

Utilities Profile

The Utilities Profile provides baseline information on wastewater and water utilities and stormwater and watershed management within the region. The following individual areas are reviewed:

- ❑ Centralized Sewage Collection & Treatment
- ❑ On-site Sewage Disposal
- ❑ Public Water Supply & Distribution
- ❑ On-site Water Supply
- ❑ Stormwater & Watershed Management

For further information regarding Comprehensive Sewage Planning, the reader is referred to the following documents:

- ❑ Dillsburg Borough and Surrounding Municipalities Act 537 Plan (Dated September 1998), Carroll Township Act 537 Plan (Dated August 2001)
- ❑ Franklin Township Act 537 Plan (Dated December 1993)
- ❑ Monaghan Township Act 537 Plan (Dated November 1, 2000 with revisions)
- ❑ Dillsburg Area Authority (DAA) Special Plant Expansion Study (dated October 2000).

Some of these plans have been approved by the Pennsylvania Department of Environmental Protection (DEP), some are under review by DEP, and some are in draft form not yet submitted to DEP.

For further information regarding Wellhead Protection Planning, the reader is referred to the DAA Wellhead Protection Plan, draft, (dated September, 2000).

Centralize Sewage Collection and Treatment

For the purposes of this background study, centralized sewage collection and treatment are considered to be a sewage system, which collects wastewater from more than one property and provides treatment at a centralized location. They can be owned and operated by private enterprise, municipalities or municipal authorities. When discussing privately owned systems mention is made only of larger systems which have been permitted by the DEP.

Public Systems

The DAA is the only incorporated municipal authority serving the study area with sanitary collection and treatment services. The member municipalities of the DAA are Dillsburg Borough, Carroll Township, Franklinton Borough, Franklin Township, and Monroe Township, Cumberland County. As of July 2000, the DAA served a total of 2,715 EDU's (equivalent dwelling units). All properties within the study area not currently served by

¹ Since completion of the background profile report both Dillsburg and Franklinton Borough have updated and adopted their Act 537 Plan.

the Dillsburg Area Authority dispose of their sewage by means of on-site systems, or are served by private, centralized, sanitary sewer systems.

The DAA currently serves areas within Dillsburg Borough, Carroll Township, Franklin Township and Franklinton Borough. The specific areas served by public sewers are indicated on attached mapping. In addition to the above municipalities, the DAA may also serve Monroe Township, Cumberland County in the future, since the Township recently has become a member of the DAA. It should also be noted that Carroll Township has become a member of the DAA since its August 1999 Act 537 Plan was adopted, and as a result of this status change, additional revisions to the Carroll Township Act 537 Plan dated August 2001 have been submitted to DEP and are currently under review by that agency.

The DAA wastewater treatment facility is located off of Old Mill Road in Carroll Township and discharges into Dogwood Run. The facility has a hydraulic rating of 1.0 million gallons per day. Currently, the wastewater treatment facility is in a projected hydraulic overload status and, consequently, preparations are being made for the hydraulic expansion of the treatment plant. This proposed expansion would increase the facility to 2.5 million gallons per day. The additional capacity is projected to relieve the hydraulic overload status of the plant and yield additional capacity for future development. As of October, 2000, a DAA Special Plant Expansion Study has been approved by DEP and a Part II Permit Application has been submitted, which was under review at the time of this report.² The Special Study focuses on the potential for providing excess capacity as part of the waste water treatment facility (WWTF) expansion and how this additional capacity may assist in planning on a regional basis. The Special Study also indicates that, for a 10- to 15-year planning period, projections for additional growth to be served by public sewers are approximately 900 equivalent dwelling units (EDU's). The estimate of 900 EDU's is within the study area. For Monroe Township, the Special Study indicates 250 additional EDU's. The October 2000 Special Study provides the basis for the estimate of additional growth for the 10- to 15-year planning period. The reader is referred to that document and more specifically to the individual Act 537 Plan documents of each municipality.

In addition to the 900 EDU's in the Study Area and 250 EDU's in Monroe Township, the Special Study indicates that there will be an additional hydraulic capacity of .4 million gallons per day (MGD) that would serve an additional 1,100 EDU's.

Due to the changes in member status with the inclusion of Carroll and Monroe Townships and the recent adoption of the Special Study for expansion of the WWTF, the DAA has indicated its desire to revise the Dillsburg Borough and the surrounding municipalities Act 537 Plans. It is anticipated that this may occur within the next year.

It is anticipated that a revision to the Draft 1998 Dillsburg Borough Authority prepared plan would be substantial in that the emphasis would be on the expansion of the existing Old Mill Road wastewater treatment plant as opposed to the alternatives previously explored including construction of a wastewater treatment plant in the Clear Springs Area of Franklin Township. The Franklin Township Board of Supervisors has taken action to revoke and withdraw previous action that supported a wastewater treatment

² Since the completion of the background profile report, the plant expansion is under construction.

plant in the Clear Springs area. It is anticipated that the long range planning represented in the upcoming revision to the 1998 Draft Dillsburg Area Authority prepared plan would be consistent with the Carroll Township Act 537 Plan and its 2001 revision which states that the long range (10 – 20 year) needs would be best served by construction of a wastewater treatment plant next to the Yellow Breeches Creek in Northern Carroll Township.

Franklin Township has taken action towards development of a plan of study to evaluate its own needs in the Clear Springs area. It is anticipated that this effort will result in a future revision to the Franklin Township Act 537 Plan.

The DAA owns and operates the sanitary collection and conveyance system including eight pumping stations located in Dillsburg Borough, Franklinton Borough, Franklin Township and Carroll Township. The collection system is constructed of vitrified clay pipe (VCP) and polyvinyl chloride (PVC). New extensions are required to install systems, which meet the specifications of the DAA and are inspected by DAA representatives during construction.

The August 1999 and August 2001 revisions to the Carroll Township Act 537 Plan collectively discuss proposed extensions and improvements within the Regional Comprehensive Plan study area as follows:

Phase 1 – (0 – 10 Year Planning Period):

- ❑ Extend sewers to Berkshire Hills development and activate existing dry sewers
- ❑ Install sewers in Carroll Manor development
- ❑ Install sewers in Homewood, Golf Club Avenue and Wood Street areas
- ❑ Construct a pumping station on the Yellow Breeches and make various improvements to other existing pumping stations
- ❑ Study the feasibility of providing sewer service to the Colony area on Campground Road

These proposed extensions and improvements are to be made with the assumption that the expansion of the existing Old Mill Road Wastewater Treatment Plant is also completed.

Phase 2 – (10 – 20 Year Planning Period):

- ❑ Construct a .4 MGD Wastewater Treatment Plant on the Yellow Breeches in Northern Carroll Township at the location of the Pump Station proposed in Phase 1
- ❑ Redirection of areas to the Old Mill Road Wastewater Treatment Plant

For additional detail the reader is referred to the Carroll Township Act 537 Plans referenced previously in this report.

In Franklin Township, no new sewer extensions are planned as part of Act 537 Planning. It is anticipated that as land developments occur, Planning Modules will be filed with the municipality, authority and DEP prior to plan approval. Capacity for any extensions made as part of individual developments, at this point, would be made possible as part of the proposed expansion of the existing Old Mill Road Wastewater Treatment Plant.

Private Systems

There are several known centralized systems, which are privately owned and operated (see Map 6-1). In Carroll Township, there is one small flow system, which initially served a Personal Care Home but now serves only one private residence. The facility discharges to an unnamed tributary of Stony Run. Information obtained indicates that the system is in good working condition.

In Monaghan Township, there are two private systems. The first one is located at the Memphord Estates Subdivision. This plant is permitted for 50,000 gallons per day and discharges to Stony Run. Indications are that it currently operates within permit limits at one-half its design capacity. The second plant is located at the Audubon Village Mobile Home Park. This plant is permitted for 15,000 gallons per day and discharges to an unnamed tributary of Yellow Breeches Creek. Indications are that it currently operates within permit limits at one-half its design capacity. In addition, one small flow wastewater treatment facility (SFTF) has been permitted. This is for an individual residence.

In Franklin Township, there is one private system. It is located at the Wal-Mar Manor Mobile Home Park. This plant is permitted for 40,000 gallons per day and serves approximately 124 mobile homes and 13 campsites. Indications are that the plant is currently operating at full capacity due to inflow/infiltration (I/I) and has been cited for numerous violations in the past.

On-Site Sewage Disposal

Areas, which are not served by public or private centralized systems, are currently served by on-site systems. On-site systems, include conventional drain field systems, elevated sand mound beds, small flow sewage treatment facilities, and various alternate types of systems.

Each municipality is required by DEP to have a Comprehensive Sewage Facilities Plan (Act 537 Plan). These plans identify in detail areas within each municipality that are served by on-site systems including areas that are known to contain malfunctioning systems. All municipalities within the region have relatively current Act 537 Plans.

Soils in the study area contain various limitations for the installation of conventional and alternative on-lot disposal systems. Soils that have limitations will generally have one or more of the following characteristics or limitations:

- Wetness
- Seasonal high water table
- Slow permeability
- Excessive slope
- Depth to bedrock
- Flooding

Prevalence of these limitations may result in failing on-lot systems or the inability to subdivide property without public or centralized sewage disposal.

All municipalities, with the exception of Dillsburg and Franklintown Boroughs where connection to the public system is required, have implemented On-lot System Management Districts (OLDS). This typically involves identifying specific areas where requirements for mandatory pumping and periodic inspection of on-site systems are implemented by Ordinance. The trend of thought is that by implementing on-lot management and mandatory pumping, groundwater resources may be protected in areas where otherwise public sewer service would be required.

Public Water Supply and Distribution

Potable water is supplied to portions of the study area by the Dillsburg Area Authority (DAA) and the Franklintown Borough Municipal Authority (FBMA).

For clarification purposes, membership in the DAA provides general authority for both water and sewer service, however it is not a requirement for a municipality to have such service. The DAA sponsors updates to the municipal comprehensive sewage plans (Act 537) and has sponsored sewer main extension projects in accordance with those plans; however, this requires adoption of the Act 537 Plan and approval of the project by the municipality. Sanitary sewer mains may also be extended by developers in accordance with plans approved by the municipality and the DAA. For developer extensions, planning modules may also be required to be approved in accordance with DEP requirements. In regard to water service, water main extensions are made by developers in accordance with plans approved by the municipality and DAA. The DAA also is involved with review of plans for water capacity and pressure issues

The DAA provides water service to the portion of the region contained within the Dillsburg Borough limits, as well as portions of Carroll Township and Franklin Township. As of July 2000, the DAA served 2,192 EDU's.

The Dillsburg Area Authority owns and operates five wells, a reservoir, and three standpipes for storage. The treated water reservoir is located in Franklin Township, approximately 900 feet west of the intersection of South Mountain Road and Twin Hills Road. The reservoir is fed only by wells 1, 2, and 3 (not stream fed) and has a storage capacity of 500,000 gallons. A standpipe is located in the southwest end of the Borough of Dillsburg with a maximum storage capacity of 275,000 gallons. In addition, there is a 100,000-gallon standpipe adjacent to the Twin Hills development, and a 170,000-gallon standpipe along Route 15 in Carroll Township.

Well 1 is located at the reservoir off of South Mountain Road and pumps to the reservoir. Well 2 is located at the reservoir and is not in use due to low yield. Well 3 is located on West Greenhouse Road about 1,000 feet west of South Mountain Road and pumps to the reservoir. Well 4 is located on Campground Road about 800 feet north of Mountain Road and pumps directly into the water system. Well 5 is located on Campground Road and pumps directly into the water system. On average, the Dillsburg Area Authority pumps approximately 320,000 gallons per day. Treatment is limited to disinfection and corrosion control. It is anticipated that with the recent development of Well 5, there is reserve capacity to meet current and future demand.

The water distribution system was placed in service in 1902 and was constructed using cast iron pipe (CIP). More recent extensions to the system consist mostly of ductile iron

pipe (DIP). There is some asbestos cement (transite) pipe in the system. New extensions are required to install systems, which meet the specifications of the DAA and are inspected by DAA representatives during construction.

The DAA is currently in the process of planning for additional storage facilities, which will add an additional storage capacity in the range of 900,00 gallons.³ It is currently thought that this will involve replacement of the existing storage reservoir with a storage tank and construction of a new elevated storage facility near the location of the Northern Elementary School in Carroll Township.

As of this report, the DAA has completed a Draft Wellhead Protection Plan dated September, 2000.⁴ This plan addresses the following:

- ❑ Possible contaminants to the water system, including, but not limited to:
 - Pesticides, herbicides, fungicides
 - Petroleum products from underground storage tanks, and roadway spills
 - Household cleaning solutions/chemicals
 - Malfunctioning on-site septic systems

- ❑ Steps that can be taken to help ensure the continuance of a high quality of potable water including:
 - Public education for property owners within Wellhead Protection Areas
 - Road signage indicating a Wellhead Protection Area
 - Distribution of the Wellhead Protection Plan to local municipal officials to use as a tool for making sound land use decisions

- ❑ An Emergency Response Plan, which includes:
 - Emergency phone numbers
 - Background information of water system
 - Emergency measures

- ❑ A Water Shortage Response Plan, which includes:
 - Conservation requirements
 - Water Reduction requirements
 - Penalties and enforcement for violations of conservation

The Wellhead Protection Plan should serve as a tool for the participating municipalities of Carroll Township, Franklin Township, and Dillsburg Borough to make sound land use decisions.

The Franklinton Borough Municipal Authority (FBMA) serves the portion of the study area contained within the Franklinton Borough limits, plus a minimal number of customers just outside the Borough limits in Franklin Township. The FBMA maintains two points of water supply. Well 1 is located on Cabin Hollow Road and Well 2 is

³ Since completion of the background profile report, the DAA has completed the planning study.

⁴ Since completion of the Wellhead Protection Plan, a new storage facility is planned for the existing reservoir site off of South Mountain Road in Franklin Township.

located near the intersection of South Street and Church Street. Both wells pump to a standpipe, where water is treated before entering the system. On average the Franklinton Borough Municipal Authority pumps approximately 28,000 gallons per day. The water distribution system was installed in 1982 and is constructed of PVC pipe. There is also a public water system in Monaghan Township, which serves a limited number of existing homes in the area near Messiah College.

DEP permits and regulates privately-owned systems referred to as Community Systems, which serve at least 15 service connections or regularly serve at least 25 persons. Various individual privately-owned and operated and public water supplies permitted by the DEP are known to exist within the study area. These tend to be mobile home parks, campgrounds or similar developments.

Private On-Site Water Supply

Areas which are not served by the DAA or FBMA are currently served by on-site wells or by privately owned systems. All potable water, both public and private, is from groundwater sources. Generally groundwater within the study area is of good quality, but is generally hard, with some localized quality problems. The majority of problems with on-site water supply in the study area are associated with high nitrate levels, hard water and high levels of iron. There are also isolated areas of limestone geology, which is susceptible to contamination due to the ease of movement of potential contaminants through the formation. Other types of water quality problems may be associated with failed on-site sewage systems or agricultural pollutants.

Generally, those types of water quality problems mentioned above are treatable with various types of commercial and in-home water treatment and conditioning systems.

Additional information regarding specific, known areas with water quality and sample test results may be available in the Act 537 Plans for individual municipalities or other sources, such as the State Water Resources Reports and Plans.

Stormwater and Watershed Management

Stormwater and watershed management is implemented to protect waterways and property from potential adverse impacts, which may be caused in part due to increased land development and changes in ground cover characteristics. These adverse effects may consist of flooding due to increased peak runoff flow rates or increase in total runoff volumes and/or non-point source pollution. Non-point source pollution includes contaminants in stormwater runoff, such as oils, greases, road deicers, agricultural activities. In addition, land disturbance activities may cause accelerated erosion and sedimentation of streams and water bodies, which contributes to depletion of oxygen and subsequent adverse impact on various biological systems.

In 1978, the Commonwealth of Pennsylvania's legislature enacted the Stormwater Management Act (No. 167), which authorized a program of comprehensive watershed stormwater management. Act 167 retains local implementation and enforcement of stormwater ordinances similar to local responsibility of administration of subdivision and land development regulations. The DEP provides grant money to counties to develop stormwater management plans for designated watersheds. Upon completion of such a

plan, municipalities within the watershed are encouraged to adopt ordinances consistent with the plan. There are two Act 167 designated watersheds in the study area. The first is the Yellow Breeches (Lower Portion) and the second is the Conewago Creek (West Portion). At this time, no Watershed Management Plans are in place, in progress or in planning stage for either of these two watersheds within the York County segments. Potential grants are available for completion of these studies and implementation of subsequent ordinances.

Stormwater management is dealt with on an individual municipal basis with Subdivision and Land Development and Stormwater Management Ordinances. Currently, each individual municipality takes on the responsibility of addressing stormwater management by using local regulations. Carroll Township addresses stormwater management with a section contained in their Subdivision and Land Development Ordinance. Monaghan Township, Dillsburg Borough and Franklin Township utilize separate, enforceable Stormwater Management Ordinances. These regulations help the above-mentioned municipalities to enforce stormwater management on a site-by-site basis. There are currently no provisions within these regulations for a regional approach to stormwater management.

Control of accelerated erosion and sedimentation is handled by the County Conservation District, DEP and, to a lesser extent, by each municipality. The County Conservation District implements Chapter 102 of the DEP Rules and Regulations. Individual erosion control plans are prepared on a site-by-site basis as part of land development or disturbance activities. In some instances, general or individual permits may be necessary as part of the NPDES program for addressing non-point source pollution. The County Conservation District and DEP also regulate specific activities related to encroachment into waterways and may issue permits in some instances.