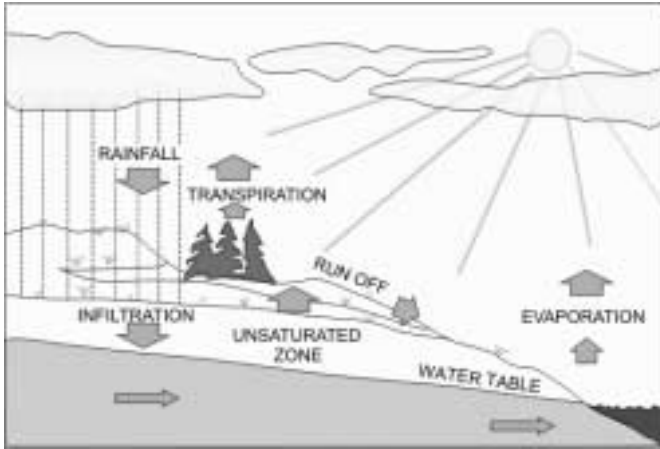


# CLEAN WATER SEWERS, SEPTICS AND SPRAWL

In the past, towns throughout NJ depended on wells for water supply and septic systems for wastewater or sewage disposal. Wastewater was disposed of through septic systems into the ground and the soil filtered it before returning it to the ground water. This system ensured the sustained capacity of the water supply. It mimicked the recycling character of the natural water cycle.



In the 1970's, the federal Clean Water Act required cleanup of point source pollution caused by poorly treated wastewater and industrial discharges. When federal funding became available, many towns built sewer plants and installed their first sanitary sewer pipes. This allowed for accelerated population growth in the 1980's. Public sewers allowed individual lots to be small, as they did not have the large area suitable for septic systems. In scores of communities, large subdivisions sprawled into former meadows and fields outside town centers. Throughout NJ, traffic became worse and worse.

Section 208 of the federal Clean Water Act requires states to compile regional plans, called areawide Water Quality Management (WQM) plans, to prevent water pollution from point sources (e.g., sewage plants, factories) and nonpoint sources (e.g., stormwater, septic systems). This requirement forced towns to correct local wastewater pollution problems. Because sewage

plants and pipe networks construction are costly, many towns' plans designated overly large sewer service areas to cover the costs better.

New Jersey established 12 regional or areawide water quality management planning areas. Seven counties took on responsibility for regional WQM planning. The Delaware Valley Regional Planning Commission and NJDEP took responsibility for the other five planning areas. Management of the WQM plans continued with these agencies.

### Water Quality Management Planning Areas



Planning Area	Designated WQM Plan Agency
Sussex County	Sussex County
Northeast	NJDEP
Upper Delaware	NJDEP
Upper Raritan	NJDEP
Lower Raritan	Middlesex County
Monmouth County	Monmouth County
Mercer County	Mercer County
Ocean County	Ocean County
Tri-County Area	Delaware Valley Regional Planning Commission
Atlantic County	Atlantic County
Lower Delaware	NJDEP
Cape May County	Cape May County

### WASTEWATER MANAGEMENT PLANS (WMPs)

To augment the federal WQM plan requirements, the NJDEP adopted regulations in 1990 to better protect the state's streams, lakes and ground water. The regulations require every municipality (or a regional agency authorized by NJDEP to act for a municipality) to have a Wastewater Management Plan (WMP) and to update it every six years. The deadline for submission of the initial WMPs was October 1994. NJDEP must approve both regional WQM plans and individual WMPs as well as amendments, or additions/deletions of sewer service areas. WMPs must be consistent with and, when adopted, become part of the applicable regional or areawide WQM plan.

**Only about 10% of the state's 190 WMP agencies have up-to-date plans as of December 2005.**

WMPs must project the sanitary sewer/septic needs for their planning areas for the next 20 years. The plan must be based on municipal zoning and projected population growth to ensure the planning agency will be able to provide adequate wastewater service. It must include a list of ordinances and plans that the WMP is based on, including zoning ordinances, municipal master plans, and county master plans. It must include maps of:

- the existing and future areas to be serviced by sewers
- the areas where individual septic systems will be used
- environmentally sensitive areas including:
  - wetlands: coastal, freshwater or estuarine
  - flood prone areas: flood hazard areas
  - public open space and recreation areas (national, state, county and municipal) that include at least 10 acres of undeveloped land
  - designated NJ Wild and Scenic Rivers
  - Category One waters (high water quality or public water supply waters)
  - surface waters

Wastewater Management Plans are a guide to the future, identifying areas for more intense development that require public sewers. Ideally, the future areas to be served by sewers should be located in the existing or planned center of town, and not in the countryside or environs. A WMP must reflect zoning and land use based on the goals and visions of the local master plan, which in turn should be based on data found in an environmental resource inventory. Accurate assessments of *future* wastewater needs according to the master plan and zoning are essential.

Amendments to WMPs are required as a result of many circumstances including:

- changes and/or expansion of the sewer service area
- surface and groundwater discharges of over 2,000 gallons per day
- new or expanded treatment facilities

The regulations require public notice before NJDEP can approve WMPs or WMP amendments. If the public notice results in a large response, NJDEP can hold a public hearing.

## ADDITIONAL REQUIREMENTS

Traditionally, planning for wastewater management did not address cumulative and/or secondary impacts that will result from the development facilitated by existing and expanded sewers. To address this issue, New Jersey Governor Whitman issued Executive Order (EO) 109 in the early 1990's. The EO requirements include:

- A **build-out analysis** to enable a town to project the future residential, office and/or commercial development that current zoning would allow. It provides a prediction of the town's future infrastructure needs including wastewater management, water supply, road capacity, and the school system.

A build-out analysis enables officials and residents to visualize and evaluate future development by assessing its impact. Many towns have concluded that existing zoning will bring too many new homes, insufficient taxes for local services and increased traffic congestion. They opt for an open space plan, large-lot zoning, mandatory clustering, or reduction in building cover, all of which can help reduce infrastructure needs. Stafford Township (Ocean), for example, has done a remarkable job of reducing its projected build-out through open space preservation and down zoning (increasing the minimum lot size).

- **Evaluation of water supply need.** The municipal WMP must assess the water supply needed to serve the future, zoned-for population. Without an adequate water supply, a municipality will probably face major infrastructure expenses. For example, Cape May City's population, especially in the summer, has grown larger than the local aquifers can supply. Salt water intrusion became a serious problem. Both federal and state laws



require control of salt water intrusion into groundwater due to fresh water depletion. As a result of the saltwater intrusion problem, Cape May City had to construct a \$5 million desalination plant that produces up to two million gallons of water daily.

- **Protection of threatened and endangered species habitat.** The WMP must explain steps taken to protect threatened and endangered species habitat.
- **Protection of riparian corridors.** NJDEP may require ordinances to provide stream buffers.

- **An alternatives analysis.** The analysis examines various wastewater alternatives that are economical and environmentally sound. This important evaluation is needed when a Wastewater Management Plan projects growth that would cause significant water resource damage.

## HIGHLANDS AREA REQUIREMENTS

WMPs must be consistent with the Highlands Regional Master Plan, due to be finished in June 2006.

### WHY WILL AN UP-TO-DATE WMP BENEFIT YOUR TOWN?

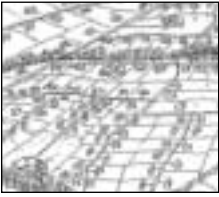
**Protecting Water Quality:** According to the *New Jersey State Water Supply Master Plan*, the secondary impacts from the growth induced by expanded sewer service can nullify any water quality improvements made by advanced wastewater treatment. In other words, sewer infrastructure facilitates dense development that can degrade water quality.

**The denser, sewer development creates negative impacts including increased stormwater runoff, increased traffic, and loss of vegetation.**

So, any expanded sewer service area must be determined extremely carefully.

**Meeting Infrastructure Needs:** The NJ *Municipal Land Use Law* (MLUL) requires subdivision and site plan ordinances “to ensure adequate water supply, drainage, shade trees, sewerage facilities and other utilities necessary for essential services to residents and occupants.” (NJSA 40:55D-38) Accurate assessment of wastewater management needs is a critical part of a municipality’s planning for and realization of its future growth goals and needs. The master plan and zoning ordinance determine where growth occurs and at what density.

**Strengthening State Protection of Local Natural Resources:** All NJDEP permits must be consistent with regional Water Quality Management (WQM) plans. NJDEP can deny permits that are not consistent. For example, a WMP approved and incorporated into the WQM plan that establishes wetlands as valuable natural resources requiring protection could prevent NJDEP from issuing a permit that would disturb wetlands. Or, a WMP that is out of date could be inconsistent with the regional WQM plan, and NJDEP could deny permits in that WMP area.



**Preventing Over-Sewering that Brings Unplanned Development:** The State Plan categorizes any approved WMP sewer service area, even with no pipes in the ground, for growth (Planning Areas 1 or 2). Too often towns designate large future sewer areas to avoid the need to prepare future amendments.

## PROS AND CONS OF THE CURRENT SYSTEM

The current wastewater rules and regulations require a system for planning for the future. They ensure the sustainability of municipal infrastructure and natural resources. They give WMP agencies the techniques and tools to evaluate wastewater needs in order to prevent potential pollution problems and negative impacts to surface water and water supply. WMPs provide NJDEP with the necessary information about projected sewer service areas as well as more detailed information about important natural resources where dense development and sewers should be avoided. WMPs match the *Municipal Land Use Law* requirement for ensuring that master plans and specific development have adequate infrastructure.

WMPs are important tools to promote development in State Plan centers or areas with existing wastewater infrastructure. By promoting more concentrated development in specific areas, the plans are an excellent vehicle for protecting the surrounding, more rural areas. But there are some problems. Most NJ municipalities are using WMPs from the 1980's or 1990's when sewers seemed to be the answer to water pollution problems, and when nobody considered the necessity for sustainability. As of summer 2005, *only 14 WMPs were up to date, with 11 WMPs pending, 55 WMPs never adopted and 110 WMPs out of date.* This means almost all local "authorities or agencies" are deciding where to put sewer lines without the benefit of a build-out analysis, water supply capacity analysis and the other assessments required by WMP regulations.

Because of the detailed requirements, NJDEP review of WMPs can be prolonged. It is important for applicants to submit as comprehensive information as possible.

## THE "CART BEFORE THE HORSE" DILEMMA?

Water quality protection was the initial reason for requiring WMPs and the construction of sewer systems. (Understandably, urban areas could not survive without them.) Growth is inevitable, but planned growth, based on

natural and manmade capacities, is the ideal. In areas such as beach resort towns or lake communities, old or undersized septic systems on small or poorly maintained lots caused pollution of the streams, bays and ocean. Instead of requiring larger lots and septic maintenance, the towns expanded areas to be served by sewers. The result? High-density development and increased pollution from stormwater runoff. This has ultimately undermined the water quality protection sought through sewer installations.

Sewers have become the driving force behind development. An overwhelming majority of municipalities are using old WMPs that neglect sustainability and critical area protection. Is this “Catch 22” happening in your town? **Are sewer lines “planning” the future, rather than a Master Plan and WMP** that carefully assess future wastewater, water supply and other infrastructure needs? Are sewers planned to avoid wetland areas and farms? How will a build-out at the current zoning affect local property taxes?

### WHAT YOU CAN DO

- Check with your municipal engineer or wastewater authority to see if your town has a Wastewater Management Plan (WMP).
- When was it approved? WMPs must be updated every six years. Does it reflect accurately the desired growth and the growth that needs infrastructure?
- Has your town recently revised its master plan? If so, did it amend its WMP to reflect properly the new master plan provisions?
- If your town is part of a larger sewer region, check with the appropriate sewer authority to understand how your town’s needs fit into the larger utility plan.
- If your town doesn’t have a WMP, start the process of pulling one together. Experienced consultants are important to the process.
- Check out ANJEC’s on-line Directory of Environmental Consultants at [www.anjec.org](http://www.anjec.org).

### NJDEP REGULATIONS

The NJDEP WMP regulations are located at NJAC 7:15. The regulations, and guidance to them, can be found on the NJDEP web site under the Division of Watershed Management page at [www.state.nj.us/dep/watershedmgt](http://www.state.nj.us/dep/watershedmgt).

This project made possible in part through a grant from  
The Environmental Endowment of New Jersey and in part from  
The Trust for Public Land's Barnegat Bay Environmental Grant Fund.  
TPL was designated as administrator of The Bay Fund through a donation  
from Ciba Geigy Corp. to the State of NJ DEP.



Association of New Jersey Environmental Commissions  
PO Box 157  
Mendham, NJ 07945