

Location

- Henry County, Ohio

Services Provided

- Environmental Engineering

Project Funding

- \$80,000 Local Government Services Collaboration Grant

Schedule

- Professional Services 2008

Project Team

- Richard Heyman, Project Manager

HENRY COUNTY WATER AND SEWER MASTER PLAN

The Henry County Commissioners petitioned the court in 2002 to form a Regional Water and Sewer District. The initiation of the District was based on: 1) directives issued from Ohio EPA as it pertained to unsanitary conditions, 2) limited drinking water source and poor water quality, and 3) water and sanitary needs for current and future residential, commercial, and industrial development.

The Henry County Regional Water and Sewer District provides water and sewer services throughout areas within the County that are unincorporated or members of the District. The goal is to serve areas that currently have an immediate need and from these areas phased water and sewer service could be provided at a later time.

PDG was contacted to assist the Board of County Commissioners the Regional Water and Sewer District to develop a water and sewer mater plan for a sustainable partnership of multiple municipal, township, and county governments that could provide mutually beneficial, cost effective water and sanitary sewer services in a logical, affordable, and equitable manner.

The Master Plan was a collaboration between the Board of County Commissioners, Regional Water and Sewer District, Northwest State Community College with five (5) villages, thirteen (13) townships, and one (1) city. Each of the municipalities and townships were contacted and invited to submit information related to drinking water and sanitary sewer needs within their jurisdiction as public officials. The submitted information and comments received from the municipalities and townships was summarized and incorporated into the Master Plan.

Reference

- Nick Rettig
Henry County Regional Water & Sewer District

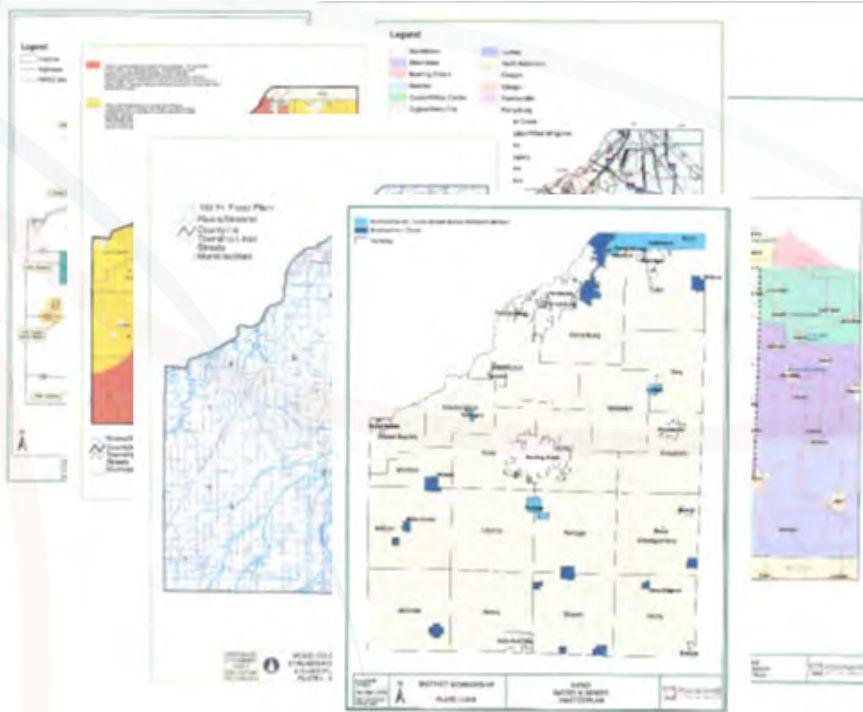


Henry County Water and Sewer Master Plan



- Northwest State students and staff were involved data collection from each municipality. They contacted municipal officials, setting up meetings and requesting relevant data including water and sewer contracts, water and sewer atlases or maps, rate information and planning documents.
- The Master Plan will be used as a guide for future development by creating service areas along with recommended infrastructure sizing for anticipated demands in the unserved planning areas. It is expected that future growth and development of the District's system will be prioritized based on the need of developers, requests by property owners or communities, health issues, and the availability of water and wastewater treatment. The Master Plan provided detailed estimates of cost for the provisions of services to be provided as well as a financial analysis comparison of the various alternatives.
- The Master Plan was funded by a Local Government Services Collaboration Grant Program provided by the Ohio Department of Development. PDG on behalf of the County submitted a grant request for \$80,000 which was approved in December of 2008.





Location

- Wood County, Ohio

Services Provided

- Environmental Planning and Engineering

Size

- 17,746 accounts
- 12 municipalities and all 19 Wood County townships
- Jackson Township in Seneca County, and Scott Township in Sandusky County.

Schedule

- Professional Services: 1994 to present

Project Team

- Richard B. Heyman, Project Manager
- Denise M. Plummer, P.E., Engineer
- Paula J. Henrion, Environmental Technician

MASTER PLAN - NORTHWESTERN WATER & SEWER DISTRICT

PDG assisted the Northwestern Water & Sewer District (NWWSD) with updates of the Water and Wastewater District Master Plan since the establishment of the District in 1994. The last update was prepared in 2013-2014. Recent updates have incorporated the District and County GIS Systems to determine existing land use and zoning plans in District's current and potential services areas.

Continued residential, commercial, and industrial growth within the County requires long-term planning for future water and sewer demands. The master plan provided direction for potential improvements in the water and wastewater areas to better serve present and future customers. All nineteen townships within Wood County are members of the District. Jackson Township in Seneca County and Scott Township in Sandusky County are also members.

The Master Plan will provide the District and local government officials with a strategy to furnish water and sanitary sewer service to portions of the County that are not currently served as

■ more...



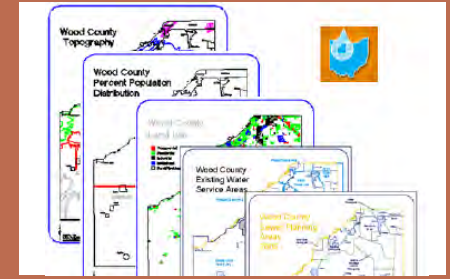
Project Relevance

- Existing Land Use/Zoning Mapping
- GIS Mapping
- Growth Projections
- Demographics

Reference

Mr. Jerry Greiner
Executive Director
Northwestern Water & Sewer District
419.354.9090
jgreiner@nwwsd.org

WATER MASTER PLANS



REGIONAL WATER STUDY

TOLEDO METROPOLITAN AREA COUNCIL OF GOVERNMENTS

Project Contact Name and Phone Number:

Mr. Kurt Erichsen
 Toledo Metropolitan Area Council of Governments
 300 Martin Luther King Jr. Drive, Suite 300
 Toledo, Ohio 43604
 419.241.9155
 kurt@tmacog.org

Community Size - 280,000

PDG Team

- Jack Jones, P.E.
- Tom Borck, P.E.

Completion 2016

PDG has teamed with Environmental Rate Consultants, Inc. (Lead Firm) to conduct a regional water study to determine level of services, cost of services and financial feasibility for Toledo City contract water communities. Customers include the City of Toledo and customers in Fulton County, Lucas County and Wood County in Ohio, Monroe County, Michigan, and communities of Maumee, Northwood, Perrysburg, Rossford, Sylvania, Waterville, and Whitehouse, all in Ohio.

A potential 40-60 MGD Water Treatment Plant is one of the alternatives being considered.

The study will:

- Develop an overall business plan
- Review all previous studies and use this information as the basis for engineering assumptions and the basis for the rate and revenue forecasts and projections
- Define and refine the levels of services and costs of service
- Evaluate existing and future requirements for operation and maintenance costs, water quality costs, water quantity costs, capital costs, debt service, operating expenses, administration and billing and collections costs, etc.
- Meet with key stakeholder groups and achieve consensus with the results and then make adjustments based on input received, and
- Prepare Final Report and Presentation

The study is currently underway.

WATER SOURCE EVALUATION AND STUDY

WOOD COUNTY ECONOMIC DEVELOPMENT COMMISSION

Project Contact Name and Phone Number:

Mr. Wade Gottshalk
 Executive Director
 Wood County Economic Development Commission
 639 South Dunbridge Road, Suite 2
 Bowling Green, Ohio 43402
 419.352.7469
 wade@woodcounty.com

Community Size - 125,488

PDG Team

- Jack Jones, P.E.

- Tom Borck, P.E.
- Denise Plummer, P.E.
- Paula Henrion

Anticipated Completion 2015

PDG Fee \$67,500

PDG has been engaged by the Wood County Economic Development Commission to assist with the development of a Water Source Evaluation and Study. The study scope includes:

- Meetings with county officials to review and discuss goals and objectives for the study
- Develop average and peak daily flows for the proposed service areas based on expected and planned areas of economic development
- Develop water source alternatives based on OEPA design and operational criteria
- Develop estimates of probable cost for each alternative
- Develop preliminary routing of transmission, storage and pumping modifications to distribute water from the source to the end users
- Complete a rate analysis based on current debt and operating expenses and projected debt retirement and treatment operational costs
- Prepare written report and present to county officials

A 30 MGD Water Treatment Plant is being proposed.



APEX INDUSTRIAL PARK

INFRASTRUCTURE MASTER PLAN AND SITE DEVELOPMENT

Project Contact Name and Phone Number:

Mr. Dave Brown

Land Development Associates, LLC

9910 West Cheyenne Avenue, Suite 110

Las Vegas, NV 89129

(702) 917-0377

Community Size – 16,000 acre development

PDG Team: Jack Jones, P.E

Completed 2002, Updated 2014

PDG Fee \$7,500 (Project \$130 million; anticipate starting design 2015)

PDG created an infrastructure master plan for Apex Industrial Park's 16,000-acre development. The project involved an assessment of existing infrastructure and a course of action for future needs. The master plan provides a written document to maximize the use of the Apex property by providing a strategy for infrastructure development and expansion. The plan addresses the State of Nevada's annexation process, which requires phased annexation and prohibits the annexation of noncontiguous parcels. Upon annexation, water and sewer service will be available through the City of North Las Vegas, which will then receive a returned wastewater flow credit. By bringing municipal service out to the industrial development, Apex can provide an ideal location for major regional distribution centers,

many of which were unwilling to locate without dependable infrastructure.

PDG was also awarded the design contract for a 5,000-acre phased development area within the industrial park, which includes the Kapex, Vegas Vista, Commercial Center North and Central developments. PDG designed the roadways, drainage, potable water, water storage, wastewater and electrical services based on the Apex Master Plan. Innovative design methods were essential to address the site conditions of the Apex Industrial Park, which is located in a mountainous area north of Las Vegas Valley. Variations of more than 800 feet in elevation result in multiple pressure zones throughout the site and complicate the extension of municipal water service throughout the area.

NORTHWESTERN WATER & SEWER DISTRICT

(Formerly Wood County Regional Water & Sewer District)

Established January 1, 1994

Project Contact Name and Phone Number:

Jerry Greiner, Executive Director

12560 Middleton Pike, P.O. Box 348

Bowling Green, Ohio 43402

419.354.9090

jgreiner@nwwsd.org

District Description/Size/Number of Customers

- The district was initially formed to include the water and wastewater services provided through the Board of County

Commissioners by the authority of 6117 ORC, 3 villages and 3 townships. Today the district has 17,746 accounts and includes 12 municipalities and all 19 Wood County townships, Jackson Township in Seneca County, and Scott Township in Sandusky County.

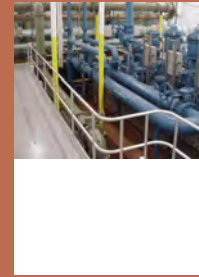
Staff: Jack Jones, P.E.

Completion: On Going

PDG Fee: Related total studies - \$165,000

The Board of County Commissioners of Wood County, Ohio, engaged the services of Peck, Shaffer & Williams (PSW), Poggemeyer Design Group, Inc. (PDG), and KPMG Peat Marwick to establish a regional water and sewer district by the authority of 6119 of the Ohio Revised Code. The firms worked with the County Administrator (Linda M. Amos) and the Manager of the Sanitary Engineering Department (Jerry Greiner) to prepare a petition to the Courts of Common Pleas, a Plan of Operation for the District. PDG prepared a master plan for the proposed district which became the basis of information for preparation of the petition and plan of operation.

Poggemeyer Design Group, Inc. prepared a master plan to address the water service, transmission and distribution alternatives to supply the demand areas of Wood County. Alternative sources reviewed included Toledo, Oregon, Perrysburg, Bowling Green, Fostoria, North Baltimore and Findlay, and combinations of the above. The study included investigations into ground water alternatives and improvements to existing systems. The wastewater portion of the study included regionalization of localized



wastewater treatment, together with construction of a regional county- owned treatment facility. This study, together with rate work, served to support creation of a Regional Water and Sewer District and prevent disintegration of the system by entities withdrawal.

PDG continues to provide planning, water & sewer rate consulting and engineering to the District.

HENRY COUNTY REGIONAL WATER & SEWER DISTRICT

Project Contact Name and Phone Number:

Nick Rettig, Director
Henry County Regional Water & Sewer District Facilitator
Henry County Planning Commission
419.599.7370

District Description/Size/Number of Customers

The District serves about 400 customers.

Staff/Firm Roles

Thomas Borck, P.E. Project Manager

Completion On-going

Fee: \$80,000

Poggemeyer Design Group, Inc. (PDG) worked with the Board of County Commissioners of Henry County to conduct a feasibility study in collaboration with five (5) Villages and thirteen (13) Townships, including the Villages of Hamler, Liberty Center, Malinta, Holgate, and Deshler

and Ridgeville, Washington, Marion, Pleasant, Napoleon, Liberty, Damascus, Flatrock, Freedom, Harrison, Richfield, Bartlow, and Monroe Townships to identify realistic options for regionalization or decentralization of water and sanitary sewer service throughout Henry County and adjacent counties. Many of the municipal entities either owned and operated water and sewer systems for their community or were in the planning stages for these systems.

The study provided direction for systematic and growth related improvements to water and sewer needs throughout the County with an emphasis on regional solutions to the problems. The study was based on future projections and demands within, and adjacent to, the County. A design strategy was developed that addressed all components of future growth of water and sanitary sewer systems throughout the County. The Study identified and recommended improvements necessary to meet existing and projected water and wastewater needs.

PDG also developed an application for funding from the State of Ohio Collaboration Grant Program. The Board of County Commissioners received \$80,000 for the cost of the study.

BOWLING GREEN WATER & SEWER MASTER PLAN UPDATE

Project Contact Name and Phone Number:

Mr. Brian O'Connell
Utilities Director; City of Bowling Green
304 North Church Street
Bowling Green, OH 43402

419.354.6246
bgutildir@bgohio.org

PDG Staff

- Jack Jones, P.E., Environmental Engineer

Completed 1994

Fee Total related studies \$185,000

The I-75 corridor goes through the City of Bowling Green in Wood County, Ohio. PDG assisted the City with an update of their Water and Sewer Master Plan, including updating the text of the Utilities Section of the current Master Plan and adding a report on telecommunications. Each element examined the existing utility infrastructure including a service area several miles beyond the present City boundaries.

PDG made recommendations for the timing and sequence of utility extensions with cost estimates for each of the proposed utility improvements. The recommendations were sensitive to the future as well as the present requirements and needs of the City. The study provided a guide for upgrading utility services for the City's, existing and the proposed service areas. The update of the utility master plan will also provide local decision-makers with long-range technical guidance needed to make future development decisions.

Water Report Summary Water

Improvements recommended compatible with WT facility expanded to 11 MGD and supported by 36" transmission



main along King Rd. and SR 25. Enhancements to the system assume construction of a 24" water main from the plant clearwell to the trunk mains. Expansion of the distribution system was based on current and estimated population statistics and the City's current Land Use Plan. Per-acre population was determined for each type of land use based on current and future projections. Waterline extensions, trunk mains, pump stations, water storage tanks and capacity, system pressures, and system capacity needs were recommended based on projected demands.

ADAMS COUNTY REGIONAL WATER DISTRICT TRANSITION PLAN

Project Contact Name and Phone Number:

Judy Rogers, Assistant Manager
Adams County Regional Water District
9203 St. Rt. 136
West Union, Ohio 45693
937-544-2396
judyrogers@acrwd.com

Staff: Linda M. Amos

District Description/Size/Number of Customers

- The District serves customers in Brown and Adams Counties. They also sell water to the villages of Peebles, Seaman, West Union, and Winchester at a wholesale rate. At the time the District was established, they were serving 4648 customers. As of the end of August, 2012, the District was serving 6084 active customers.

Completed: 1997

PDG Fee: Total related studies \$75,000

While providing engineering services to the Adams County Water Company, it was determined that the Water Company and Township Trustees had filed a petition to establish a Regional Water District by the authority of 6119 ORC, which had been approved by the Court in 1994 PDG was engaged by the Water Company/District to assist with transfer of assets, personnel, contractual obligations, financial and billing records, and other relevant items from the Water Company to the Regional Water District. Several issues resulted in the initiation of this plan including the identification of overlapping territory with an adjoining District and objections from several municipalities regarding a proposed change in the Company/District by-laws.

PDG assisted with preparation and implementation of an Action Plan for transfer of the Water Company assets, personnel, contracts, records, etc. to the Regional Water District. PDG prepared legislation for the Board of Trustees and assisted with public notices of public meetings and attended public meetings of the Board during implementation. PDG also prepared a master plan for the Regional Water District to improve existing service and determine future improvements, including expansion of the service area

OTTAWA COUNTY REGIONAL WATER SYSTEM (6117 ORC)

Project Contact Name and Phone Number:

Mr. Kelly Frey
Ottawa County Sanitary Engineer
315 Madison Street
Port Clinton, Ohio 43452
419.734.6725

District Description/Size/Number of Customers

Eastern portion of Ottawa County including Oak Harbor and Port Clinton, and the townships of Catawba Island, Erie, Danbury, Portage, Salem and Bay. The County currently serves over 7000 customers through the intergovernmental agreements.

Staff

- Jack A. Jones, P.E., Principal in-Charge

Completed: 2005

PDG Fee: Total related studies \$85,000

PDG assisted the County with the development of a Master Plan initiated to bring entities together who had common interests in Regional Water. These included Ottawa County, (Catawba, Danbury, Portage, Erie, Salem, and Bay Townships) the City of Port Clinton, the Village of Oak Harbor, and Carroll Township Water and Sewer District. The area to be served included 65% of the customers of the County. Alternatives included seven (7) plant sites for an initial 6 MG regional plant capable of expanding to



18 MGD. Evaluations included use of an existing intake, evaluation and video at the intake and water quality analysis. The study was expanded to include supplemental reports, intergovernmental agreements, and assessment policy.

Subsequent to completion of the master plan, PDG was the prime consultant for the design and construction of the highly complex regional water transmission and distribution system in the eastern portion of the Ottawa County including Oak Harbor and Port Clinton, and the townships of Catawba Island, Erie, Danbury, Portage, Salem and Bay. The regional system replaced 130 privately-operated water systems and two public water systems. Construction coordination included eight government regulatory agencies, 12,000 assessments, 9,300 parcels of land, meter pit installation for each parcel, acquisition of over 400 easements, and multiple grants and loans from seven funding agencies.

The collaborating public partners entered into a cooperative agreement with Ottawa County Commissioners, who manage and operate the regional system. PDG assisted with the development of user rates for rate increment financing concepts. The 6 MGD (with capability to expand to 12-18 MGD) Regional Water plant replaced the existing 3 MGD water treatment plant in the City of Port Clinton. The regional plant has since been expanded to 9 MGD. The project also included 140 miles of new water lines, including 36"-12" trunk mains and 8"-3" lateral distribution lines and elevated storage water tanks.

The project was nationally recognized by the American Consulting Engineers Council and received an "Outstanding Achievement" award from the Consulting Engineers Council of Ohio.



Northwestern Water & Sewer District Master Plan



well as goal providing guidance for dependable water and sewer service for both existing customers and future development.

The plan is used as a guide for future development by creating service areas with recommended infrastructure sizing for anticipated demands in the unserved planning areas. It is expected that future growth and development of the District's system will be prioritized based on the need of developers, requests by property owners or communities, health issues, and the availability of water and wastewater treatment.

The District was established on January 1, 1994, as the Wood County Regional Water & Sewer District.

PDG prepared the initial master plan to address the water service, transmission and distribution alternatives to supply the demand areas of Wood County. This study, together with rate work, served to support creation of a Regional Water and Sewer District and prevent disintegration of the system by entities withdrawal.

