

## Chapter 9

# Utilities

### Del-Co Water

The Del-Co Water Company, a cooperatively owned private water company with a total combined capacity of 34 million gallons per day, serves Orange Township with potable water. Del-Co began providing water to rural and suburban residential users in the southern part of Delaware County in 1973. As the county grew, Del-Co expanded its service area to the north and east and increased its levels of service to provide larger diameter water lines for fire protection.



*Del-Co Water Headquarters and Up-Ground Reservoirs on State Route 315, Liberty Township. The newest addition is the 1-billion-gallon reservoir at the bottom of the photo. Source: BBC&ME Engineering*

### Water Supply

Del-Co draws surface water from the Olentangy River and from the Alum Creek reservoir. The water is pumped to up-ground reservoirs on South Old State Road and State Route 315 prior to treatment. The Alum Creek Reservoir covers about 3,400 surface acres. Del-Co also has a groundwater supply from four wells rated at 1,300 gallons per minute each. An average of 38 inches of rainfall and snowmelt annually refills the watershed.

The original plant on S.R. 315 was constructed in 1973 and is home to the Del-Co administrative offices. With a capacity of 19.2 million gallons per day, it serves the southwestern and south central parts of Delaware County. The raw water source for this plant is the Olentangy River. Named after one of the founders and first board president, the Ralph E. Scott Treatment Plant has a capacity of 6 million gallons per day and is located below the dam embankment to the Alum Creek Reservoir, which serves as the water source for the plant. This plant serves the south central and eastern side of Delaware County.

Also named after a founder, the Timothy F. McNamara Plant was constructed to meet the high summer peak demands in southern Delaware County. Its all-steel above-ground construction limits its use to summer months. The raw water source for this plant is Alum Creek just below the Alum Creek Reservoir. It has a capacity of 4 million gallons per day and is accessed from S. Old State Road. The Thomas Steward Plant is located in Knox County and served the northeastern portions of Delaware County with a capacity of 4 million gallons.

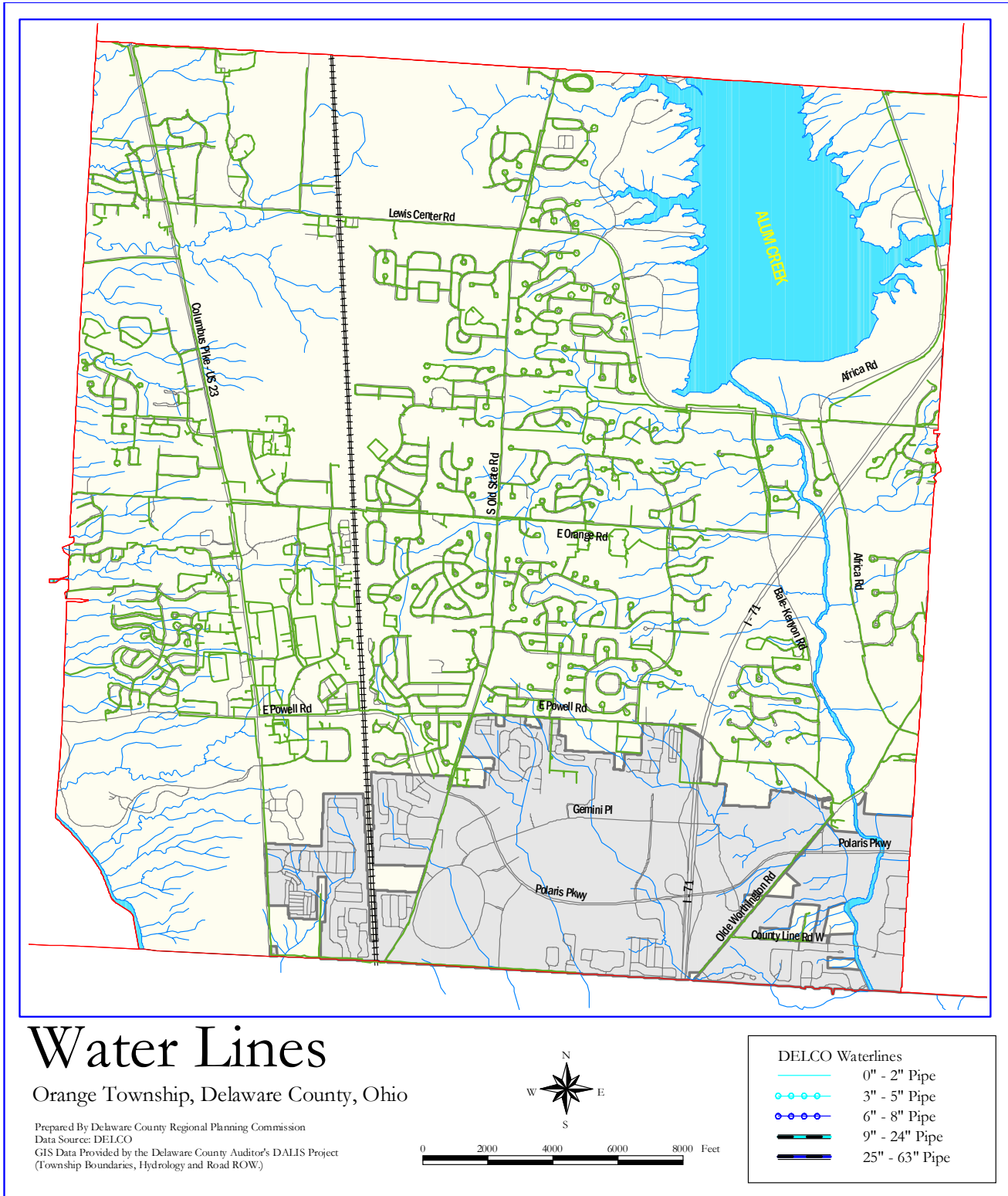
A new billion-gallon up-ground reservoir has been constructed along Liberty Road to bring total storage capacity to 1,660,000,000 gallons. The rapid growth of Delaware County strains water treatment capabilities during summer months. Del-Co regularly issues sprinkling regulations during dry summer periods. Certain addresses may water only every other day and there is typically not watering on Mondays.

With these new facilities, a total of 38 million gallons per day is the long-term pumping and treatment capacity of Del-Co. While they have planned for future growth, they do not have unlimited supply options, since they compete with, or share their source supply with the cities of Westerville, Columbus, and Delaware. Unlike Cleveland, which simply pumps more off-shore Lake Erie water to its treatment plants upon increased demand, long term solutions to water needs in Delaware County will require careful land use planning so that water needs do not outstrip ability to serve.

### **Water Lines**

The Del-Co Water Lines map for Orange Township shows the location and diameters of water lines in the township. In general, those streets that have water line of less than 6 inches in diameter will not offer fire hydrants. Fire hydrants are normally a requirement of development densities greater than one unit per acre.

Figure 9.1 Waterlines



## Sanitary Sewer Service Area

All of Orange Township is located within the current Region 1-A sanitary service area. This means that sanitary sewer service is available; however sanitary sewers may not be readily accessible at all locations. The Region 1-A service area can be further divided into the service areas shown on the following map. Currently, Orange Township has sanitary sewer service in the six sewer service areas C, D, F, G, H, and M shown on the sewer service area map. There is limited service to the Highbanks Metro Park.

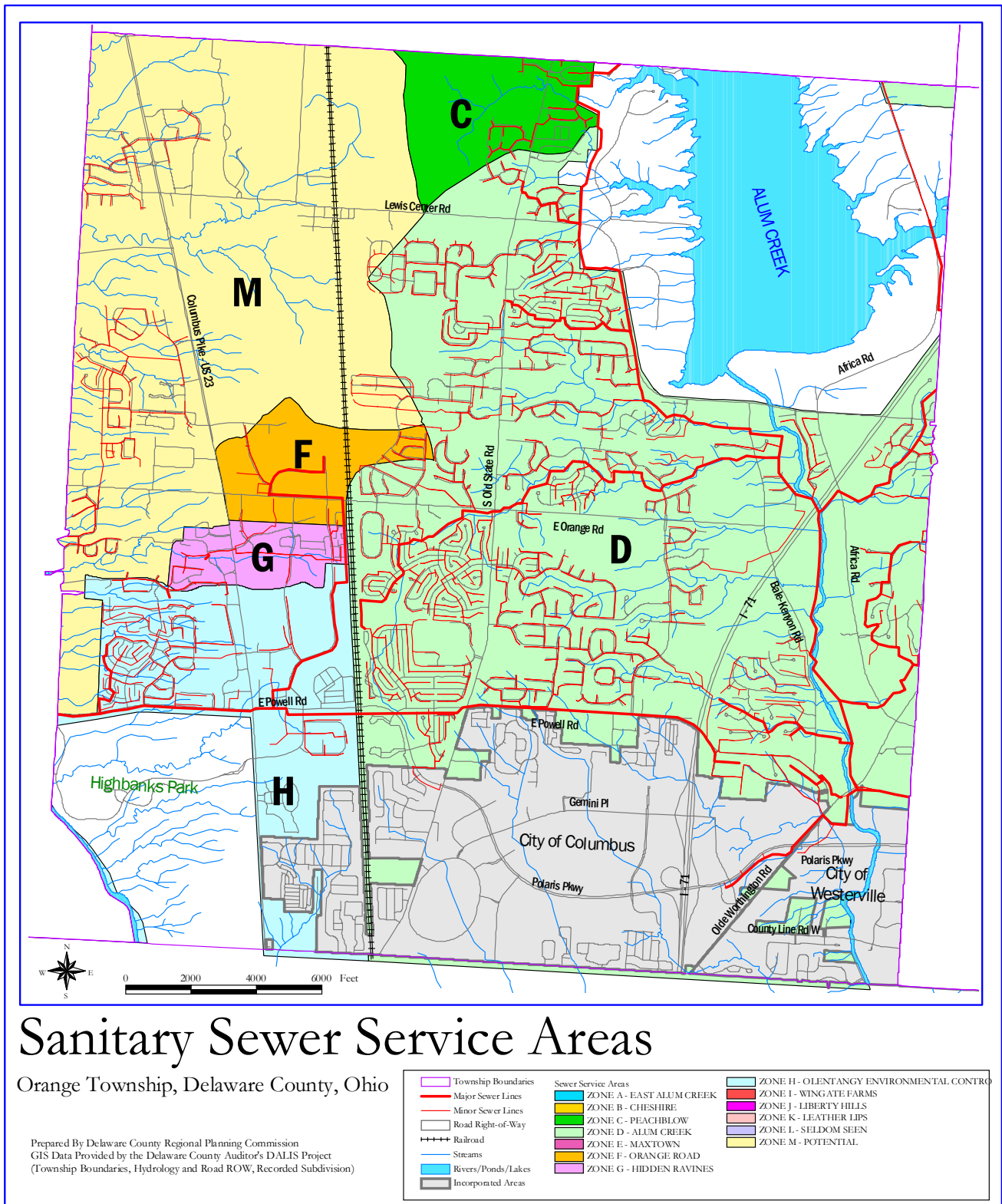


The Delaware County Regional Sewer District, a division of the County Commissioners, provides sanitary sewer service in non-incorporated areas of the county, as well as some municipalities by agreement. The Olentangy Environmental Control Center (OECC), located on the west bank of the Olentangy River at the Franklin County line, has a design capacity of 6 million gallons per day (mgd). A second plant, the Alum Creek Wastewater Reclamation Facility (ACWRF) located along Walker Woods Blvd., opened in 2001 for the east central portion of the southern half of the county. Its design capacity is 10 mgd. A third plant, Lower Scioto Wastewater Reclamation Facility, will soon be complete in Concord Township. The first phase has a design capacity of 1.4 mgd, with an ultimate design capacity of 2.8 mgd. Other smaller plants managed by the county are located at Tartan Fields, Scioto Reserve, Scioto Hills, Hoover Woods, Bent Tree and Northstar.

Both the OECC and ACWRF plants serve Orange Township. The highest point of the township is the dividing line between the east and west watershed or drainage areas. The dividing line generally follows the Conrail railroad tracks. Areas west of the Conrail tracks drain to the OECC, while areas east generally drain to the ACWRF.

The OECC is currently running at approximately 55% of design capacity. The ACWRF is running at approximately 43% of the design capacity.

Figure 9.2 Sanitary Sewer Service Area, Orange Township



When sewage must flow through a pump station, the capacity of the pump station can generally be upgraded to serve additional areas or additional density up to the capacity of the gravity sewer that empties the pump station.

<b>Pump Stations Serving Orange Township</b>
1. Alum Creek Pump Station
2. Orange Road Pump Station
3. Peachblow Pump Station

Commercial users are assigned equivalent housing capacities. For example, the Meijer located on U.S. 23 is equivalent to 48.28 houses, which means its flow is calculated at 14,001 gallons per day, while the Delaware County Bank and Trust headquarters is rated at 7.48 houses or 2,169 gallons per day.

**Density by plant capacity** - Using the capacity of the ACWRF and subtracting the maximum contractual flows to Columbus and Westerville, the result is the residual capacity of the plant. Using the county’s GIS software, the proposed densities in the undeveloped area of each treatment plant can be calculated to determine if the build-out population of the service area can be served by the plant. Currently, the design capacity assumes new development to occur at a maximum of 2 units per acre, based on complete build-out. The Sanitary Engineer’s office regularly reviews land use plan changes to ensure that infrastructure is being appropriately planned for the ultimate capacity needed. Each of the sewer service areas has an ultimate capacity based upon gravity flow in the pipe that takes the sewage to the treatment plant, and the capacity of the treatment plant itself. If the Zoning Commission and BZA choose to propose changes to the densities and non-residential land uses in the plan, the sanitary office will be consulted to ensure such changes can be served.

**Land Use Assumptions for Sewer Capacity and Land Use Density**

For the purposes of allocating land use density based upon sewer capacity alone, the following assumptions were made:

- Pump stations’ capacities can be upgraded.
- The pipe that discharges the pump station is expensive to be increased and is not expected to be upgraded.
- The ultimate capacity limitation is the treatment plant (design) capacity, which currently is 10 mgd at the Alum Creek plant and 6 mgd at the Olentangy plant.
- Zoning must regulate the approximate densities of land.

**Policy Implications for Land Use- County Sewer**

The County Commissioners sewer user policy is “first come, first served”. The county Sanitary Engineer cannot, and does not, police the densities of land uses using the sewer. It is up to the township to determine the density of population by

zoning. If the township wishes to exceed the average density for a parcel of land, they either must reduce another parcel's land use for sewer, or there will be "holes" in the sewer service area without sewer capacity.

There will come a time when there are more subdivisions approved on paper than there is treatment plant capacity. Since not all subdivisions get built, new subdivisions will continue to be accepted for approval until the full 16 mgd of treatment plant capacity has been purchased in tap fees. Those who obtain subdivision approval, but do not record their plats and pay their fees may be closed out of access to county sewer by others who are more aggressive in paying for their taps as they receive subdivision approval.

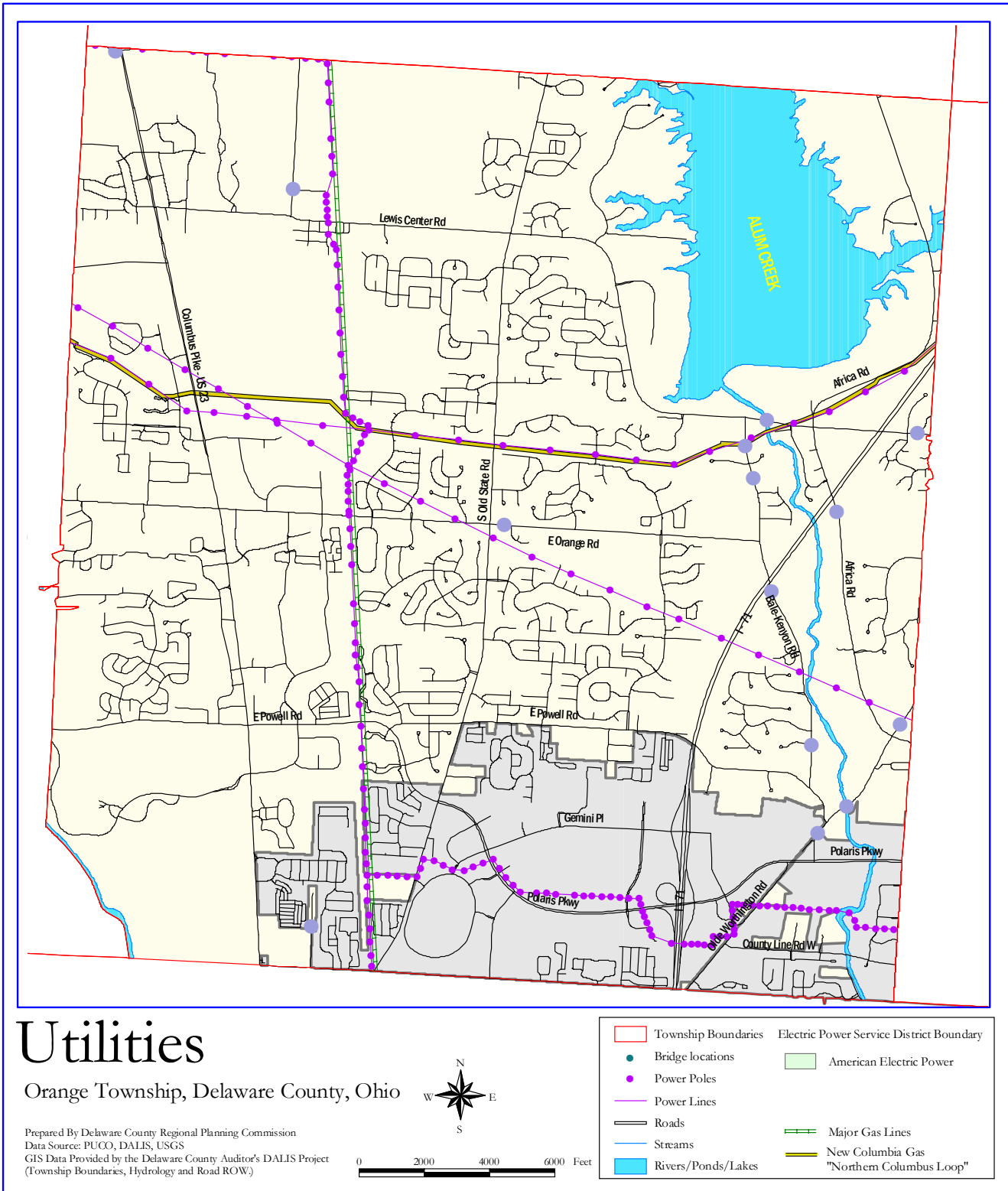
### **Electric**

Electric service is provided to Orange Township by American Electric Power. The Electrical Service Provider Jurisdiction Map shows the service area. Major electric transmission lines also cross Orange Township. No structures are permitted within the rights of way and recorded easements for these transmission lines. The locations of these lines are shown on the recommended Land Use Plan.

There is presumed to be no limitation to growth of the township because of shortage of electric power. Since 2001, AEP constructed a \$38 million substation in Orange Township to supply the area with all the power it needs. This substation is located adjacent to the Orange Point Commerce Park.



Figure 9.3 Electric, Gas & Bridges, Orange Township





**Natural Gas**

Orange Township is served by Suburban Natural Gas of Lewis Center, and Columbia Gas. There is no shortage of natural gas that would restrict the development of the township. An upgraded Columbia Gas trunk line was installed to bring additional service to the southern part of the county. The line begins in Harlem Township and traverses the southern townships, roughly following the high-tension lines through Orange Township before terminating in Liberty Township,

**Telecommunications/cellular**

Under current state and federal laws, telecommunications towers are permitted in all non-residentially zoned districts. Under Ohio law, townships can regulate telecommunications in residential districts if objections are filed by abutting property owners or Township Trustees.

**Storm water management**

Storm water management is reviewed by the Delaware County Engineer’s Office for new subdivisions, and road construction. The Delaware Soil & Water District maintains ditches and reviews storm water plans by agreement with the County Engineer’s ditch maintenance program. As of January 2009, there were 118 projects on county ditch maintenance.

Figure 9.4 Drainage Structures on Maintenance in Orange Township (Source DCSWCD, 01/09)

<b>Number of Projects</b>	118
<b>Miles of Open Ditch</b>	1.19
<b>Miles of Storm Tile</b>	51.7
<b>Retention/Detention Basins</b>	122
<b>Total value of improvements</b>	\$16,207,000

**Utilities Goals and Means**

Goal Relate land use and density to land suitability, utility availability and adjacent existing land uses; limit development to the carrying capacity of the land infrastructure.	Means Consider the impact on roads, and capacity of water and sewer systems, to encourage and limit development to the carrying capacity of the infrastructure, using the densities and land uses on the Comprehensive Land Use Plan as a guide.
Goal Expand township services at a rate to ensure public health and safety.	Means Review development proposals with appropriate officials and keep them abreast of growing service needs.
Goal Determine and implement an appropriate land use mix.	Means Avoid development of uses or densities that cannot be serviced by available or imminent infrastructure, unless such development mitigates its unplanned infrastructure impacts.  Encourage development that preserves surface and ground water quality.