High quality utilities are essential for the County to continue to support existing and future development which in turn will make the County competitive for jobs and a well-qualified workforce. Currently the only major issue Kenton County has with utilities is the rising cost of sewer service due to the federal consent decree which will be discussed later in this chapter. This chapter will examine utilities and services provided by three important organizations within Kenton County. The Sanitation District No. 1, the Northern Kentucky Water District and the Northern Kentucky Solid Waste Management Area all provide essential services to the county which are vital to providing a safe, healthy and attractive environment which contributes to the overall economic competitiveness of the area.

Sanitary Sewer and Stormwater Systems
Sanitation District No. 1 (SD1) manages sanitary and stormwater systems for the majority of Kenton County as shown in Figure 8.2. SD1 services approximately 220 square miles, covering over 30 municipalities and unincorporated portions of Boone, Campbell and Kenton counties. The agency has approximately 100,000 customers and maintains 142 wastewater pumping stations, 15 flood pump stations, 8 package treatment plants, and three major wastewater treatment plants. There are more than 400 miles of storm sewer and over 1,600 miles of sanitary sewer lines within SD1’s jurisdiction. Wastewater is conveyed to three treatment plants in Northern Kentucky. The largest facility is Dry Creek, located in Villa Hills, which cleans an average of 33 million gallons of wastewater per day from more than 94,000 customers.

Federal Consent Decree
One of the most significant challenges facing SD1 and Kenton County is reduction of stormwater overflow events. Overflows occur during wet weather when stormwater enters the system and exceeds the engineered capacity for rainwater. Excess rainfall overloads the system and combines with wastewater to form a mixture which can contain harmful bacteria. During particularly heavy rain events, stormwater is discharged into natural waterways at outfalls, entering into the regions natural environment through creeks and rivers, and is harmful to humans and the ecosystem. SD1 has 97 outfalls within its coverage area. SD1 is under a Federal Court Order (Consent Decree), a contract negotiated between SD1, the US Environmental Protection Agency and the Kentucky Energy and Environment Cabinet, to
address combined sewer overflows (CSO’s) and sanitary sewer overflows (SSO’s). The Consent Decree agreement was signed on April 18, 2007. The deadline for full implementation is December 31, 2025.

These projects will improve reliability of the sewer system, eliminate a number of overflow locations and improve water quality. After this initial investment, the CSO volume in a typical year should be reduced by 26 percent and the SSO volume reduced by 45 percent. The overall goals of SD1 Consent Decree program are:

- Eliminate 240 million gallons of sanitary sewer overflow volume in an average year.
- Capture and treat up to 90 percent of the combined sewer overflow volume in an average year.
- Improve water quality by reducing average bacterial levels in waterways that receive sewer overflow discharges.
- Address storm water flooding and runoff on a neighborhood level.

SD1’s plan to reduce CSO’s and SSO’s, in accordance with the Consent Decree, was the first in the nation to use a watershed management approach to improve the overflow problem. Using the watershed approach, the plan recognizes other pollutant sources and their relative impacts. It will provide a process to address and control highest regional priorities first to offset controls on CSO’s. Using an integrated approach of controls that will address both wet and dry weather sources of pollution will lead to a greater improvement in water quality and public health. This approach will provide additional benefits to the community such as air quality, improved wildlife habitat, urban beautification and potentially economic development opportunities.

Water Infrastructure

The Northern Kentucky Water District (NKWD) is the largest publicly owned water district in the state of Kentucky and provides service to a majority of Kenton County as shown in Figure 8.3. The NKWD provides water for approximately 300,000 people in Northern Kentucky; including Kenton, Campbell counties and portions of Boone, Grant and Pendleton counties. The system covers over 300 square miles, with 1,250 miles of main lines and a total capacity of 64 million gallons of water per day. Providing adequate water pressure to the whole county.

There are three water treatment plants; Taylor Mill, Fort Thomas and Memorial Parkway. The Taylor Mill treatment plant draws water from the Licking River while the Fort Thomas and Memorial Parkway treatment plants draw from the Ohio River. Kenton County receives its water from the Taylor Mill and Fort Thomas plants. NKWD utilizes 16 distribution pump stations and 20 water storage tanks currently provide Kenton County with 19.04 million gallons of water a day.

NKWD experienced over 400 water line breaks per year from 2006 to 2012 with an average of 48 breaks per 100 miles per year. The national average is 33 breaks per 100 miles per year. The NKWD has added 82.16 miles of new water mains since 2005 and replaced 34.32 miles of pipe. They have spent nearly $35 million on water main rehabilitation and replacement in the last 10 years.

Water Quality

The drinking water supplied by the NKWD meets all of the Environmental Protection Agency’s (EPA) health standards. Exceeding government regulations for monitoring, the NKWD tests and monitors over
180 water samples from different locations every month. The water supply area is in an urban environment which gives the NKWD several areas of concern regarding water quality of which impervious surfaces are a primary concern.

Impervious surfaces do not allow water to flow through them. Impervious surfaces channels water, and all the pollutants contained within, into streams and rivers where it enters the natural water system unfiltered. Impervious surfaces include rooftops, roadways and parking lots which prevent rainwater from entering the ground. Pollutants such as motor oil, grease, anti-freeze, fertilizer, household cleaners, and pesticides are picked up by rainwater running over impervious surfaces and deposited into streams, and rivers. The northern half of Kenton County has a significant amount of impervious surfaces that contributes to water pollution.

Extending Service

It is the intention of the NKWD for all residents of Kenton County to have access to the water system. Currently 99 percent of Kenton County households are served by NKWD. The remaining one percent, approximately 795 households, requires 75 miles of lines to add these properties to the water system. This extension of the water system will cost an estimated $27 million. To add households to the water system the NKWD applies for grants to help defray the costs of laying new water lines. These grants usually require the participants to have low income limiting their use in expanding services. All new lines are a minimum of eight inches in diameter to insure enough water pressure for fire hydrants.

Future Water Usage

The NKWD expects a continuous increase in the amount of water used in the area. Figure 8.4 illustrates the estimates for water used by residential, business, industry and government to the year 2030. Increases are expected for two reasons; more people moving into the County and individuals using more water per day. Current growth projections as shown in Figure 8.5 indicate more treatment capacity will be needed sometime between 2025 and 2030. NKWD plans to begin the expansion process no earlier than 2025. This date may change due to actual growth rates.

Solid Waste Systems

The three Northern Kentucky Counties of Boone, Campbell and Kenton form the Northern Kentucky Solid Waste Management Area (NKSWMA). The NKSWMA was created with the goal of improving communication between the counties; as well as better coordination of regional solid waste programs such as education, cleanup and recycling events, and reports. Kenton County and it constituent cities use private contracts for the collection and disposal of solid waste.

The NKSWMA is required, by law, to update its Solid Waste Plan every five years. In the most recent Plan, a variety of solid waste information is compiled. Focus areas include recycling, disposal participation, litter, correcting illegal dumps and education. Universal collection in Boone and Campbell, and mandatory in Kenton will continue with most incorporated cities contracting waste collection services.
Direction 2030: Research Report

Chapter 8: Utilities

for their residents, and all other residents contracting with the waste hauler of their choice. Per the 2011 Report, the NKSWMA has a participation rate of 97.3%.

Collection System Strengths

- Increased industry competition and collection rates below the national average are the two major strengths.
- The counties don’t have added expense in tracking and billing for waste collection.
- Residents have a choice based on the price and customer service they receive.
- Cities can contract collection services and know exactly the amount it will cost to provide collection and disposal to bill their residents.

Collection System Weaknesses

- The NKSWM has less control over the type and availability of systems because all systems are privately owned.
- The number of waste haulers providing services impacts our road system due to more than one company servicing a particular road and/or subdivision.
- Residents in these areas often get confused with the different waste haulers and programs offered (many residents don’t even know who their garbage hauler is).
- Residents sometimes complain about early morning collection and empty cans being thrown about.
- In spite of high participation rates there are still a good number of residents that do not have curbside garbage service and use other means of disposing of their garbage (theft of services, burning, dumping, etc).
- The NSKWMA is not notified when city contracts come due and are re-bid or renewed (Boone & Campbell: county meets with cities quarterly).
- It is challenging to determine participation rates in apartment complexes (due to vacancy turnover).

Summary

The three utilities discussed in this chapter provide more than adequate service to the county. With SD1 working to comply with the Consent Decree, the County’s sewer system is undergoing an upgrade that will improve SD1’s ability to process sewage and keep the local water ways cleaner. Ninety nine percent of County residents receive water through the NKWD and they are pursuing grants to add the final one percent to the system, when possible. There are no areas that have a water shortage issue. Kenton County has a good water system and is in a constant state of improvement. Everyone in the County has access to solid waste service. And, the NKSWMA reevaluates itself every five years to improve its services.

Endnotes

1. A small portion of southwestern Kenton County uses septic systems to treat wastewater
2. CSOs: combined sewer overflows - stormwater and sanitary sewer water are combined into one pipe
   SSOs: sanitary sewer overflows - pipes that carry only sewer water
3. Source: Sanitation District No. 1
4. For more complete understanding of impervious surfaces and how they affect the county, see Chapter 3 - Environment
5. The 2013-2017 NKSWMA Plan Update can be found online at http://www.boonecounty.org/NKSWMA/NKSWMA-Plan13-17.pdf