic systems can be a source of pathogenic bacterial,⁴⁰ nitrogen, and phosphorus pollution. This non-point source of pollution can impair waterways, threaten drinking water wells, contaminate shellfish beds and recreational beaches, and contribute to algae blooms and low dissolved oxygen in nearby waterbodies (US EPA, 2005b). While there is limited quantitative information linking public health and water quality problems to failing septic systems, there are many examples of malfunctioning septic systems contributing to water pollution (US EPA 2005c). While EPA guidance has traditionally encouraged communities to use centralized municipal wastewater treatment facilities,⁴¹ in a 1997 report to Congress, EPA recognized that “adequately managed decentralized wastewater systems are a cost-effective and long-term option for meeting public health and water quality goals, particularly in less densely populated areas.” This report also highlighted financial constraints as a barrier to improving the performance of septic systems. By evaluating the options to provide financial assistance to homeowners to rehabilitate failing septic systems, Georgia can take a step toward addressing the health and environmental problems caused by decentralized systems.

³⁹ According to a presentation by Dr. Larry West of UGA, roughly forty percent of the housing units in Georgia use septic systems. This estimate is also supported in the “Maximizing Water Returns to River Basins” report (Myszewski, 2006).

⁴⁰ Fecal coliform and *Escherichia (E.) coli* are two of the indicators used to test for pathogenic bacteria.

⁴¹ The federal grant and loan component of the CWA provides incentive for communities to construct centralized treatment facilities and sanitary sewers.

The CWSRF loan programs must address priority environmental needs while balancing economic constraints. In addition, the programs must be developed to fit the unique needs of individual states and conform to state laws and regulations. The linked deposit lending mechanism is an innovative way to blend market mechanisms with government programs to address environmental problems. The mechanism has been replicated with varying degrees of success. When considering the different CWSRF loan methods for septic system repairs, GEFA and EPD must weigh a variety of factors including the cost of developing and administering a program, the potential participation rates, return on investment, and the environmental benefits to be gained. There are competing demands for the funds and GEFA and EPD will need to justify a decision to invest resources, including funds and staff effort, in a new non-point source program to the DNR and GEFA boards of directors.

Pass-through and agency partnership programs are the two loan program options more commonly used by states to disburse SRF funds for septic system repairs and other non-point source projects. These methods are appealing to the agencies that manage the SRF programs because the administrative burden for overseeing the loans is passed along to another agency or to a municipality. Some agencies or municipalities are well-equipped to take on the administrative burden associated with managing a loan program which makes these partnership agreements an attractive option.

A fair amount of technical and financial expertise is necessary to develop and sustain a local loan program. It may be easier for wealthier counties and cities to provide the organizational and financial support to administer a local loan program while municipalities with fewer resources might be hard-pressed to take on the task. States with successful pass-through loan programs often provide grants in conjunction with the CWSRF loan money to help a

community set up, administer, and sustain the loan program. The septic system repair pass-through programs in Washington and Massachusetts illustrate the concept of combining grants with the SRF funds to help communities develop local loan programs.

CWSRF loan programs may not be the best option if the goal of a community is to provide assistance to very low-income homeowners. It is important to note that low-income homeowners may participate in a linked-deposit loan program provided they meet the credit check criteria used by the lending institution. The likelihood that low-income homeowners would decide to apply for this type of financial assistance program is not known. Pass-through programs and agency partnerships may be able to better assist homeowners with poor credit histories if the loan issuing authority (a municipality or state agency such as a housing finance authority) decides to accept the risk of issuing loans to borrowers that might not qualify at a traditional lending institution. Regardless of potential defaults, the loan issuing authority must still repay the SRF agency which limits the incentive to make higher risk loans.

Communities may want to consider hybrid grant-CWSRF loan programs to fund septic system repair projects. In addition, there are a variety of non-CWSRF financial assistance programs available for septic system repairs projects. These funding sources are available from the U.S. Department of Housing and Urban Development (HUD), U.S. Department of Agriculture, Community Development Block Grants, Sustainable Development Challenge Grants, EPA Nonpoint Source Section 319 Grant Program, and the National Decentralized Water Resources Capacity Development Project (Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems, U.S. EPA, 2005). Cost-sharing programs are an option. For example, the Limestone Valley Resource Conservation and Development (RC&D) Council in North Georgia is using EPA 319 funds to assist homeowners with septic repairs and

pump-outs. The program uses a cost-share approach with a 60 percent grant and 40 percent homeowner match, with a \$75 sign-up incentive. Tax incentives are another way communities can encourage homeowners to properly operate and maintain septic systems. Creating a tax credit to recover a portion of the maintenance costs helps to create an incentive for homeowners to maintain their septic systems. For example, Massachusetts has a credit that can be applied to a homeowner's state income tax return (Borden, 2005). In some states, cities or counties set aside funds to help homeowners who can not afford to repair their septic systems.

With proper planning, a linked deposit lending program could work well in Georgia, specifically in Gwinnett County. If the linked deposit program is to be implemented across the state, GEFA and EPD would need to carefully consider the differences between counties when developing the program guidelines and county eligibility requirements. For example, counties have different approaches to developing sanitary sewer lines. In some counties, such as Gwinnett, most of the sewer lines are built by developers. In other counties, sewer lines are planned, managed, and built only by the planning and public utility department.

In conclusion, the problem of how to provide financial assistance to homeowners for septic system repairs is just one of a large number of complex issues associated with septic systems. Are septic systems considered a consumptive use of water? Should some type of regular maintenance of septic systems be mandated by law? How great is the threat of contamination from failing septic systems in comparison to other water quality pollution problems? Once the waste is pumped out of septic systems where can it be disposed if current wastewater treatment facilities are at maximum capacity and there are limited land application sites available?⁴² Should connection to a sewer system always be the preferred wastewater treatment option even though building sewer lines oftentimes leads to sprawling development patterns which creates

⁴² A Senate study committee is working to address this issue

another set of pollution problems? Developing a linked deposit lending or other CWSRF loan program to help homeowners pay for septic system repairs could be an important step toward addressing the complex issue of septic system management in Georgia.

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APPENDIX A

GWINNETT COUNTY SEPTIC SYSTEM FINANCING SURVEY

SEPTIC SYSTEM REPAIR FINANCING SURVEY

HOMEOWNER APPLICANTS

This survey is being conducted by the Stormwater Management Division of Gwinnett County's Department of Water Resources in cooperation with the Environmental Health Section of the Gwinnett County Board of Health. The purpose of the survey is to help the county with its public health and water quality protection efforts by increasing its understanding of how households plan and pay for septic system repairs.

All answers will remain completely confidential. The results of this survey may be used for research on programs to provide financial assistance to homeowners for septic system repairs.

For further information, contact Steve Leo with the Stormwater Management Division: Steve.Leo@gwinnettcountry.com or 678-376-6949.

Please return your completed survey along with your septic system repair permit application.

1. What is the estimated cost of your repair project? (Circle one answer)
 - Under \$5,000
 - \$5,001 to \$10,000
 - Over \$10,000
 - Don't know

2. How do you plan to finance this repair to your septic system? (Circle one answer)
 - Personal loan from a lending institution
 - Home equity loan (i.e. second home mortgage)
 - Cash from savings
 - Credit card
 - Contractor payment plan
 - Other (please specify) _____
 - Have not decided yet

3. If it were available, and you were found eligible, how likely would you be to take advantage of a low-cost loan (for example, a 5 year loan with no establishment/origination fees or

“closing costs”) to finance the septic system repair you are applying for today? (Circle one answer)

- Definitely Likely
- Somewhat Likely
- Somewhat Unlikely
- Very Unlikely
- Never (if never, skip the rest of this question and please go to question 4)

Indicate your interest in this type of loan based on potential interest rates. (Circle one answer for each interest rate range)

2% to 4% (Circle one answer)

- Very Interested
- Somewhat Interested
- Not Interested

4% to 6% (Circle one answer)

- Very Interested
- Somewhat Interested
- Not Interested

6% to 8% (Circle one answer)

- Very Interested
- Somewhat Interested
- Not Interested

4. Would you have a preference about who issued a loan if the terms were identical? (Circle one answer)

- Commercial bank or credit union
- County loan
- Non-profit organization
- No preference

5. Optional question. Please indicate your total yearly household income range.

- Below \$30,000

- \$30,000 to \$60,000
- Over \$60,000

** Thank you very much for your time and input! **

Gwinnett County Environmental Health Section and Gwinnett County Stormwater Management
Division

APPENDIX B

OHIO WATER POLLUTION CONTROL LOAN FUND ON-LOT SYSTEM LINKED
DEPOSIT PARTICIPATING BANK AGREEMENT FORM

**WATER POLLUTION CONTROL LOAN FUND
ON-LOT SYSTEM PARTICIPATING BANK AGREEMENT**

This Agreement made and entered into as of the () th day of , 2005 by and among the Director of Environmental Protection ("the Director"), the Ohio Water Development Authority, a body corporate and politic organized and existing under the provisions of Chapter 6121 of the Revised Code of Ohio, (the "OWDA" and, together with the Director, collectively referred to herein as the "State"), and , a banking association duly organized and validly existing under the laws of the [United States of America] [State of Ohio] (hereinafter referred to as the "Participating Bank"), under the circumstances summarized in the following recitals (the capitalized terms not defined in the recitals and granting clauses being used therein as defined in Article 1 hereof):

WHEREAS, Title VI of the Clean Water Act, as amended (the "Act"), authorizes the Administrator of the United States Environmental Protection Agency to make capitalization grants to states to establish a state water pollution control revolving loan fund;

WHEREAS, pursuant to the Act, states can provide loans and other types of financial assistance from a water pollution control revolving loan fund to local communities for the construction of publicly-owned wastewater treatment facilities as defined in Section 212 of the Act and for the implementation of nonpoint source pollution control management programs under Section 319 of the Act and development and implementation of plans under the estuary protection programs under Section 320 of the Act; and

WHEREAS, the State of Ohio has created a water pollution control loan fund ("WPCLF") pursuant to Ohio Revised Code Section 6111.036 to provide loans and other types of financial assistance as set forth in said Section; and

WHEREAS, the State has determined there exists an inadequate supply of credit at affordable interest rates to finance nonpoint source pollution control management programs and has determined that a program to provide low-cost capital for such programs would serve the purposes of the Act and the interests of the people of Ohio by promoting the abatement of nonpoint source pollution; and

WHEREAS, to assist Ohio's residents/homeowners in obtaining low-cost capital to finance nonpoint source pollution control management programs (specifically on-site sewage treatment system upgrades/replacements) and thereby to serve the public interests described above, the State has created the WPCLF Linked Deposit Program (the "WPCLF Linked Deposit Program"), whereby (i) the State agrees to invest moneys with a participating bank or financial institution (which investment shall be evidenced by a Certificate of Deposit, as hereinafter defined) and accept a rate of interest on such moneys lower than the rate that would otherwise apply to such an investment under then current market conditions), and (ii) the participating bank or financial institution

agrees to lend money to an eligible resident/homeowner at a below market interest rate to finance nonpoint source pollution control management programs as authorized under O.R.C. Chapter 6111.036 that meet the State's criteria; and

WHEREAS, the Participating Bank is desirous of participating in the WPCLF Linked Deposit Program and is willing to provide financing (the "Borrower Loans") to Eligible Borrowers for necessary Project Facilities; and

WHEREAS, to induce the Participating Bank to make Borrower Loans, the State has agreed to invest an amount equal to each Borrower Loan with the Participating Bank, using funds from the WPCLF and to accept a Certificate of Deposit in the form attached hereto as Exhibit B to evidence that investment (the "Certificate of Deposit"); and

WHEREAS, the Certificate of Deposit constitutes an Eligible Investment for purposes of, and as defined in, the WPCLF Trust Agreement, as hereinafter defined; and

WHEREAS, the State and the Participating Bank have determined to enter into this Agreement to set forth their respective obligations with respect to Borrower Loans, Certificates of Deposit and other aspects of the WPCLF Linked Deposit Program;

NOW THEREFORE, in consideration of the premises and mutual covenants herein contained, the parties hereto do hereby agree as follows:

ARTICLE I-DEFINITIONS

Section 1.1. Definitions. Except where the context clearly indicates otherwise, the following terms as used in this Agreement shall have the meaning ascribed to them in this Article:

(a) "Board of Health" means the Board authorized under the Ohio Revised Code to adopt and enforce regulations pertaining to on-site (home) sewage treatment systems, within a particular county in Ohio.

(b) "Borrower's Interest Rate" means the fixed rate per annum equal to: (i) the rate of interest that the Participating Bank would charge any borrower for a similarly structured residents/homeowners loan minus (ii) the difference between the WPCLF Linked Deposit Interest Rate and the U.S. Treasury Notes and Bonds yield upon which it is based.

(c) "Eligible Borrower" means any person (including any natural person, corporation, association trust, or other legal entity) having an interest in property within a Qualifying Management Area who or which has received a WPCLF Certificate of Qualification from the applicable Board of Health indicating that such person has an approved plan that is in conformance with an overall watershed management plan.

(d) "Eligible Collateral Securities" means: (i) direct obligations of (including obligations issued or held in book entry form on the books of the Department of the Treasury of the United States of America), or obligations, the principal of and interest on which are unconditionally guaranteed by the United States of America; (ii) bonds, debentures, notes or other evidence of indebtedness payable in cash and issued or guaranteed by any one or a combination of any federal agencies whose obligations represent the full faith and credit of the United States of America; (iii) certificates of deposit secured at all times, by collateral security described in clauses (i) and (ii) above with a value equal to or exceeding, the principal of and any accrued interest on such certificates of deposit, less the amount of any applicable federal insurance, issued by commercial banks, savings and loan associations or mutual savings banks; (iv) the following investments fully insured by the Federal Deposit Insurance Corporation or the Federal Savings and Loan Insurance Corporation: (a) certificates of deposit, (b) savings accounts, (c) deposit accounts, or (d) depository receipts of banks, savings and loan associations or mutual savings banks; (v) commercial paper, rated or backed by a letter of credit or line of credit, rated in one of the two highest rating categories by at least two nationally recognized rating agencies; (vi) written repurchase agreements with any bank, savings institution or trust company which is insured by the Federal Deposit Insurance Corporation or the Federal Savings and Loan Insurance Corporation, or with any broker-dealer with retail customers which are subject to Securities Investors Protection Corporation protection, provided that such repurchase agreements are fully secured by collateral security described in clauses (i) or (ii), above, and provided further that (A) such collateral is held by the Trustee or any agent acting solely for the Trustee during the term of such repurchase agreement, (B) such collateral is not subject to liens or claims of third parties, (C) such collateral has a market value, not including accrued interest (determined at least once every fourteen (14) days by the Trustee), at least equal to the amount invested in the repurchase agreement, (D) the Trustee has a perfected first security interest in the collateral, (E) the repurchase agreement shall be for a term not longer than two hundred seventy (270) days and (F) the failure to maintain such collateral at the level required in subclause (C) above will require the Trustee to liquidate the collateral; (vii) investments in a money market mutual fund rated AAAM or AAAM-G by Standard & Poor's Corporation, the assets of which fund consist of either tax-exempt obligations or direct obligations of the United States of America; (viii) other than those obligations issued by the State of Ohio or its subdivisions pursuant to Article VIII, Section 13 of the Constitution of the State of Ohio or Chapters 140 or 3377 of the Ohio Revised Code, obligations issued by the State of Ohio or its subdivisions rated in one of the two highest rating categories of either Standard & Poor's Corporation or Moody's Investors Service, or any successors thereto; (ix) any obligations of any other states of the United States rated in one of the two highest categories of either Standard & Poor's Corporation or Moody's Investors Service or any successors thereto; and (x) any no-load money market mutual fund or fund sponsored by a bank, including the Trustee, in either case consisting exclusively of obligations of the United States or any agency thereof. Any of the foregoing investments may be with, or purchased from, the Trustee or its affiliates.

(e) "Project Facilities" means the facilities to be constructed pursuant to the WPCLF Certificate of Qualification.

(f) "Qualifying Management Area" means an area within the State of Ohio that the Director has designated as an area within which the implementation of the WPCLF Linked Deposit Program will serve the public interests of the State of Ohio.

(g) "Trustee" means the trustee under the WPCLF Trust Agreement, currently The Huntington National Bank, Columbus, Ohio.

(h) "WPCLF Certificate of Qualification" means the WPCLF Certificate of Qualification issued by the appropriate Board of Health to the Eligible Borrower.

(i) "WPCLF Linked Deposit Interest Rate" means the rate per annum that is 500 basis points less than the U.S. Treasury Notes and Bonds yield for the previous week of U.S. Treasury Notes and Bonds having terms of years closest to the terms of years of the residents/homeowners loans, as reported in the Bond Buyer on the Friday of that week, but in no event less than 1.00% (one percent) per annum; provided, however, that after September 30, 1994, the amount of the discount and the value of the minimum interest rate will be evaluated annually and adjustments thereto may be made, and the adjusted rates will be effective for a one year period, beginning on October 1 of each year and ending on September 30 of the following year.

(j) "WPCLF Linked Deposit Loan" means a loan between an Eligible Borrower and a Participating Bank.

(k) "WPCLF Trust Agreement" means the Trust Agreement, dated November 1, 1991, executed by the Director, the OWDA, and the Trustee, as the same may be amended from time to time in accordance with its terms.

ARTICLE II-WPCLF LINKED DEPOSIT LOANS

Section 2.1. Terms of WPCLF Linked Deposit Loans. WPCLF Linked Deposit Loans shall be made at the sole discretion of the Participating Bank, but only to Eligible Borrowers for the Project Facilities as specified in the WPCLF Certificate of Qualification and subject to the availability and sufficiency of funds in the WPCLF Linked Deposit Program for the State to fund the purchase of the related WPCLF Certificate of Deposit and subject to the State's discretion to allocate, reserve and prioritize the funds in the WPCLF Linked Deposit Program. All WPCLF Linked Deposit Loans will be made at the Borrower's Interest Rate. The term of each WPCLF Linked Deposit Loan will be set by the Participating Bank but in no event will be longer than 20 years.

Section 2.2. Responsibilities of the Board of Health. The appropriate Board of Health shall issue a WPCLF Certificate of Qualification to each Eligible Borrower, indicating its approval of the Project Facility for funding, if available, by the WPCLF Linked Deposit Program.

Section 2.3. Responsibilities of the State. The State shall have no responsibility to review the creditworthiness of, or the ability to repay by, any Eligible Borrower, and the District's issuance of a WPCLF Certificate of Qualification shall not be deemed to be or to include or imply an evaluation of creditworthiness of the Eligible Borrower specified therein or to constitute a recommendation to any participating bank that a loan should be made to that Eligible Borrower. The State shall be responsible for allocating, reserving and prioritizing the funds in the WPCLF Linked Deposit Program for making WPCLF Linked Deposits.

THE STATE'S INVESTMENT OF MONEYS TO BE EVIDENCED BY A CERTIFICATE OF DEPOSIT SHALL IN NO WAY BE DEEMED TO BE A GUARANTY OF ANY PAYMENT DUE FROM ANY ELIGIBLE BORROWER TO ANY PARTICIPATING BANK UNDER ANY WPCLF LINKED DEPOSIT PROGRAM LOAN. FAILURE BY ANY ELIGIBLE BORROWER TO MAKE ANY SUCH PAYMENT TO A PARTICIPATING BANK AT THE TIME AND IN THE FULL AMOUNT REQUIRED SHALL NOT ENTITLE THE PARTICIPATING BANK TO APPLY THE STATE'S DEPOSITED MONEYS, OR ANY OTHER MONEYS OF THE STATE OF OHIO, TO SUCH PAYMENT BY SET-OFF, COUNTER-CLAIM OR ANY OTHER MEANS, AND NO SUCH FAILURE SHALL IN ANY WAY DIMINISH OR ABATE THE OBLIGATIONS OF THE PARTICIPATING BANK UNDER THE CERTIFICATE OF DEPOSIT, INCLUDING, WITHOUT LIMITATION, THE OBLIGATION TO REPAY TO THE STATE THE PRINCIPAL AMOUNT INVESTED AND THE INTEREST THEREON AT THE TIMES AND IN THE FULL AMOUNTS SPECIFIED THEREIN.

Section 2.4. Responsibilities of the Participating Bank. The Participating Bank shall be solely responsible for the approval of all WPCLF Linked Deposit loans and for ascertaining whether a potential borrower shall receive a loan under the WPCLF Linked Deposit Program. The Participating Bank shall not enter into any Borrower Loan unless it has first determined that the appropriate Board of Health has issued a WPCLF Certificate of Qualification.

ARTICLE III-CERTIFICATES OF DEPOSIT

Section 3.1. Terms of the Certificate of Deposit. Payments of principal and interest due under the WPCLF Certificate of Deposit will be made semi-annually to the OWDA as set forth in the WPCLF Certificate of Deposit. Interest will be paid at the WPCLF Linked Deposit Interest Rate specified in the WPCLF Certificate of Deposit.

Section 3.2. Responsibilities of the Participating Bank. Upon the approval of a Borrower Loan by the Participating Bank, the Participating Bank will submit an application for a Certificate of Deposit on the Investment Request Form to the State, a form of which is attached hereto as Exhibit A, accompanied by a copy of the applicable WPCLF Certificate of Qualification.

Section 3.3. Responsibilities of the State. Upon receiving an Investment Request Form, the State shall promptly determine whether the Investment Request Form has been duly completed and submitted with all required accompanying documents. If the State determines that the Investment Request Form has been duly completed and that sufficient funds are available in the WPCLF Linked Deposit Program, consistent with the State's allocations, reservations, and priorities for such funds, then the State shall thereupon approve the investment request and deliver a WPCLF Certificate of Deposit to the Participating Bank for execution. Upon receipt of the WPCLF Certificate of Deposit executed by the Participating Bank, or receipt of a telecommunication from the Participating Bank indicating that the Certificate of Deposit has been executed, the State shall wire to the Participating Bank, in immediately available funds, an amount equal to the face amount of the WPCLF Certificate of Deposit. The State will pay for the wire transfer costs. If the State determines that the Investment Request Form is deficient in any request, the State shall send the Participating Bank a written notice to that effect, specifying the deficiency.

Section 3.4. Certificate of Deposit in Excess of WPCLF Linked Deposit loans. At such time as the Participating Bank submits the semi-annual report for WPCLF Linked Deposit loans, pursuant to Section 4.2 hereof, stating that the Participating Bank has made the final disbursements for the WPCLF Linked Deposit loans covered by a WPCLF Linked Deposit Certificate of Deposit, the Participating Bank shall also state on such report the amount, if any, by which the face amount of the related Certificate of Deposit exceeds the total amount disbursed by the Participating Bank with respect to the WPCLF Linked Deposit loans related to the Certificate of Deposit (any such excess being hereinafter referred to as a "Deposit Excess"). Simultaneously with submitting such report to the State, the Participating Bank shall effect the State's withdrawal from the Certificate of Deposit of an amount equal to the Deposit Excess and disburse that amount to the State, and simultaneously therewith, the Participating Bank shall issue a superseding Certificate of Deposit to the State evidencing the reduced face amount thereof and a commensurately revised maturity schedule.

Section 3.5. Maintenance of Collateral.

(a) Whenever the amount invested under a WPCLF Certificate of Deposit exceeds the amount insured by the FDIC or the FSLIC (any such excess is hereinafter referred to as the "Uninsured Portion"), then the Participating Bank shall collateralize the Uninsured Portion with Eligible Collateral Securities with a Market Value (as hereinafter defined) at all times equal to at least 105% of the Uninsured Portion. As used herein, Market Value means, as of any date of determination, the lesser of the original cost of the investment or the fair market value thereof as of such date of determination (such determination to be made at least once every month by the Trustee).

(b) If the Participating Bank fails to pay any part of the Uninsured Portion as provided herein, the State shall sell at a public sale any of the Eligible Collateral

Securities. Any surplus remaining, after deducting the amount due to the State and expenses of such sale, shall be paid to the Participating Bank.

(c) Unless provided otherwise in the definition of Eligible Collateral Securities herein, the Participating Bank shall, with the written consent of the State, designate a qualified trustee as custodian (the "Custodian") and deposit the Eligible Collateral Securities with the Custodian for safekeeping for the account of the State and the Participating Bank, as their respective rights to and interests in such securities under this Agreement may appear and be asserted by written notice to or demand upon the Custodian.

- (i) If Eligible Collateral Securities are deposited with a Custodian, the State shall accept the written receipt of the Custodian describing the securities which have been deposited with the Custodian by the Participating Bank, a copy of which shall also be delivered to the Participating Bank.
- (ii) All such securities so deposited with the Custodian are deemed to be pledged to the State and to be deposited with the State, for all purposes of this Agreement.

(d) When a Participating Bank has deposited Eligible Collateral Securities with a Custodian for safekeeping, the Participating Bank may at any time substitute or exchange Eligible Collateral Securities having a current Market Value (i) equal to or greater than the current Market Value of the Eligible Collateral Securities then on deposit or (ii) at all times at least equal to 105% of the Uninsured Portion, without specific authorization from the State of any such substitution or exchange.

(e) The Participating Bank shall notify the State of any such substitution or exchange described in Section 3.4(d) herein. Upon request from the State, the Custodian shall furnish a statement of the substituted Eligible Collateral Securities.

Section 3.6. Custodian Not Obligated to Determine Market Value.

(a) Notwithstanding the fact that a Participating Bank is required to deposit Eligible Collateral Securities in certain specified amounts, a Custodian shall have no duty or obligation to determine the eligibility, Market Value, or face value of any securities deposited with the Custodian.

(b) Any charges or compensation of the Custodian for acting in such capacity shall be paid by the Participating Bank and in no event shall be chargeable to the State.

ARTICLE IV-REPRESENTATIONS/OBLIGATIONS OF THE PARTICIPATING BANK AND THE STATE

Section 4.1. Representations of the Participating Bank. The Participating Bank makes the following warranties and representations:

(a) It is a financial institution chartered as a bank or an institution of the farm credit system organized under the "Farm Credit Act of 1971";

(b) The assets of the Participating Bank comprising public funds do not exceed 30% of the Participating Bank's assets and will at no time do so;

(c) The Participating Bank will not sell, transfer or otherwise convey any WPCLF Linked Deposit loans to any other financial institution.

Section 4.2. Certain Obligations of the Participating Bank.

(a) The Participating Bank will report semi-annually on the status of its WPCLF Linked Deposit loans to the OWDA. Such reports will indicate (i) the amounts of funds dispersed to each Eligible Borrower, (ii) loans for which disbursements have been completed, and (iii) the status of loan repayments.

(b) The Participating Bank will report monthly to the Trustee on the composition of the collateral for the Uninsured Portions in a manner that will allow the Trustee to independently determine compliance with the requirements of this Agreement with respect thereto.

(c) In the event the Participating Bank is acquired by, or merges with, another institution, the WPCLF Linked Deposit loans will be maintained at the original stated interest rate for the term of the Borrower Loan, and will not be called by the successor institution other than in accordance with the provisions of the loan for relating to exercise of remedies by the Participating Bank upon the occurrence of an event of default by the borrower.

Section 4.3. Representations of the State. The State makes the following representations:

(a) The State will not require the Participating Bank to take any specific action against an Eligible Borrower due to non-performance or fraud by the Eligible Borrower. The State will notify the Participating Bank if any instance of non-performance or fraud comes to the attention of the State.

(b) The State will not be a signatory to the WPCLF Linked Deposit loan agreements between the Participating Bank and the Eligible Borrower.

ARTICLE V-MISCELLANEOUS PROVISIONS

Section 5.1. Notices. Any application, accounting, demand, or other communication under this Agreement by any party to this Agreement to any other party shall be sufficiently given or delivered if it is dispatched by registered or certified mail, postage prepaid, return receipt requested, or delivered personally,

(a) in the case of the OWDA, to:

The Ohio Water Development Authority
480 South High Street
Columbus, Ohio 43215
Attn: Executive Director

(b) in the case of the Director, to:

The Ohio Environmental Protection Agency
122 South Front Street
P.O. Box 1049
Columbus, Ohio 43266
Attn: Chief, Division of Environmental and Financial
Assistance

(c) in the case of the Participating Bank, to:

Attn:

or such other addresses of a signatory as that signatory may from time to time, designate in writing and forward to the other signatories as provided in this Section.

Section 5.2. Approvals. Any approval of the State required by this Agreement shall not be unreasonably withheld. Any provision of the Agreement requiring the approval of the State or the satisfaction or evidence of satisfaction of the State shall be interpreted as requiring a response by the Director and the OWDA granting, authorizing, or expressing such approval or satisfaction, as the case may be, unless such provision provides otherwise.

Section 5.3. Approval by Counsel. This Agreement is made subject to, and conditioned upon, the approval of this Agreement as to form by the General Counsel of the OWDA and Counsel to the Director.

Section 5.4. Effective Date. This Agreement shall become effective as of the date first set forth herein above and shall continue in full force and effect until the final

day when the obligations of the Participating Bank under this Agreement have been fully satisfied.

Section 5.5. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties hereto, and to any person, office, board, department, agency, municipal corporation, or body politic and corporate, succeeding by operation of law to the powers and duties of any of the parties hereto. This Agreement shall not be assigned by the Participating Bank without the prior written consent of the State. The State, at its option, may assign this Agreement without the consent of the Participating Bank.

Section 5.6. Termination. This Agreement may be terminated by the State in its sole discretion, at any time, without affecting the State's obligation to cause moneys deposited under a Certificate of Deposit to remain on deposit in accordance therewith.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective duly authorized officers as of the day and year first herein above written.

APPROVED AS TO FORM

OHIO ENVIRONMENTAL PROTECTION AGENCY

Counsel

by _____
Director of Environmental Protection

APPROVED AS TO FORM

OHIO WATER DEVELOPMENT AUTHORITY

Counsel

by _____
Executive Director

APPROVED AS TO FORM

BANK

Bank Counsel

by _____
Title

478/20453AAE.AGR
2/14/05

APPENDIX C

IOWA ONSITE WASTEWATER SYSTEMS ASSISTANCE PROGRAM (OSWAP) FORMS

Onsite Wastewater System Assistance Program (OSWAP)

Four Minimum Requirements for County Eligibility

From Chapter 93:

"**93.4(2)** County eligibility. Assistance can only be provided for systems located in counties that have an environmental health program meeting minimum standards for onsite sewage systems. The department shall maintain for public record a list of all counties meeting such standards. At a minimum, counties must carry out statutory responsibilities as provided in Iowa Code section 455B.172 as well as provide for the following measures. The Department will adopt guidance in cooperation with county boards of health to evaluate the adequacy of county programs.

- a. Proper site evaluations to determine the appropriate design and size of onsite wastewater systems prior to permitting and installation.
- b. Inspection of onsite systems, by a qualified inspector, at the time of renovation or construction.
- c. Enforcement of existing monitoring requirements, according to rule 567 IAC 69.2(455B), for existing, permitted onsite systems with secondary treatment which discharge above ground, such as those authorized by NPDES General Permit No. 4.
- d. Assurance of regular system maintenance and monitoring for the life of the loan for those systems receiving assistance under the onsite wastewater systems assistance program."

Summary:

- a. Soil analysis or percolation test, including limiting layer determination, prior to approval of onsite system plan
- b. Final inspection by county or designated inspector at time of system installation for all systems
- c. NPDES permit obtained and effluent testing conducted for all permitted discharge systems
- d. Tank pumping required at agreed-upon interval, and walkover inspection inspection by county, during the life of the loan, for systems installed under the loan program



STATE OF IOWA

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

November 7, 2006

Dear Lender:

You are invited to become a participating lender for the Onsite Wastewater System Assistance Program (OSWAP). The purpose of the program is to help homeowners finance the replacement of their outdated septic systems with upgraded onsite wastewater treatment systems that properly treat household wastewater. As a participating lender you would be expected to assess and process loan applications from homeowners who apply for a low-interest loan through this program. With our partnership in this program, we can better protect Iowa's public health and water quality.

To participate, you will need to sign the enclosed Lender Participation Agreement form and return it to the Iowa Department of Natural Resources (DNR) at the address provided. Upon receipt of a signed agreement, the DNR will add the name of your lending institution to a list of participating lenders which will be made available to county sanitarians, septic contractors, and the public. In addition to the agreement form, we're enclosing a "Lender Packet", which includes instructions and forms to be used for this program.

This program has been designed to be easily administered through a streamlined process where you will be interacting primarily with our financial agent for this program, the accounting firm of Williams & Company, P.C., of Spencer, Iowa. We believe this arrangement will minimize your time and energy to participate in the program.

If you have any questions concerning this program or the attached material, please contact me at (515) 725-0346 or at Daniel.olson@dnr.state.ia.us.

Please join our financial agent and the Department in making this a successful program.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel Olson".

Daniel Olson, Environmental Specialist
Wastewater Operations (NPDES) Section

c: File Adm 2-2 OSWAP Lender Packet

LENDER PACKET

Onsite Wastewater System Assistance Program (OSWAP) Iowa Department of Natural Resources

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**Lender Participation Agreement
Onsite Wastewater System Assistance Program (OSWAP)**

Lending Institution: _____

Mailing Address: _____ City: _____ State: _____
Zip: _____

Phone: _____ FAX: _____

Loan Officer: _____ E-mail: _____

We hereby agree to participate in the Onsite Wastewater System Assistance Program (OSWAP), administered by the Iowa Department of Natural Resources (DNR), according to the rules established in 567 Iowa Administrative Code Chapter 93. We understand that our responsibilities under this agreement will be to:

1. Ensure that the homeowner applying for an OSWAP loan has obtained an onsite system construction permit from the county sanitarian or county environmental health agency.
2. Comply with the OSWAP loan steps detailed on Lender Instruction Form 542-8041.
3. Issue loans at rates and fees equal to or less than those listed on Lender Instruction Form 542-8041.
4. Send to the OSWAP financial agent an annual repayment equal to the principal due to be collected on each outstanding loan for the year, but no less than the principal due to be collected on an amortized 10-year loan, such as shown in the examples on Schedule D. The annual repayment may be a single annual repayment on one date for all loans, or a separate annual repayment for each loan. Once you've chosen repayment Option A or B below, it is irrevocable for the length of this agreement.

(Check one box below)

Option A "Single Date Repayment." We opt to send the annual repayment for all loans to the OSWAP financial agent on the following date each year:

Option B "Anniversary Date Repayment." We opt to send the annual repayment for each loan to the OSWAP financial agent on the anniversary date of each note each year.

This agreement can be terminated at any time, given 90-day prior written notice, but no lender participating in this program can terminate the agreement with an unpaid loan balance, unless mutually agreed upon with the DNR.

Lender Signature: _____ **Date:** _____

Title: _____

Return Form to: Daniel Olson, Iowa DNR Wastewater Operations Section
401 SW 7th Street, Suite M, Des Moines, IA 50309-4611
FAX: (515) 725-0348

(BELOW SECTION FOR DNR USE ONLY):

The Iowa Department of Natural Resources agrees to:

1. Provide materials to the participating lender to explain loan procedures.
2. Provide forms to the participating lender necessary to administer a loan through the OSWAP.
3. Maintain and provide a current list of OSWAP participating lenders upon request.

Signature for Department: _____ **Date:** _____

Title: Environmental Specialist, Wastewater Operations Section, Iowa Department of Natural Resources

DNR form: 542-8040

(revised) 8/2005 (do)

LENDER INSTRUCTION FORM
ONSITE WASTEWATER SYSTEM ASSISTANCE PROGRAM (OSWAP)

Qualifications: To be eligible, loan applicants must be owners of an existing home with a septic system, located in an unincorporated area of a participating county in Iowa. If your county is not currently participating in OSWAP, you may request participation from the county sanitarian or county board of health.

To complete an OSWAP loan application, lenders must complete the following steps:

STEP 1: Sign Up as a Participating Lender. To become a participating lender, sign and return the OSWAP Lender Participation Agreement form to the DNR (only once). If your office or your branch offices are already on the participating lender list, it is not necessary to submit another Lender Participation Agreement form.

STEP 2: Approve or deny loan application. Perform all the necessary credit worthiness due diligence to determine if the homeowner meets your loan criteria, since the State of Iowa does not guarantee any portion of the loans. You are not required to approve any loan application that does not meet your criteria. Document receipt of the signed OSWAP Approval Form.

STEP 3: Set loan terms. Set the terms of the loan, such as interest rate and maturity, subject to the terms allowed by the program (see Table 1 below), to a maximum interest rate of 3%. You may charge the homeowner one of the four combinations of interest rate and loan processing fee listed in Table 1. The processing fee you may charge is related to the interest rate offered. The processing fee may be paid up front or added to the loan balance.

TABLE 1	
If Interest Rate Is Set At	Processing Fee Would Be
3.00 %	\$ 150.00
2.00 %	\$ 250.00
1.00 %	\$ 350.00
0.00 %	\$ 450.00

The lender packet also includes examples of five-year and ten-year homeowner amortization schedules for you to present to loan applicants.

STEP 4: Reserve loan funds. If you approve the homeowner’s loan application, you must reserve the loan funds with the OSWAP Financial Agent as soon as possible. To do this, complete Sections A and B of the **Borrower Participation Form** and submit it by fax to Williams & Company, P.C., at

(712) 262-2920. Completing this step reserves the loan funds for this specific project and guarantees that program funds will be available when the onsite system is completed and the loan is finalized. If loan funds are not available through OSWAP at this time, the loan application may be delayed until program funds become available.

STEP 5: Notify county. Notify the county sanitarian whether or not the loan is approved.

STEP 6: Add up project expenses. After the onsite system has been installed and approved by the county, obtain the final construction invoices and record any other fees directly related to completing the system. This may include fees you require to secure the loan, as well as the loan-processing fee. Add up the total project expenses for the loan. Obtain a final copy of OSWAP Approval Form, signed by the county representative who inspected the system, prior to completing the loan.

STEP 7: Request loan funds. To request the loan funds, complete Section C of the **Borrower Participation Form** and submit it by fax (or mail) to Williams & Company, P.C., at (712) 262-2920. Along with it, submit a final signed copy of the **OSWAP Approval Form**.

STEP 8: Deposit loan funds. Williams & Company, P.C. transfers an amount equal to the loan balance (which includes fees directly related to completing the onsite system) to you. Deposit these funds in a non-interest demand deposit account with your institution, according to the instructions provided by Williams and Company, P.C.

STEP 9: Repay loan principal. Once a year send to the OSWAP financial agent an amount equal to the principal due to be collected on the loan for the year. The due date of the annual repayment will be either a single date each year for all loans or the anniversary date of each loan, depending upon which repayment option you chose on the Lender Participation Agreement Form.

Send the annual payment and the Annual Principal Remittance Form to the OSWAP Financial Agent at the following address:

Bobbie Harmening
Williams & Company, P.C.
P. O. Box 908
Spencer, Iowa 51301-0908

If a loan reaches 90 days past due, notify the OSWAP Financial Agent of the loan's delinquent status. Regardless of loan delinquency or default, you must still send an annual repayment equal to the principal due to be collected on the loan to the OSWAP Financial Agent.

For More Information, Contact:

Daniel Olson
Financial Agent
Iowa DNR Wastewater Operations Section
401 SW 7th St., Suite M
Des Moines, Iowa 50309-4611
Phone: (515) 725-0346
262-2920
Email: daniel.olson@dnr.state.ia.us

bharmening@williamscpas.com

Bobbie Harmening, OSWAP
Williams & Company, P.C.
P. O. Box 908
Spencer, Iowa 51301-0908
Phone: (712) 262-1500; Fax: (712)
Email:

DNR form 542-8041
(dao)

(revised) 6/2006

Homeowner Instruction Form

ONSITE WASTEWATER SYSTEM ASSISTANCE PROGRAM (OSWAP)

Who Qualifies?: You must be the owner of an existing home with a septic system, located in an unincorporated area of a participating county in Iowa. If your county is not currently participating in OSWAP, you may request participation from the county sanitarian.

Loan Terms: Loans begin at \$2,000 with no maximum and a maximum interest rate of 3%. Loans up to 10 years may be offered, if agreed upon by the lender.

To apply for an OSWAP loan, homeowners must complete the following steps:

STEP 1: Apply for a county wastewater system construction permit. Contact the county sanitarian or county environmental health agency to apply for an onsite wastewater (septic) system construction permit and complete an OSWAP Approval Form.

STEP 2: Obtain construction bids from septic contractors for the type of onsite system permitted by the county. There is no minimum number of bids required. County sanitarians usually maintain a list of local septic contractors.

STEP 3: Apply for a loan through a participating lender. If your regular lender is not on the participating lender list, you may ask the lender to consider participating in the program. Lender participation in OSWAP is voluntary. If your lender would like more program details before agreeing to participate, he or she may contact the DNR or the OSWAP financial agent.

To apply, show the lender a copy of the OSWAP Approval Form signed by a county representative, and the contractor bid(s) for the project. Since the lender assumes the risk for your loan, the lender determines whether to approve or deny your loan application, depending upon your credit rating. Even if your loan is approved, the lender is not required to offer a loan for the maximum repayment period of 10 years, but he or she may offer a loan for less than 10 years.

If your loan is not approved, you may apply again from another participating lender. If you are unable to gain approval for an OSWAP loan, you might be eligible for financial assistance through the USDA Rural Development 504 Program. Contact your local USDA Rural Development field office for details.

STEP 4: Have the system installed. Submit contractors' bills to the lender along with the signed inspection/approval portion of the OSWAP Approval Form.

STEP 5: Repay the loan. Repay the lender, according to the loan terms agreed upon with the lender.

For More Information, Contact: Your County Sanitarian or Environmental Health Office, or

Daniel Olson, Iowa DNR Wastewater Operations Section
401 SW 7th St., Suite M, Des Moines, Iowa 50309-4611
Phone: (515) 725-0346, email: daniel.olson@dnr.state.ia.us, DNR form 542-8086 6/2006
(dao)

OSWAP Approval Form
Requires County Signatures for (1) Onsite System Plan and (2) Final Inspection

County _____ County Permit # _____

Owner's Name:

Address:

Phone: _____ (Home) _____ (Work)
_____ (Cell)

Property Address:

Legal Description _____ 1/4 _____ 1/4 _____ 1/4 Section _____ Tier _____ Range

Lat. _____ Long. _____

Problem with Existing System:

Type of Building (check one box below):

Home: # Bedrooms (BRs) _____ **Other** (e.g. Shop, Office, etc): _____

System Design Flow in Gallons/Day (150 x # BRs, if a home): _____

Soil Evaluation: Is Site Suitable for Soil Absorption System? Yes ___ No ___

Soil Test Method (check one or both boxes): Percolation Test Soil Evaluation Other:

Soil Absorption Rate: _____ (Minutes/Inch) Other Factors:

Limiting Layer Depth: _____ Limitation Type (Rock, Impervious Clay, Groundwater):

Onsite Wastewater System Plan:

1. **Septic Tank:** # Tanks _____ Total Capacity (Gallons) _____ Material (Concrete, Plastic) _____

2. **Secondary Treatment System:**

a. **Soil Absorption:** Type (e.g. Chamber, Gravel, etc) _____ Length _____

Width _____ Depth _____

b. Other: (e.g. Sand Filter, Peat Filter, etc) Type _____ Size _____

Brand (if applicable) _____ Additional Treatment (if applicable) _____

3. Is This a Surface Discharging System? Yes ___ No ___ Is NPDES Permit Applied For? Yes ___ No ___

4. System Management Plan:

Signature of Applicant _____ Date _____

(1) Plan Approved _____ Date _____

County Representative

Final Inspection: OSWAP Loan Approved? Yes ___ No ___ Lender: _____

Is Completed System Same as Plan? Yes ___ No ___ If not, describe completed system: _____

OSWAP # (Co., Yr., #) ___ - ___ - ___

(2) Completed System Approved _____ Date _____

County Representative

BORROWER PARTICIPATION FORM
Onsite Wastewater System Assistance Program (OSWAP)
Iowa Department of Natural Resources

A. BORROWER INFORMATION			INTERNAL USE/LOAN #
COMPLETE THIS SECTION FOR ALL LOANS			
LAST NAME	FIRST	MIDDLE/INITIAL	SSN#
LAST NAME	FIRST	MIDDLE/INITIAL	SSN#
HOME ADDRESS: STREET/RR	CITY, STATE, ZIP CODE		HOME PHONE
ONSITE LOCATION ADDRESS			COUNTY

B. PRE-CONSTRUCTION APPROVAL**INFORMATION NEEDED FOR FINANCIAL AGENT TO RESERVE PROJECT****FUNDS**

LOAN PROCEEDS TO RESERVE	DATE OF LOAN APPROVAL	COUNTY REPRESENTATIVE APPROVING CONSTRUCTION PLAN	
NAME OF LENDING INSTITUTION		PHONE NUMBER	FAX NUMBER
ADDRESS OF LENDING INSTITUTION		LENDING INSTITUTION REPRESENTATIVE	

BRIEF DESCRIPTION OF PROJECT:

CONTRACTOR NAME	HAS APPLICANT PARTICIPATED BEFORE?
-----------------	------------------------------------

C. LOAN COMPLETED**COMPLETE THIS SECTION ONLY IF PROJECT IS COMPLETE AND LOAN HAS BEEN SIGNED**

FINAL LOAN AMOUNT	DATE PROCEEDS ISSUED	INTEREST RATE	DATE RECEIVED	MATURITY DATE
OTHER LOAN TERMS: PAYMENT FREQUENCY, ETC.		SIGNATURE OF LENDER CERTIFYING LOAN TERMS		

ANNUAL PRINCIPAL REMITTANCE FORM
Onsite Wastewater System Assistance Program (OSWAP)
Iowa Department of Natural Resources

BORROWER INFORMATION			INTERNAL USE/LOAN #
LAST NAME	FIRST	MIDDLE/INITIAL	SSN#
LAST NAME	FIRST	MIDDLE/INITIAL	SSN#
HOME ADDRESS: STREET/RR		CITY, STATE, ZIP CODE	HOME PHONE
ONSITE LOCATION ADDRESS			COUNTY
PRINCIPAL INFORMATION			
THE PROGRAM REQUIRES LENDERS TO REMIT THE PRINCIPAL COLLECTED ANNUALLY ON THE LOAN ANNIVERSARY			
ORIGINAL DATE OF LOAN		LOAN BALANCE AT END OF MONTH OF ANNIVERSARY	
TOTAL OF PRIOR PRINCIPAL REMITTED		TOTAL PRINCIPAL COLLECTED DURING PRIOR YEAR	
NAME OF LENDING INSTITUTION		PHONE NUMBER	FAX NUMBER
ADDRESS OF LENDING INSTITUTION		LENDING INSTITUTION REPRESENTATIVE	

INSTRUCTION

S:
 The program requires that lenders send to the OSWAP Financial Agent an annual repayment equal to the principal due to be collected on each outstanding loan for the year, but no less than the principal due to be collected on an amortized 10-year loan, such as shown in the examples on Schedule D. The annual repayment may be a single annual repayment on one date for all loans, or a separate annual repayment for each loan. If a single annual repayment was chosen, list repayment date: _____

Please mail this form
 and your check to:

OSWAP Financial Agent
Williams & Company, P.C.
P.O. Box 908
Spencer, IA 51301

Make Check Payable to: OSWAP Operating Fund

INTEREST AND FEES EARNED BY LENDER - 5 YEARS

**Onsite Wastewater System Assistance Program (OSWAP)
Iowa Department of Natural Resources**

The example below assumes a \$5,000 loan with monthly payments over 5 years

If Interest Rate is set at:	Interest Earned would be:	Loan Fee Received would be:
3.00%	\$ 402.40	\$ 150.00
2.00%	\$ 271.20	\$ 250.00
1.00%	\$ 137.00	\$ 350.00
0.00%	\$ -	\$ 450.00

INTEREST AND FEES EARNED BY LENDER - 10 YEARS

**Onsite Wastewater System Assistance Program (OSWAP)
Iowa Department of Natural Resources**

The example below assumes a \$5,000 loan with monthly payments over 10 years

<u>If Interest Rate is set at:</u>	<u>Interest Earned would be:</u>	<u>Loan Fee Received would be:</u>	<u>Total</u>
3.00%	\$ 817.60	\$ 150.00	\$ 967.60
2.00%	\$ 547.50	\$ 250.00	\$ 797.50
1.00%	\$ 274.40	\$ 350.00	\$ 624.40
0.00%	\$ -	\$ 450.00	\$ 450.00

HOMEOWNER LOAN AMORTIZATION EXAMPLE - 5 YEARS

ASSUMPTIONS: \$4,750 CONSTRUCTION COSTS, \$250 COUNTY FEES, PLUS LOAN FEES

IF INTEREST RATE ON LOAN IS:	3.00%		
LOAN FEES TO HOMEOWNER:	\$ 150.00		
MONTHLY LOAN PAYMENT:	\$ 92.54		
	INTERES T PAID	PRINCIP AL PAID	TOTAL
YEAR 1	\$ 141.26	\$ 969.22	\$ 1,110.48
YEAR 2	\$ 111.77	\$ 998.71	\$ 1,110.48
YEAR 3	\$ 81.39	\$ 1,029.09	\$ 1,110.48
YEAR 4	\$ 50.10	\$ 1,060.38	\$ 1,110.48
YEAR 5	\$ 17.88	\$ 1,092.60	\$ 1,110.48
TOTALS	\$ 402.40	\$ 5,150.00	\$ 5,552.40

	INTERES T PAID	PRINCIP AL PAID	TOTAL
YEAR 1	\$ 95.76	\$ 1,008.48	\$ 1,104.24
YEAR 2	\$ 75.44	\$ 1,028.80	\$ 1,104.24
YEAR 3	\$ 54.67	\$ 1,049.57	\$ 1,104.24
YEAR 4	\$ 33.49	\$ 1,070.75	\$ 1,104.24
YEAR 5	\$ 11.84	\$ 1,092.40	\$ 1,104.24
TOTALS	\$ 271.20	\$ 5,250.00	\$ 5,521.20

IF INTEREST RATE ON LOAN IS:	2.00%		
LOAN FEES TO HOMEOWNER:	\$ 250.00		
MONTHLY LOAN PAYMENT:	\$ 92.02		

IF INTEREST RATE ON LOAN IS:	1.00%		
LOAN FEES TO HOMEOWNER:	\$ 350.00		
MONTHLY LOAN PAYMENT:	\$ 91.45		
	INTERES T PAID	PRINCIP AL PAID	TOTAL
YEAR 1	\$ 48.71	\$ 1,048.69	\$ 1,097.40
YEAR 2	\$ 38.16	\$ 1,059.24	\$ 1,097.40
YEAR 3	\$ 27.52	\$ 1,069.88	\$ 1,097.40
YEAR 4	\$ 16.80	\$ 1,080.60	\$ 1,097.40
YEAR 5	\$ 5.81	\$ 1,091.59	\$ 1,097.40
TOTALS	\$ 137.00	\$ 5,350.00	\$ 5,487.00

	T PAID	AL PAID	TOTAL
YEAR 1	\$ -	\$ 1,090.00	\$ 1,090.00
YEAR 2	\$ -	\$ 1,090.00	\$ 1,090.00
YEAR 3	\$ -	\$ 1,090.00	\$ 1,090.00
YEAR 4	\$ -	\$ 1,090.00	\$ 1,090.00
YEAR 5	\$ -	\$ 1,090.00	\$ 1,090.00
TOTALS	\$ -	\$ 5,450.00	\$ 5,450.00

IF INTEREST RATE ON LOAN IS:	0.00%		
LOAN FEES TO HOMEOWNER:	\$ 450.00		
MONTHLY LOAN PAYMENT:	\$ 90.83		
	INTERES	PRINCIP	

HOMEOWNER LOAN AMORTIZATION EXAMPLE - 10 YEARS

ASSUMPTIONS: \$4,750 CONSTRUCTION COSTS, \$250 COUNTY FEES, PLUS LOAN FEES

IF INTEREST RATE ON LOAN IS:	3.00%		
LOAN FEES TO HOMEOWNER:	\$		
MONTHLY LOAN PAYMENT:	\$		
	INTERES PAID	PRINCIPA PAID	TOTAL
YEAR 1	\$	\$	\$
YEAR 2	\$	\$	\$
YEAR 3	\$	\$	\$
YEAR 4	\$	\$	\$
YEAR 5	\$	\$	\$
YEAR 6	\$	\$	\$
YEAR 7	\$	\$	\$
YEAR 8	\$	\$	\$
YEAR 9	\$	\$	\$
YEAR 10	\$	\$	\$
TOTALS	\$	\$	\$

IF INTEREST RATE ON LOAN IS:	2.00%		
LOAN FEES TO HOMEOWNER:	\$		
MONTHLY LOAN PAYMENT:	\$		
	INTEREST PAID	PRINCIPA PAID	TOTAL
YEAR 1	\$	\$	\$
YEAR 2	\$	\$	\$
YEAR 3	\$	\$	\$
YEAR 4	\$	\$	\$
YEAR 5	\$	\$	\$
YEAR 6	\$	\$	\$
YEAR 7	\$	\$	\$
YEAR 8	\$	\$	\$
YEAR 9	\$	\$	\$
YEAR 10	\$	\$	\$
TOTALS	\$	\$	\$

IF INTEREST RATE ON LOAN IS:	1.00%		
LOAN FEES TO HOMEOWNER:	\$		
MONTHLY LOAN PAYMENT:	\$		
	INTEREST PAID	PRINCIPA PAID	TOTAL
YEAR 1	\$	\$	\$
YEAR 2	\$	\$	\$
YEAR 3	\$	\$	\$
YEAR 4	\$	\$	\$
YEAR 5	\$	\$	\$
YEAR 6	\$	\$	\$
YEAR 7	\$	\$	\$
YEAR 8	\$	\$	\$

YEAR 9	\$	\$	\$
YEAR 10	\$	\$	\$
TOTALS	\$	\$	\$

IF INTEREST RATE ON LOAN IS:	0.00%
LOAN FEES TO HOMEOWNER:	\$
MONTHLY LOAN PAYMENT:	\$

	INTEREST PAID	PRINCIPAL PAID	TOTAL
YEAR 1	\$ -	\$	\$
YEAR 2	\$ -	\$	\$
YEAR 3	\$ -	\$	\$
YEAR 4	\$ -	\$	\$
YEAR 5	\$ -	\$	\$
YEAR 6	\$ -	\$	\$
YEAR 7	\$ -	\$	\$
YEAR 8	\$ -	\$	\$
YEAR 9	\$ -	\$	\$
YEAR 10	\$ -	\$	\$
TOTALS	\$ -	\$	\$

APPENDIX D

MARYLAND NONPOINT SOURCE WATER POLLUTION CONTROL PROJECTS LINKED
DEPOSIT PROGRAM FORMS

**MARYLAND WATER QUALITY FINANCING ADMINISTRATION
LINKED DEPOSIT CERTIFICATE OF QUALIFICATION
Project Eligibility Determination**

NONPOINT SOURCE WATER POLLUTION CONTROL PROJECTS

Name of Borrower:	Telephone Number:
Social Security or Federal ID Number:	Estimated Project Completion Date:
Mailing Address of Borrower:	Address of Project Site:

Project Description (include description of how loan funds will be used):	
---	--

Total Project Cost:	Requested Loan Amount:
<p>Borrower Certification: The borrower certifies that the Linked Deposit Program loan proceeds shall be used for the sole purpose of the project as approved by the Administration. The Administration reserves the right to demand the loan be repaid in full upon written notification, if it is determined that the funds were not used for the approved project or the project construction was unreasonably delayed. The borrower also agrees to allow access to the project site.</p>	

Borrower's Signature _____ Date _____

This project is eligible under the Maryland Water Quality Revolving Loan Fund Linked Deposit Program.
2. The _____ (Local Approving Authority) will:

inspect and monitor proper installation of these eligible components and others related to the implementation of the project; or
accept in lieu a set of certified as-built drawings.

Signature (Local Approving Authority Official) _____ Date _____

Name(Local Approving Authority Official) Title _____ Phone _____

The Maryland Department of the Environment certifies that:
This project is eligible for loan from the Maryland WQLRF as noted in the Maryland Non-point Source Management Program (CWA Section 319) and the approved Intended Use Plan.

Signature (Maryland Department of the Environment Official) _____ Date _____

Name (MDE Official) _____ Title _____ Phone _____

Issuance of this Certificate of Qualification: a. shall not be deemed to be included in, or imply, an evaluation of credit worthiness of this applicant, or to constitute a recommendation that a loan be made, b. shall in no way be deemed to be a guarantee of any payment due from any eligible applicant to any participating bank, and c. does not relieve the applicant from acquiring all necessary federal, state, and local permits for the project.

***Lender should contact the Maryland Water Quality Financing Administration,
Maryland Department of the Environment, at 410-537-3119 for additional information.***

▶ ▶ THIS IS NOT A FUNDING COMMITMENT ◀ ◀

<http://www.mde.state.md.us/wqfa>

APPENDIX E

INTERVIEW SUBJECT TABLE

Table 9: Interview Subject List

Name	Organization, Title
Baker, Rodney	1 st Mariner Bank, Maryland, contact for Linked Deposit program
Banks, Sam	Georgia licensed septic system contractor
Beckum, Mike	SunTrust Bank, Real Estate Finance Group, Vice President,
Berahzer, Stacey	US EPA Environmental Finance Center at the University of North Carolina, Outreach Coordinator
Bianchi, Ed	Bank of America, Maryland
Biemiller, Carl	US EPA Region IV, Clean Water State Revolving Fund contact
Bodwell, Jason	Georgia Environmental Facilities Authority, CWSRF and DWSRF Program Manager
Broderson, Rosalie	West Virginia Department of Environmental Protection, Division of Water and Waste Management, Environmental Resources Program Manager
Bryan, Ken	Georgia Environmental Protection Division, Engineering and Technical Support Program (Wastewater), Construction Management Unit Manager
Campbell, Scott	Ohio Water Development Authority, Chief Operating Officer
Carpenter, Frances	Georgia Environmental Protection Division, Engineering and Technical Support Program (Wastewater), Engineering Unit 2 Manager
Edwards, Todd	Association of County Commissioners of Georgia, Associate Legislative Director, Natural Resources and Environment
Fenter, Dave	Arkansas Natural Resources Commission, Arkansas Development Finance Authority, State Revolving Fund Agricultural Linked Deposit program contact
Holmden, Bob	Florida Department of Environmental Protection, Clean Water State Revolving Fund Program Administrator
Horner, Chad	Gwinnett County Department of Public Utilities, Principal Engineer
Howard, Brian	Washington State Department of Ecology, Water Quality Program, State Revolving Fund Coordinator
Hughes, Jeff	United States Environmental Protection Agency (US EPA) Environmental Finance Center at the University of North Carolina, Director
Kellett, Mark	Northridge Environmental, Principal
Khuman, Jag	Maryland Department of the Environment, Water Quality Financing Administration, Director

Name	Organization, Title
Kunert, Kelly	US EPA, State Revolving Fund Branch, Environmental Protection Specialist
Lenna, Bob	Maine Municipal Bond Bank, Executive Director
Leo, Steve	Gwinnett County Department of Water Resources, Stormwater Management Division, Planning Manager
Magtoto, Mark	California Water Board
Montsarrat, Bob	Ohio EPA Division of Environmental and Financial Assistance, Environmental Planning Section Manager
Olson, Dan	Iowa Department of Natural Resources, Wastewater Operations (NPDES) Section, Environmental Specialist
Parsons, Sheryl	US EPA Region IV, Clean Water State Revolving Fund contact
Reinhold, Beverly	Pennsylvania Infrastructure Investment Authority (PENNVEST), Project Manager
Rouch, Jerry	Ohio EPA Division of Environmental and Financial Assistance
Scott, Bob	Georgia Environmental Protection Division, Engineering and Technical Support Program (Wastewater), Program Manager
Spurbeck, Kevin	Ohio EPA, Environmental Specialist II, Septic system linked deposit program coordinator
Steinmetz, Tom	Georgia Environmental Facilities Authority, Chief Financial Officer
Sternberg, Joseph	Environmental Health Section of the Gwinnett County Board of Health, Project Specialist
Vincent, Michelle	Georgia Environmental Protection Division, 319 Grants Coordinator
Vins, Wes	Mahoning County District Board of Health, Director of Wastewater Programs
Von Feck, Stephanie	US EPA, State Revolving Fund Branch, Environmental Protection Specialist
Waller, Carla	Delaware Department of Natural Resources Environmental Control, Financial Assistance Branch, Loan Officer
West, Larry	University of Georgia, Department of Crop and Soil Sciences, Soil, Water, & Waste Management Professor
Wright, Pete	Gwinnett County Department of Water Resources, Stormwater Management Division

Note: All the interviews were conducted in May through October, 2006.

APPENDIX F

GWINNETT COUNTY SEPTIC SYSTEM REPAIR PERMIT PROCESS

AND

SANITARY SEWER PETITION PROGRAM PROCESS

SEPTIC SYSTEM REPAIR PERMIT PROCESS

A homeowner from Gwinnett County comes in to the Environmental Health Section (EHS) of the Gwinnett County Board of Health office in Lawrenceville and fills out a permit application. Homeowners or contractors in any of the three counties in the district have to request a permit at their specific county EHS office. Contractors can fill out permit applications, too. If a contractor fills out the permit application, someone in EHS usually will talk to the homeowner first before issuing the permit to confirm that the homeowner is working with the contractor and that everyone is on the same page. The repair permit application is one page. There is a second page attached to the form, the Failure Report Form. This is filled out by someone at EHS and is sent to the main EHS section with the Georgia Department of Human Resources Division of Public Health for state-wide tracking purposes. Currently a septic system repair permit can only be obtained in person, but there are plans to transfer the permit application process to the internet sometime in the next two years.

An Environmental Health Specialist will make a site visit to evaluate the septic system before issuing the repair permit. EHS tries not to diagnose problems or make recommendations due to liability issues and because they are a regulatory not advisory agency. They recommend that homeowners work closely with their contractor to determine the source of problems and to come up with the most appropriate solution.

A repair permit is required for any work that is going to be done to a septic system beyond general maintenance. General maintenance includes pump outs and PVC pipe work such as step-downs on field lines. All septic work has to be performed by a state-licensed contractor. After the initial site visit and evaluation by the Environmental Health Specialist, a permit is issued; the contractor performs the work and then an Environmental Health Specialist does a

follow-up inspection to ensure that the installation was done according to code and meets the specifications detailed in the permit.

The permit application is good for a year and the permit once issued is valid for a year. The permit fee is \$250 for a residential repair and \$550 for a commercial repair. If there is a complaint against your property, there is an extra \$125 fee to cover the cost of the investigation by the EHS. If a homeowner does not address the complaint they face misdemeanor charges with penalties of a fine of up to \$1000 and up to 60 days in jail. When a complaint has been filed, an Environmental Health Specialist will make a site visit within 35 business days to determine if the complaint is legitimate. If it is a legitimate complaint then EHS will issue a Notice of Violation with a timeframe of 15 days to fill out a repair permit application. If the septic system failure involves a direct discharge then EHS will have the county Sheriff write a ticket or citation immediately. Most of the people who have had complaints filed against them plead “Nolo contendere” (this means that the defendant does not accept or deny responsibility for the charges but agrees to accept punishment; this is also known as a plea of no contest, Cornell Law School online). The judge will issue a fine, but in most cases, if the repair is made within a certain specified timeline, the judge will reduce the fine to court costs or waive the fine altogether. There are three categories of residential septic system permits – new installation, repair, and addition. The addition permit is for system capacity expansion due to home additions or remodeling. Permit numbers for East Metro Health District 3-4 which includes Gwinnett, Rockdale, and Newton counties are as follows:

Jan 1, 2006 to Aug 21, 2006:
1100 total septic permits
450 repair permits
350 new system installation
300 addition permits

Total repair permits:

2003: 767 repair permits

2004: 584 repair permits

2005: 587 repair permits (missing data from Nov 28 until Dec 31, if you assume that there were an average of 53 permits per month then there would have been approximately 640 permits in 2005)

2006: 450 (Jan 1 to Aug 21)

Note: These numbers are based on the permit issue date, not the permit application date.

Septic system complaints:

2003: 253

2004: 496

2005: 346 (missing data from Nov 28 until Dec 31)

2006: 175 (Jan 1 to Aug 21)

The number of complaints increases during rainy seasons and rainy years and there is a corresponding decrease during dry seasons and drought periods. Failing systems are identified either by a complaint or by a repair permit application.

Permits for new system installation have been decreasing and permits for repairs and additions have been increasing, as illustrated in Figure 6. The majority of the septic systems in Gwinnett County were installed in the mid-1980's to early 1990's as the county was experiencing rapid population growth and before the sanitary sewer system infrastructure was in place to support all the new development.

Gwinnett County has a database of septic systems starting with some paper records in 1953. In the early to mid-1980's the county started keeping more and better records to be used for a database system. According to the new database system there are approximately 122,000 septic systems in Gwinnett, Newton, and Rockdale counties. Roughly 100,000 of those systems are in Gwinnett County. Newton County could be another good potential county for the linked deposit lending program because they have a large number of septic systems. Rockdale County would not be as good of a candidate for the program because there are not as many septic systems because a lot of the county is on sanitary sewer lines.

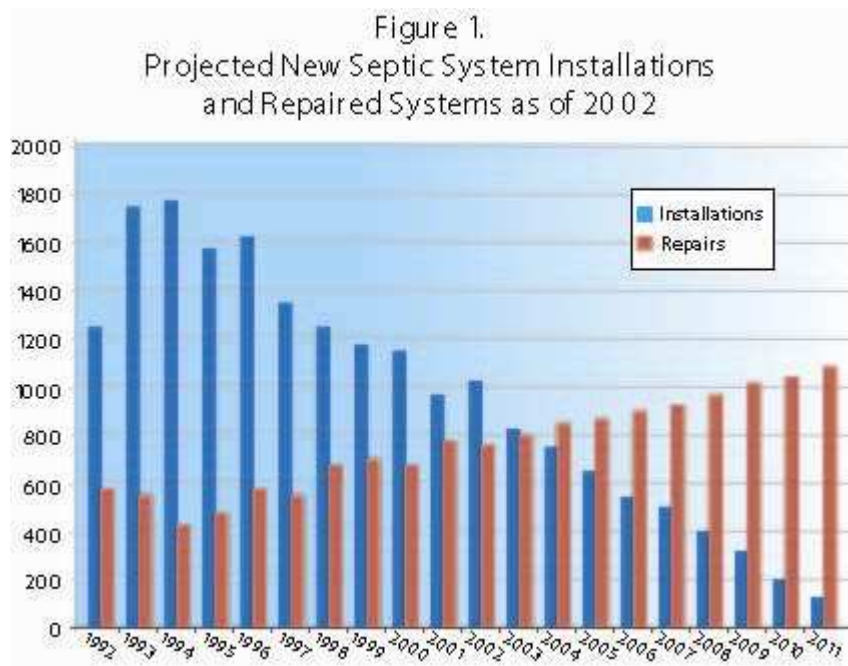


Figure 6: Projected new septic system installations and repairs in Gwinnett County
 Source: Gwinnett County Department of Water Resources

Connection to the sanitary sewer is the preferred option but sometimes it is not feasible or available. If there is a sanitary sewer line within 200 feet of a property line or available in a public right-of-way abutting the property then the homeowner is required to connect to the sanitary sewer. The Environmental Health Specialists who do site inspections are allowed to go on public access areas such as driveways and sidewalks but not on the private property without permission of the homeowner. If they do not get permission from the homeowner and can not view the failing septic system from an adjoining or adjacent property then they have to pursue a search warrant. Because the reporting system for failing septic systems is mostly complaint-driven, oftentimes a particular complaint has originated from a neighbor who will provide access to their property to view the nearby failing septic system. The Medical Director of the EHS has broad powers to mitigate potential health hazards and if a homeowner does not repair their

failing septic system they will continue to be fined and could ultimately spend time in jail. There is a last-ditch option of turning off the water supply to the house, provided that the homeowner is on a municipal water supply. The EHS would much rather work with homeowners and have them come up with repair options with their contractor than pursue legal recourse.

SANITARY SEWER PETITION PROGRAM

Gwinnett DWR has a sanitary sewer petition program (septic-to-sewer transition) available to Gwinnett County residential water customers. The program guidelines are as follows: At least five homeowners within the same drainage basin and within an area inside of a 1/8-mile radius (quarter-mile diameter area) may request connection to the sanitary sewer for their neighborhood. DWR defines the petition area by topography and estimates the cost per lot. Petitions are circulated to the DWR designated area during a 180-day period. A minimum of 70 percent of the property owners within the area to be served must agree in writing to participate in the petition. Petition areas do not have to match subdivision boundaries. However, at least 80 percent of the properties in the petition area with access to the proposed sewer extension must be residentially developed and no more than 10 percent of the length of the sewer extension should front or be adjacent to undeveloped land. If more than 10 percent of the proposed sewer extension is along or adjacent to undeveloped land, then the homeowners in the petition area will have to bear all of the cost of the sewer extension along those undeveloped areas with no cost sharing by the county. The cost of the sewer extension includes all costs associated with easement acquisition, design, permitting by agencies other than Gwinnett County, construction and related activities. DWR staff labor cost is not included. The homeowner is responsible for one-third of the cost of the transfer and the county covers the remaining two-thirds of the cost.

There have not been many successful septic-to-sewer transitions because homeowners still bear significant costs in the program and oftentimes it is difficult to get the necessary buy-in, especially from homeowners who either do not have problems with their septic system or who have recently made repairs to their system.