

UTILITIES PLAN

■ TODAY'S CONDITIONS

As has been seen throughout the County's history, the quality and adequacy of utility infrastructure can help or hinder growth.

WATER SUPPLY

In Allegheny County, water supplies for drinking water are obtained primarily from surface water sources; only 10% comes from groundwater. Water suppliers in the County use the Three Rivers as water sources, as well as the Youghiogheny River, Indian Creek and Beaver Run in Westmoreland County. As per the Pennsylvania Municipalities Planning Code Article III Section 301(b), *Allegheny Places* strives to be consistent with the State Water Plan and any applicable water resources plan adopted by any river basin commissions. *Allegheny Places* also recognizes that:

- Lawful activities such as extraction of minerals impact water supply sources and such activities are governed by statutes regulating mineral extraction that specify replacement and restoration of water supplies affected by such activities.



Photo credit: McCormick Taylor

- Commercial agriculture production may impact water supply sources.

PUBLIC WATER

Allegheny County prepared its *Comprehensive Water Supply Plan* in 1996. The plan inventories public water suppliers active in the County along with the technical and financial details of each. The inventory was supplemented for *Allegheny Places* by mapping service areas and collecting recent water demand and capacity data.

Public water service is provided to approximately 97% of County residents by 41 public water suppliers, as listed in Table 4J.1. Twenty-two of the water suppliers are municipal authorities, 18 are municipalities, and one is an investor-owned utility. Private wells provide water in areas that are not served by public water systems. Currently, all of the water suppliers are operating within established water allocations.

The water suppliers currently distribute approximately 270 million gallons of water per day (mgd) to approximately 620,000 residential, commercial, industrial, institutional and bulk sales customers in the County.

Twenty of the water suppliers are considered primary water suppliers since they operate both sources of supply and treatment facilities. They supply water directly to their customers and to other public water systems for distribution and sale.

The approximate service areas of these systems within Allegheny County are illustrated on Map 4J.1.

In general, the water distribution systems operating within Allegheny County function acceptably under current demand conditions. No significant areas of chronically unacceptable low flow and pressure conditions have been identified.

A total of 23 water treatment facilities are currently being operated by the water suppliers serving Allegheny County. The total rated capacity of the treatment facilities is 457 mgd. Total treatment capacity well exceeds current average day and maximum day water demands. The total treatment capacity represents approximately 131% of the current maximum day water demand.



TABLE 4J.1 – Allegheny County Public Water Suppliers

| SUPPLIER | TYPE OF OWNERSHIP | PRIMARY SOURCE OF WATER |
|--|-------------------|-------------------------|
| Aleppo Township Authority | Authority | Purchased |
| Aspinwall Borough Water Department | Municipal | Ground |
| Brackenridge Borough Water | Municipal | Surface |
| Blawnox Municipal Waterworks | Municipal | Purchased |
| Braddock Borough Water Authority | Authority | Purchased |
| Cheswick Borough Water Department | Municipal | Ground |
| Coraopolis Water & Sewer Authority | Municipal | Ground |
| Creswell Heights Joint Authority | Authority | Ground |
| City of Duquesne | Municipal | Purchased |
| East Deer Township Waterworks | Municipal | Purchased |
| Edgeworth Borough Municipal Authority | Authority | Purchased |
| Etna Borough | Municipal | Purchased |
| Fawn Frazier Joint Water Authority | Authority | Purchased |
| Findlay Township Water Authority | Authority | Purchased |
| Fox Chapel Authority | Authority | Purchased |
| Glenfield Borough | Municipal | Purchased |
| Hampton Township Municipal Authority | Authority | Purchased |
| Harmar Township Municipal Authority | Authority | Ground |
| Harrison Township Water Authority | Authority | Surface |
| Millvale Borough | Municipal | Purchased |
| Monroeville Municipal Authority | Authority | Purchased |
| Moon Township Water Authority | Authority | Surface |
| Neville Township | Municipal | Purchased |
| Oakdale Borough | Municipal | Purchased |
| Oakmont Borough Municipal Authority | Authority | Surface |
| Pennsylvania American Water Company | Investor PUC | Surface |
| Pittsburgh Water & Sewer Authority | Authority | Surface |
| Plum Borough Municipal Authority | Authority | Purchased |
| Richland Township Municipal Authority | Authority | Purchased |
| Reserve Township | Municipal | Purchased |
| Robinson Township Municipal Authority | Authority | Surface |
| Sewickley Borough Water Authority | Authority | Ground |
| Shaler Township Water Department | Municipal | Ground |
| Borough of Sharpsburg | Municipal | Ground |
| Spindgale Township | Municipal | Purchased |
| Springdale Borough Water Department Borough | Municipal | Ground |
| Tarentum Borough | Municipal | Surface |
| Western Allegheny County Municipal Authority | Authority | Purchased |
| Westmoreland County Municipal Authority | Authority | Surface |
| West View Borough Municipal Authority | Authority | Surface |
| Wilksburg-Penn Joint Water Authority | Authority | Surface |

PUBLIC SEWER SYSTEMS

Allegheny County prepared the *Comprehensive Sewage Management Plan* in 1999. The plan delineates public sewer system service areas throughout the County and provides an overview of current conditions and treatment capacities.

There are three basic types of public sewer systems:

- **Collection Sewers:** Pipes used to collect and carry wastewater from individual sources to an interceptor sewer that will carry it to a treatment facility.
- **Treatment Facilities:** A structure built to treat wastewater before discharging it into the environment.
- **Collection and Treatment:** Facilities that collect and carry the wastewater as well as treat it before it is discharged.



Photo credit: McCormick Taylor

The information from the 1999 plan was supplemented for *Allegheny Places* by updating service area delineations, loading rates and treatment capacities.

Wastewater Treatment Facilities

Thirty-five wastewater management agencies provide public sewage treatment service to approximately 1.3 million people throughout Allegheny County and parts of adjacent counties. All or portions of 127 municipalities within Allegheny County are served by one or more sewage treatment agencies, as shown on Map 4J.2.

There are 46 publicly owned treatment facilities serving Allegheny County, ranging in capacity from less than ten thousand gallons per day to 200 mgd. Twenty-six of the treatment plants have capacities of one mgd or more and are considered to be “major” plants. The Allegheny County Sanitary Authority (ALCOSAN) is the largest sewage treatment agency in Allegheny County, serving all or parts of 82 municipalities in Allegheny County and one community in Westmoreland County. ALCOSAN serves approximately 70% of County residents.

The topography of Allegheny County is one of the main reasons why there are so many relatively small, localized wastewater treatment plants today.

Countywide, the total sewage treatment plant loading averages 243 mgd daily.

Wastewater Collection Systems

Wastewater collection services are provided by a number of different municipalities and authorities that operate collection systems, which eventually discharge to one or more wastewater treatment facilities. The Pittsburgh Water and Sewer Authority (PWSA) is the largest collection-only system.

There are 84 municipalities within Allegheny County that have sanitary sewer (collection) systems. Forty-three municipalities are predominantly served by combined (wastewater and stormwater) sewer systems.

Unsewered Areas

Although most of Allegheny County is served by public sewers, there are scattered unsewered areas throughout the County. Three municipalities are served entirely by on-lot wastewater systems. Because of the County’s soils and underlying geology, which are not conducive to in-ground filtration, elevated sand mounds are currently the only type of conventional on-lot system permitted for residential use. Currently, about 100 permits for residential on-lot septic systems are issued per year.

Sixty on-lot wastewater system problem areas are identified in the *Comprehensive Sewage Management Plan*. There are others that have not been identified. Problem areas are defined as concentrations of homes that are operating malfunctioning on-lot septic systems. Progress has been made in addressing some problem areas, but others persist.



Stormwater Management

The regulatory basis for stormwater management in Pennsylvania is Act 167 of 1978, known as the Storm Water Management Act. Act 167 requires counties to prepare stormwater management plans for the designated watersheds in the county. When there is an approved stormwater management plan for a watershed, local municipalities within the watershed must adopt regulations to manage stormwater runoff from new development in accordance with the approved plan. When a watershed does not have an approved plan, stormwater runoff from new development may or may not be controlled.

To date, Act 167 plans have been completed for 8 of the County's 25 designated watersheds (see Map 4J.3):



Photo credit: Roy Kraynyk

- Deer Creek
- Flagherty Run
- Girty's Run
- Monongahela River
- Montour Run
- Pine Creek
- Squaw Run
- Turtle Creek

In December 2007, Allegheny County Council approved an update to the County's 1985 Stormwater Management Plan for the Girty's Run, Pine Creek, Squaw Run and Deer Creek watersheds.

Problems associated with inadequate and improper management of stormwater include flooding, soil erosion, and sedimentation of streams and other waterways.

SOLID WASTE DISPOSAL

Municipal landfills are located in Monroeville, South Park, Findlay and Forward townships. A private landfill is located in North Fayette Township. There are methane recovery projects in place at two of the municipal landfill sites. Landfills are operated by the private sector and regulated by the Allegheny County Health Department.

ELECTRIC, NATURAL GAS AND TELECOMMUNICATION SERVICES

Allegheny County is served by an extensive network of gas, electric and telephone services. These services are provided by investor owned utilities, which are regulated by the Pennsylvania Public Utility Commission (PUC).

Natural Gas Providers – Retail natural gas distribution system services in Allegheny County are provided by:

- Columbia Gas of Pennsylvania
- Dominion Peoples
- Equitable Gas
- T.W. Philips

Electric Power Providers – Three electric power distribution companies operate within Allegheny County:

- Allegheny Power
- Duquesne Light Company
- Pennsylvania Power and Light Company

Telephone Service Providers – Residential and commercial telephone service within Allegheny County is provided by 28 companies.

Internet Service Providers – Internet service within Allegheny County is offered by a number of providers.

Utility Choice – Through the Utility Choice program, consumers in some areas of the County may choose among companies that generate electricity, supply natural gas, or provide local telephone service.

Low-Income Programs – Pennsylvania requires electric distribution companies, natural gas distribution companies and local telephone companies to provide protections and services to low-income residents. There are two energy assistance programs for electric and natural gas utilities: Budget Billing and LIHEAP.

■ ISSUES AND ANALYSIS

This section examines what can be done to maximize the use of existing infrastructure in order to efficiently provide for future growth.

KEY CHALLENGES

In developing the Utilities Plan, the Community-Utilities Resource Panel helped to identify these key challenges:

- Difficulty of attaining compliance with regulations
- Protecting source water supplies
- Lack of funding for infrastructure improvements
- Inefficient and inequitable extension of infrastructure
- Lack of regional watershed management

The following provides an understanding of these issues.

DIFFICULTY OF ATTAINING COMPLIANCE WITH REGULATIONS

Sanitary Sewer System Related

The region's deteriorated sewage infrastructure is polluting the County's streams and rivers. As little as one-tenth of an inch of rain – the average area rainfall is one-quarter inch – can cause raw sewage to overflow into the County's rivers and streams. Melting snow can have the same effect.

Sanitary sewage collection systems that transport wastewater to treatment plants usually operate effectively in dry weather. However, when it rains or snows, stormwater gets in the sanitary sewage system through direct connections or through infiltrating leaky, cracked pipes. The added volume of stormwater overloads the system, causing raw sewage to overflow at hundreds of locations. The untreated sewage runs into waterways, overflows from manholes and backs up into basements.

Sewage overflows are a public health risk. While exposure to some disease-causing organisms, such as giardia or cryptosporidium, is not considered fatal for a healthy adult, it can be deadly for people with weakened immune systems, small children and the elderly. It is becoming more and more difficult to treat drinking water because of these and other, ever-increasing contaminants in raw water sources.

Nearly a third of the County's municipalities are served by combined sewer systems. Combined sewers carry both wastewater (used water and raw sewage) and stormwater (rain and snowmelt) in the same pipes, and convey it to a sewage treatment plant. During wet weather conditions, many combined sewers experience hydraulic overloading, causing overflows. Overflows can occur at any point along the conveyancing system and at the treatment facility.

Sewer overflows violate the Clean Water Act. The U.S. Environmental Protection Agency has required 83 municipalities to sign consent decrees outlining how they will attain compliance with Clean Water Act regulations. The plans must consider wastewater loads from future development and wet weather flow requirements, and identify capital projects required to attain regulatory compliance. The costs of addressing these issues are very high.

Current restrictions on new sewer system connections limit the construction of new homes and businesses in many communities throughout the County.

The ALCOSAN service area has at least 450 combined and separate sanitary sewer overflow structures from which untreated sewage is discharged into local streams during wet weather, more than any other authority in the country. The municipalities involved in the group of consent orders are the ones that use ALCOSAN's Woods Run sewage treatment plant, located on Pittsburgh's North Side. ALCOSAN is currently negotiating a consent order and agreement to increase capacity at Woods Run.

Eleven wastewater treatment agencies operating in the County have permits that include requirements for addressing combined sewer overflow. Forty-one of the 126 sewer municipalities within the County have been operating under the requirements of corrective action plans. The municipalities of Edgewood, Penn Hills, Pittsburgh, and Swissvale are all under consent orders as well.

The wet weather issue is a top priority for the region's state and federal legislators. Federal funding totals \$17 million to date. The Commonwealth of Pennsylvania recently awarded a \$2 million grant to the 3 Rivers Wet Weather Program (3RWW) to help municipalities address the issue. 3RWW has awarded more than \$6.8 million to communities over the last four years to help fund 33 innovative sewer projects that can become models for other municipalities and



regions. Many of the projects involve multiple communities collaborating to solve the wet weather issue.

Stormwater Related

Polluted stormwater runoff that often infiltrates into municipal storm sewer systems is also an issue. The polluted water is transported from municipal separate storm sewer systems (MS4s) into local rivers and streams without treatment. When deposited into nearby waterways the pollutants can seriously impair water quality, discouraging recreational use of the resource, contaminating drinking water supplies, and degrading fish and wildlife habitat.

National Pollutant Discharge Elimination System (NPDES) permits require owners of MS4s to develop, implement and enforce a stormwater management program designed to reduce the discharge of pollutants to the “maximum extent practicable”. Ninety-seven municipalities are currently developing the stormwater management programs required by the NPDES permits.

Pennsylvania’s Act 167 and the federal MS4 programs are complementary in that they both require local storm management regulations that control runoff water volumes and peak rates of stormwater runoff from development sites.

PROTECTING SOURCE WATER SUPPLIES

In order to protect the quality of water supplies, the Federal Safe Drinking Water Act requires states to develop Source Water Assessment and Protection (SWAP) Programs to assess all drinking water sources that serve public and private water systems for their susceptibility to pollution. The regulations require groundwater suppliers not already doing so to develop wellhead protection plans and implement watershed protection plans that focus on potential pollutant sources.

In response, the Pennsylvania Department of Environmental Protection (PADEP) has defined groundwater and surface water assessment areas that represent areas where pollutants could enter raw water supplies used by public water suppliers. To date, source water assessment areas have been delineated for all but ten of the County’s municipalities. PADEP has completed 18 SWAP reports that not only delineate water supply protection areas, but also inventory existing and

potential sources of contamination in each protection area and analyze the susceptibility of the sources to contamination.

The reports generally find that existing state and federal regulations should provide adequate protection of water supplies. The reports recommend that an early warning system for spills and accidental discharges into the rivers be established.

LACK OF FUNDING FOR INFRASTRUCTURE IMPROVEMENTS

Achieving compliance with Clean Water Act and Safe Drinking Water Act regulations and addressing stormwater issues within the County will require major capital investments. The costs of maintaining, repairing and replacing aging infrastructure, and expanding the capacities of existing systems, are significant. Preliminary estimates place the cost of achieving compliance with the current consent decree just for ALCOSAN and its tributary systems at three billion dollars.

Older core communities are faced with more complex and severe infrastructure problems and have fewer resources available to address them.

The financial capabilities of the various authorities, and municipal and private entities within the County, vary greatly. Funding necessary improvements to the treated water, wastewater and stormwater infrastructure will be a major challenge for the region.

INEFFICIENT AND INEQUITABLE EXTENSION OF INFRASTRUCTURE

Maintaining and improving utility systems can be difficult for any municipality because of the costs; it is especially difficult for municipalities with limited financial resources. Municipalities with the most limited resources are often also those with the oldest infrastructure. In addition, they are usually faced with other problems and lack resources to address those as well. It reinforces the need for intermunicipal cooperation and regional watershed-based solutions to ensure that infrastructure problems are addressed more efficiently and equitably.

Equitable public infrastructure policies lead to both social and economic equity.

LACK OF REGIONAL WATERSHED MANAGEMENT

Lack of Intermunicipal Cooperation/Coordination

Many of southwestern Pennsylvania's current and most pressing water quality problems, such as those attributable to sewer overflows and stormwater, can be traced to historical water supply and wastewater infrastructure decisions made by individual municipalities at a time when today's population and economic and industrial climate were not foreseen. Other problems, such as acid mine drainage, are a legacy of the region's past heavy mining and manufacturing economy.

A 2005 report, *Regional Cooperation for Water Quality Improvement in Southwestern Pennsylvania*, prepared by the Committee on Water Quality Improvement for the Pittsburgh Region, National Research Council, reported that water quality problems in southwestern Pennsylvania are complex and region-wide. Many sources of pollution that affect local water quality lie outside of the immediate Allegheny County area. Ongoing local remediation activities and those planned to address wet weather-related problems represent patchwork solutions and are not comprehensive enough to address the larger problem. The report further found that a comprehensive, watershed-based approach is needed to effectively meet water quality standards throughout the region in the most cost-effective manner.

The University of Pittsburgh's Institute of Politics' Environment Policy Committee recently released a framing paper describing southwestern Pennsylvania's most pressing problems with stormwater, sewage, water quality and flooding. The Committee established, with the endorsement of the Southwestern Pennsylvania Commission, an independent Regional Water Management Task Force, with the charge of finding and implementing practical, regionally relevant solutions.

In 2006, the Regional Water Management Task Force issued its Phase I Report. Phase I consisted of completing research necessary to fill information gaps in knowledge about water management in southwestern Pennsylvania. In 2007, the Regional Water Management Task Force held a number of public meetings throughout the region, established a Technical Advisory Committee, and consulted with municipalities, authorities and associations. The Task

Force Board is currently working toward producing recommendations concerning new institutional or cooperative arrangements, as well as a plan for implementation.

RECOMMENDATIONS

GOAL OF THE PLAN

Water, energy, communications, sewage and stormwater services systems are adequate, well-maintained, affordable and secure.

OBJECTIVES OF THE PLAN

The objectives of the Utilities Plan are to:

- A. Protect and enhance the quality and quantity of water resources.
- B. Support planning and funding for utility extensions and improvements that are consistent with the Future Land Use Plan.
- C. Support regionalization and the shared use of utility assets.

The following provides an understanding of the objectives.

A. Protect and Enhance the Quality and Quantity of Water Resources

Water is an important resource for the economic development of the region.

Conserving Water Supplies

Activities associated with the Future Land Use Plan are expected to increase total water consumption within Allegheny County by less than 5%, which would not exceed current allocations. However, water supplies should still be conserved. The County will periodically review its plumbing code, new in 2004, and update it as necessary to ensure that it reflects current industry standards concerning the use of water conservation



devices. Local water suppliers are required to monitor and annually report unaccounted water losses in their systems to the Allegheny County Health Department.

The Commonwealth of Pennsylvania is currently preparing a State Water Plan that will inventory groundwater and surface water resources and quantify their yields, project future water demands, identify problems and critical planning areas, and provide information, objectives, practices and recommendations to help the private sector and government make informed decisions concerning water use. The County will continue its involvement in developing the State Water Plan and, when complete, consider the implications of the Plan's findings on land use in Allegheny County.

Protecting Water Supplies

One hundred twenty of Allegheny County's 130 municipalities have delineated source water assessment areas. To date, five communities have been involved in SWAP program development. Source Water Protection Grants are offered by PADEP to help establish local SWAP programs that can include:

- Public education
- Program promotion
- Support of pollution prevention methods
- Integration with land use planning
- Restoration and/or conservation of source water protection areas

Water supply distribution systems are vulnerable because they are extensive, relatively unprotected, accessible and yet often isolated. An intense effort is currently underway to improve analytical monitoring and detection of biological, chemical and radiological contaminants in drinking water systems as part of the overall effort to secure drinking water supplies. Federal agencies, academic communities and private companies across the country are working together to develop practical and effective early warning systems. The SWAP reports prepared for Allegheny County recommend the implementation of an early warning system on the Three Rivers.

Establishing an Early Warning System

The goal of an early warning system is to reliably identify contamination in source or treated water in time to permit an effective local response that reduces or avoids the adverse impacts that may result from such an event. There was a cooperative early warning system in operation in Allegheny County. However, several years ago funding for the project withered and the system has been languishing and is essentially out of commission. The Allegheny County Health Department, along with local water suppliers, local universities, PADEP, U.S. Environmental Protection Agency and the Ohio River Sanitation Commission, will explore opportunities for re-establishing and improving the pollutant early warning system on the Three Rivers.

Avoiding Future Stormwater Problems

Land development will continue to impact stormwater management throughout the County. *Allegheny Places* supports increased use of best management practices (BMPs) to control stormwater. BMPs include site design techniques that reduce the amount of impervious surfaces on a development site and increase retention of natural vegetation, and structural and non-structural stormwater controls designed to manage runoff on-site. More BMPs designed specifically for use in western Pennsylvania, and stormwater management regulations that require their use, are needed.

Approximately 31,000 acres of land within designated Places in the Future Land Use Plan lie within watersheds of a priority stream. Priority streams were identified by the Allegheny County Emergency Service Department based on a history of flash flooding and resultant damages. Furthermore, approximately 26,000 acres of land within designated Places lie within watersheds for which no Act 167 planning has been completed. Stormwater runoff from these areas must be adequately controlled so that it does not exacerbate water quality and flooding problems.

More recommendations for avoiding future stormwater problems can be found in the Environmental Resource Plan.

B. Support Planning and Funding for Utility Extensions and Improvements that are Consistent with the Future Land Use Plan

Allegheny Places anticipates the development of approximately 50,000 dwelling units and roughly 10,000 acres of non-residential land use by the year 2025. New development will place demands upon water, wastewater and stormwater utility systems in the County. Sewer authorities in the County are in particular financially burdened by the need to fund major capital projects for compliance with the Clean Water Act wet weather regulations. Until the improvements are made, much of the anticipated future development will not be possible.

Future Development Needs

The intent of the Future Land Use Plan in regard to utility infrastructure is two-fold: to make use of the extensive infrastructure system that is already in place; and to help fund needed infrastructure improvements by targeting future development to areas with existing infrastructure. Therefore, most Places have been located within existing public water and sewage service areas. However, some water and sewer line extensions will be needed for a few of the Places identified on the Future Land Use map.

When planning future capital improvement programs, water and sewer agencies should use *Allegheny Places* to project future development activities.

Using public investments to improve community facilities and promote regional equity is a key strategy to make the region successful.

Serving Future Public Water Needs

Twenty-six out of the 41 water suppliers in the County will be affected by development activities associated with the Future Land Use Plan. An analysis of the Plan has determined that existing water supply and treatment systems will have sufficient capacity to meet the water demands associated with future land development. Furthermore, all of the targeted development areas are either within or in close proximity to existing public water service areas.

Water consumption associated with new development areas identified on the Future Land Use Plan is estimated to average 10.7 mgd. The future demand is expected to increase total water consumption by less than 5%, which would not exceed current allocations.

The configuration and timing of water system improvements will depend upon when and where new development takes place. However, affected utility service providers are encouraged to consult the Future Land Use map as they develop long range capital improvement plans. Affected water suppliers, municipalities and developers should cooperate from the earliest stages of development to coordinate the timing of improvements, assist in the efficient provision of water services and fund necessary improvements.

Serving Future Wastewater Treatment Needs

The new development envisioned by the Future Land Use Plan is estimated to result in an increase of approximately 14.5 mgd in the average daily sewage treatment plant load. Twenty-one wastewater treatment providers and 67 municipalities will be affected by this planned development.

Most of the targeted development areas are either within or in close proximity to existing sewage service areas and associated collection systems. However, significant sewer system construction will be required for 23 Places delineated on the Future Land Use map.

Sewer construction will be required to extend trunk sewers to and/or construct collector sewers within these development areas.

Current sewage collection and treatment systems – along with operation and maintenance systems – will need to evolve in order to accommodate the Future Land Use Plan. Additional wastewater treatment capacity – along with sewage collection and conveyance facilities – will be needed by at least four facilities (listed below) in order to serve new development areas.

- Elizabeth Borough Municipal Authority Wastewater Treatment Plant
- Findlay Township Wastewater Treatment Plant
- Leetsdale Borough Municipal Authority Wastewater Treatment Plant



■ Robinson Township Municipal Authority Moon Run Wastewater Treatment Plant

Hydraulic loadings associated with future development activities will exceed the current capacities of four wastewater treatment facilities during average flow conditions.

The Pennsylvania Sewage Facilities Act (Act 537) requires municipalities to prepare and adopt a comprehensive sewage facilities plan to provide for the future sewage disposal needs of the municipality. As municipalities update their Act 537 Official Plans, they should update their comprehensive land use plans as well to ensure that there is consistency between the comprehensive plan, Act 537 Official Plan, and *Allegheny Places*.

On-Lot Sewage Systems

The use of on-lot sewage disposal systems is limited in Allegheny County because of soil conditions, topography and costs. The Allegheny County Health Department monitors indicators of performance of on-lot sewage disposal systems, and requires effective responses to identified problems through the enforcement of existing regulations.

In areas of the County that are less densely populated, the use of decentralized, small cluster sewage systems may be a cost-effective alternative to extending public sewers to address problems.

Serving Future Solid Waste Disposal Needs

Under the current permit and loading conditions, the average estimated remaining life of County landfills is 12 years. Increased solid waste loads associated with the Future Land Use Plan will not significantly affect the available capacity of the landfills.

To help keep solid waste streams to minimum, municipalities should continue existing recycling programs or start programs where none exist, and increase the types of materials collected for recycling. Municipalities are encouraged to participate in multi-municipal recycling programs for increased service and cost-efficiency.

Internet and Cellular Communication Services

Telecommunications technology such as cellular telephones, digital television and wireless broadband services continues to expand. Municipalities should be aware of opportunities for including telecommunications equipment such as cellular towers and high-speed cable lines in development and redevelopment projects.

Municipalities should implement appropriate design standards and development controls for siting wireless communication antennas and similar devices. These devices should be located so as to minimize visual impacts and should be placed where topography and existing vegetation, buildings or other structures will provide effective visual screening. Strategies may include placing antennas on existing structures such as buildings and water towers.

The *eCOMMonwealth Broadband Assessment Study* identified two priority areas in Indiana and Fawn townships that are underserved with respect to internet access. The Study provides suggestions for improving internet services, particularly broadband service. The County will cooperate with the Southwestern Pennsylvania Commission as strategic plans are developed to improve service.

C. Support Regionalization and the Shared Use of Utility Assets

The ability of Allegheny County's water and sewer authorities to achieve regulatory compliance, fund capital improvements and operation and maintenance activities, and maintain system security depends upon the technical capabilities and financial condition of the individual authority. Substantial long-term investments are needed. Some estimates for the cost of rehabilitating the sewage collection and treatment system total up to \$3 billion.

The complexity and cost associated with developing and implementing solutions to water resource issues in Allegheny County point to the advisability of applying regional approaches to these issues. Regionalization can increase operational efficiencies, increase financial viability and improve the quality of service. Before regionalization is realized, however, greater inter-municipal cooperation may be a necessary interim step.

Stormwater Management

A better and more comprehensive approach to stormwater management in Allegheny County must address all aspects of stormwater management including:

- Better management of stormwater runoff than has been accomplished under past legislation
- Development of appropriate best management practices, and promoting/requiring their use
- Identifying and preserving natural systems critical to the management of stormwater
- Better design of stormwater management facilities
- Better maintenance of existing stormwater management facilities
- Minimizing development in flood-prone areas

The County will discourage inappropriate development in floodplains and encourage municipalities to preserve them as open space. The County will use funding and technical assistance available through PADEP to initiate watershed studies with the participation of relevant municipalities. The County will promote the adoption of regulations that require the use of best management practices, and especially those that do not rely on in-ground filtration, such as:

- Avoidance of encroachments, disturbances, and alterations to natural features that provide valuable stormwater functions
- Site design techniques that retain more natural vegetation and reduce impervious surfaces
- Building design techniques to reduce runoff, such as green roofs

Act 167 Watershed Stormwater Management Planning will be completed on a regional basis. The planning will address all of the watersheds within and encompassing Allegheny County, and thus will be regional in nature.

The plan will also evaluate the creation of a regional stormwater management agency charged with coordinating stormwater management, generating funds dedicated to stormwater management, implementing capital improvement projects and maintaining stormwater conveyance systems.

Because stormwater issues are often most severe in downstream communities that frequently are financially disadvantaged, efforts must be made to equitably allocate the true costs of stormwater management to those who generate stormwater runoff.

Priorities for Stormwater Management Planning

In the event that storm water planning cannot be completed for all watersheds simultaneously as a comprehensive regional plan, it may be necessary to continue developing individual stormwater management plans for designated watersheds. Should this be the case, Act 167 stormwater management plans should be completed on a prioritized basis. Table 4J.2 lists the 16 Allegheny County watersheds for which Act 167 planning has not been completed, by order of priority.

The watersheds were prioritized based on:

1. Whether or not they provide drainage for priority streams designated by the Allegheny County Emergency Services Department, and
2. The density of planned land development activities that would be located within the watershed.

For the purpose of this analysis, density of future land development activities is defined as the percentage of the watershed area situated in Allegheny County that is anticipated to be affected by future development under the Future Land Use Plan. Designated Act 167 watersheds of priority streams that would have the highest density of future development activity received the highest priority rating.

Regional Water Service

The ability of the County's water suppliers to achieve regulatory compliance, fund capital improvements along with operation and maintenance activities, and maintain system security is largely a function of the technical capabilities and financial condition of the individual authority. Water suppliers should periodically consider and evaluate regionalizing water systems – or in a lesser form sharing utility assets – as a potential



means of increasing operating efficiencies, improving the technical resources available to all water system operators, increasing financial viability and improving the quality of service.

Municipalities must share resources and work cooperatively across geographic boundaries in order to significantly trim the total bill for ratepayers who will have to bear sewer rate increases in the coming years.

Regional Sewer Service

In January 2002, the 3 Rivers Wet Weather Program issued *The Regionalization Report: An Initial Study on Options for Regionalizing the Management of Sewage Collection within the ALCOSAN Service Area*. The report recommended establishing area-wide management of sewer systems to address immediate and future needs. Furthermore, the report outlined three options for cooperative ownership and operation of sewer systems:

1. Redefine ALCOSAN as the regional sewage authority. Consolidate responsibility for the entire sewage collection system within ALCOSAN, creating an entity responsible for both aspects of sewage – collection and treatment.

2. Regionalize the responsibility for sewage collection under a new authority. Create a regional authority to assume ownership and decision-making responsibilities for the entire collection system within the ALCOSAN service area. This authority would become the body that assumes responsibility for management activities and liabilities regarding the collection system.
3. Consolidate the responsibility for sewage collection under a combination of new and existing authorities. Identify those authorities with the resources and sustainability to remain solvent and create an authority or authorities to assume responsibility for the other areas of the collection system.

The 3 Rivers Wet Weather Program has been successful in promoting collaborative approaches to addressing the wet weather issues, including negotiating consent orders and agreements, assisting in mapping and data collection, and formulating a flow monitor program as required under those orders and agreements.

The 3 Rivers Wet Weather Program will continue to facilitate the development of an effective and equitable regional approach to addressing sewage collection and treatment issues throughout Allegheny County. The Program will additionally continue to seek financial aid and push for consolidation of sewage authorities.

TABLE 4J.2 – Designated Act 167 Watersheds

| PRIORITY | DESIGNATED ACT 167 WATERSHEDS | PRIORITY | DESIGNATED ACT 167 WATERSHEDS |
|----------|-------------------------------|----------|-------------------------------|
| 1 | Robinson Run | 9 | Little Sewickley Creek |
| 2 | Lowries Run | 10 | Breakneck Creek |
| 3 | Chartiers Creek | 11 | Allegheny River |
| 4 | Plum Creek | 12 | Youghiogheny River |
| 5 | Bull Creek | 13 | Big Sewickley Creek |
| 6 | Raccoon Creek | 14 | Pucketa Creek |
| 7 | Ohio River | 15 | Breakneck Creek |
| 8 | Peters Creek | 16 | Buffalo Creek |