## Appendix C: Relationship to other USEPA water programs

The USEPA *Voluntary Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems* will help support the activities and approaches being applied in several other USEPA programs and contribute toward achieving mutual water quality objectives and public health protection goals. Related programs include watershed management, water quality management, biosolids and residuals management, nonpoint source control, source water assessment and protection, underground injection control, water permitting and coastal zone management. The relationship of the Guidelines to these companion programs is summarized in the following discussion.

### Watershed Management.

The Guidelines can be integrated into a comprehensive watershed approach at the state, tribal, or local government level. There are clear benefits to managing onsite/centralized systems at basin, watershed or subwatershed levels. Ideally, the use of a watershed approach will facilitate the identification of both existing and anticipated sources of pollutants of concern, e.g., nutrient and pathogens, and allow the appropriate jurisdictions to take coordinated actions to protect or restore an identified resource. In such an approach, short and long-term wastewater management plans and actions for both centralized and decentralized systems can be integrated into a comprehensive plan that may include analyses and actions that address the impacts of other contributing sources of pollutants such as animal waste, wildlife or agriculture. The use of a watershed approach also encourages the coordination of management entities and actions across jurisdictions. Inter-jurisdictional planning and coordination can result in more efficient resource utilization, including data sharing, and also help to avoid inconsistent management policies or requirements that can cause unanticipated consequences such as accelerated growth in adjacent communities due to less burdensome requirements or lower costs.

### National Pollutant Discharge Elimination System (NPDES)

In 1972, Congress established the NPDES program under the Clean Water Act (CWA). Under the CWA, discharge of a pollutant from a point source to waters of the United States is prohibited unless that discharge is authorized by a NPDES (CWA Section 402) or wetlands (CWA Section 404) permit. The NPDES program includes discharges to groundwater with a direct hydrologic connection to surface water. NPDES permits are issued by a State or Tribe authorized to implement the NPDES program, or by USEPA if there is no authorized State or Tribe. The NPDES permit establishes necessary technology-based and water quality-based terms, limitations and conditions on the discharge to protect public health and the environment. EPA's NPDES regulations (40 CFR 122.28) provide for issuance of a "general permit" to authorize discharges from similarly situated facilities such as onsite and cluster systems. Several States issue general permits, including Arkansas, Kentucky and North Carolina. An example of the key aspects of a general permit is in the Management Handbook.

### Biosolids and Residuals Management

The 1987 Amendments to the CWA required the development of comprehensive requirements for the use and disposal of sewage sludge (biosolids). As defined in the resulting "Use and Disposal of Sewage Sludge" rule at 40 CFR Part 503, sewage sludge includes the residuals produced by the treatment of domestic sewage (other than grit and screenings) and includes septage from onsite and cluster wastewater treatment systems. The Part 503 rule (along with non-hazardous solid waste disposal requirements under 40 CFR Part 257 and 258 which apply when domestic septage is mixed with other waste sources by pumpers) establish minimum Federal requirements for the proper management of septage from onsite and cluster wastewater treatment systems. USEPA has developed supplemental guidance on the management

of septage in *Domestic Septage Regulatory Guidance: A Guide to the USEPA 503 Rule*[13] and *Guide to Septage Treatment and Disposal*[14]. The use and disposal of sewage sludge is usually regulated as part of the NPDES program.

### Storm Water Management

Historically, polluted storm water runoff was often transported by municipal separate storm sewer systems (MS4s) or discharged from industrial or construction activities and ultimately discharged into local rivers and streams without treatment. Common pollutants include oil and grease from roadways, pesticides from lawns, sediment from construction sites, and carelessly discarded trash, such as cigarette butts, paper wrappers, and plastic bottles. When deposited into nearby waterways through MS4 discharges, these pollutants can impair the waterways, thereby discouraging recreational use of the resource, contaminating drinking water supplies, and interfering with the habitat for fish, other aquatic organisms, and wildlife.

In 1990, USEPA promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) storm water program. The Phase I program requires communities with MS4s serving populations of 100,000 or greater or sites with industrial or construction activity to implement a storm water management program as a means to control polluted discharges. The Storm Water Phase II Rule, promulgated on December 8, 1999, extends coverage of the NPDES storm water program to certain "small" MS4s and small construction sites. Operators of regulated small MS4s are required to design their programs to reduce the discharge of pollutants to the "maximum extent practicable"; protect water quality; and satisfy the appropriate water quality requirements of the Clean Water Act.

The Phase II program for MS4s is designed to accommodate a general permit approach using a Notice of Intent (NOI) as the permit application. The operator of a regulated small MS4 must include in the permit application, or NOI, its chosen best management practices (BMPs) and measurable goals for each of six minimum control measures. To help permittees identify the most appropriate BMPs for their programs, USEPA will issue a "menu," of BMPs to serve as guidance.

One measure in a Phase II storm water program is the detection and elimination of illicit discharges. USEPA has determined that many onsite and cluster systems (typically those that discharge to surface waters) illicitly discharge effluent to storm ditches which drain to storm sewers. In these cases, there must be a permit approach to protect the MS4 from pollutants associated with the onsite and cluster system. The Guidelines can be used to assist NPDES permit applicants in determining appropriate BMPs.

### Water Quality Management (including Total Maximum Daily Loads)

Nationally, States have reported in their Clean Water Act Section 303(d) reports that designated uses are not being met for approximately 5,400 water bodies due to pathogens and that approximately 4,700 water bodies are impaired by nutrients[12]. Onsite wastewater treatment systems are often significant contributors of pathogens and nutrients. Under EPA's current requirements a total maximum daily load (TMDL) determination is required when the total loading of pollutants to a water body results in a violation of water quality standards. The Agency promotes the control and management of both point and non-point source discharges on a watershed basis. If onsite and cluster systems are determined to be a significant source of the pollutants, increased management is needed.

The most common approach to resolving problems with onsite wastewater treatment systems has been to replace onsite wastewater treatment systems with a centralized wastewater treatment and collection system. However, a decentralized approach, with a high level of management, is capable of meeting water quality objectives while offering communities a wider range of options. In these situations, these

Guidelines can be a valuable tool to use as the basis of TMDL/watershed implementation plans which promote improved management to address identified problems. An appropriate level of management, as described in this document could reduce pollutant loads to achieve water quality standards. USEPA also recognizes, as discussed more fully below, there are situations where a system is subject to the NPDES program. In such cases, permit requirements should be consistent with any applicable TMDL and water quality standards.

### Water Quality Standards

State and tribal water quality standards do not consistently address pathogen and nutrient loadings. This lack of consistency has been due to a scarcity of information on how to measure, monitor and evaluate the impacts of pathogens and nutrients on water quality. New methods and information are being developed to assist tribes, states and local governments in assessing and developing appropriate management strategies to control these pollutants. USEPA is currently developing recommendations for improved methods to measure and document human health risks due to exposure to the most common pathogens and differing concentrations of these pathogens. A thorough discussion is available in the draft *Implementation Guidance for Ambient Water Quality Criteria for Bacteria-1986.*[15] USEPA is also developing a series of *Nutrient Criteria Technical Guidance Manuals* [what is reference?] for various water body types, e.g., rivers and streams. The intent of these documents is to provide States/tribes with methods to assess waterbody nutrient impairment, select criteria, design monitoring programs, and implement management practices. These factors should be considered during the siting, design, and operation of onsite and decentralized wastewater treatment systems.

### Source Water Assessment and Protection

The 1996 Amendments to the Safe Drinking Water Act require States and tribes to implement Source Water Assessment and Protection (SWAP) programs which assess areas serving as sources of drinking water, identify potential threats, and implement protection efforts. The SWAP requires States to conduct source water assessments for all their public water systems. Assessments consist of delineating protection areas for the source waters of public drinking water supplies, identifying potential sources of contaminants within these areas, determining the susceptibility of the water supplies to contamination from these potential sources, and making the results of the assessments available to the public.

Assessments for many water systems, such as those in rural areas, are likely to inventory onsite and cluster systems located in delineated source water protection areas and identify some of these as priority pollution threats. Communities are encouraged to consider this emerging information from the assessments as a factor in deciding what level of management of onsite and cluster systems is necessary. Several programs specifically address the protection of ground water, since it serves as the source of drinking water for 95 percent of the nation's population in rural areas, and for half of the total U.S. population. USEPA also recommends the onsite and cluster management Guidelines as a tool in the protection of drinking water sources.

### Underground Injection Control (UIC) Program

Certain onsite systems are regulated under the Underground Injection Control (UIC) Program. The UIC program was established by the Safe Drinking Water Act (SDWA) to protect current and future underground sources of drinking water (USDWs) from contamination caused by subsurface disposal of wastes. USEPA groups underground injection into five classes (Classes I-V), from deep to shallow. Class V wells include typically shallow, percolating systems, such as dry wells, leach fields, and similar types of drainage wells that overlie USDWs.

Under the existing federal regulations, Class V injection wells are authorized by rule provided they meet certain reporting requirements (e.g. submit inventory information) and do not endanger underground sources of drinking water. USEPA recognizes that State, Tribal and local governments commonly regulate onsite systems of varying sizes. Regardless, the UIC program is responsible for ensuring that these entities meet UIC program requirements when regulating large-capacity septic systems (those that accept solely sanitary waste and have the capacity to serve 20 or more people). Onsite wastewater treatment systems may also be regulated under the UIC program by an authorized State, Tribe, or USEPA if they accept industrial, chemical, or other non-sanitary wastes, also called "industrial drainage wells" or "agricultural drainage wells."

In 1999, the UIC program undertook two efforts relevant to large-capacity septic systems. First, the program promulgated regulations prohibiting the construction of new large capacity cesspools, and ordered all existing large capacity cesspools to be closed by April 5, 2005. Second, the program completed a comprehensive study of shallow injection wells, including septic systems, that are regulated under the Underground Injection Control Program.[16] USEPA found that, while the prevalence of contamination cases appears low relative to the prevalence of these systems, there are documented examples which implicate these large systems as sources of ground water contamination, and that they are being addressed locally.

On June 7, 2002 (67 FR 39583), USEPA announced a final determination for all sub-classes of Class V wells (such as large capacity septic systems), not included in the December 7, 1999 final UIC rule. The agency determined that additional federal requirements are not needed, at this time, and existing federal underground injection control regulations are adequate to prevent Class V wells from endangering USDWs. This is based on the actions USEPA is taking to improve the performance of onsite and cluster systems through the development of these Management Guidelines.

### Coastal Zone Management Act

USEPA and National Oceanographic and Atmospheric Administration (NOAA) jointly administer Section 6217 of the Coastal Zone Management Act Reauthorization Amendments of 1992. This provision requires the 29 States with approved Coastal Zone Management Programs to establish and implement Coastal Nonpoint Pollution Control Programs. These programs must include management measures for both new and operating onsite sewage dispersal systems (OSDS). The measures are described in EPA's *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*[17]. The measure for new OSDS specifies that they be designed, installed, and operated properly and be situated at safe distances from sensitive resources including wetlands and flood plains. Protective separation between the bottom of the infiltration system and ground water tables is to be established, and OSDS are to be designed to reduce nitrogen loadings in areas where surface waters may be adversely affected. The measure for operating OSDS requires operation and maintenance to prevent surface water discharge and reduce loadings to groundwater, as well as inspection at regular time intervals and repair/replacement of faulty systems. The OSDS measures described above are consistent with many of the concepts described in these Guidelines.

### Nonpoint Source Program

Congress established the national nonpoint source (NPS) program in 1987 when it amended the Clean Water Act with Section 319. States were required to conduct nonpoint source assessments and develop USEPA approved "Nonpoint Source Management Programs." All States and Territories and, as of September 2001, over 70 Tribes (representing over 70% of Indian lands) now have EPA-approved nonpoint source assessments and management programs. Typical categories of nonpoint sources identified and addressed in the state, territorial and tribal assessments and management plans include:

agriculture, urban, onsite disposal systems, forestry and hydromodification. In some states, the primary responsibility for managing onsite and cluster systems falls within the purview of the NPS program.

Congress provides funding to assist the states, territories and tribes in developing and implementing their NPS management programs. These funds can be used by states, territories and tribes to address sources identified within in their management programs submissions. States, territories and tribes can use these funds to promote, demonstrate and fund activities relating to onsite and cluster management programs including monitoring, program assessments and development, demonstration projects, research, public education and outreach and system replacement/rehabilitation. The voluntary Guidelines are intended to support the achievement of the goals of the state, territorial and tribal programs as they relate to onsite and cluster program management.

### Technology Transfer

USEPA has recently published the *Onsite Wastewater Treatment Systems Manual*[18] (Onsite Manual) to provide new information on alternative treatment technologies and to promote a performance-based approach to onsite and cluster wastewater system management. This document is an update of EPA's 1980 *Design Manual - Onsite Wastewater Treatment and Disposal Systems*[19]. The Onsite Manual serves as the technical complement to the Management Guidelines and as a reference to identify the environmental, technological, administrative and public health factors to consider when developing an improved management program. The Onsite Manual contains information that can be used by program managers in assessing the environmental impacts of specific onsite and cluster wastewater treatment technologies on both the watershed and individual site levels and in the selection of appropriate technologies.