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# Utility Services Plan Element

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Township of Hopewell  
Mercer County, New Jersey

November 19, 2009

*Prepared by the Hopewell Township Planning Board  
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The original of this report was signed and sealed  
In accordance with N.J.A.C. 13:41-1.3

# UTILITY SERVICES PLAN, NOVEMBER 19, 2009

## Utility Services Plan Element

### Introduction

The MLUL indicates that a utility service plan element may “analyze the need for and show the future general location of water supply and distribution facilities, drainage and flood control facilities, sewerage and waste treatment, solid waste disposal and provision for other related utilities, and including any storm water management plan required pursuant to the provisions of P.L. 1981, c. 32 (C.40:55D-93 et seq.).” This element uses the background information on sewer and water from the current planning capacity and utility service analysis, and the Township’s draft Wastewater Management Plan (WMP).

The drainage/flood control and storm water management aspects of this plan element were addressed when the Planning Board adopted the Stormwater Management Plan in March 2005. Thus, this element can focus on the topics of public sewer and public water. A reexamination of the Stormwater Management Plan was part of the 2009 Reexamination Report.

This plan element identifies existing water and sanitary sewer systems and any known proposals for future expansion of these systems. The public water and sanitary sewer systems also review the capability of man-made systems (infrastructure) to support a level of population growth and ancillary development while maintaining recommended standards of performance.

### Background Information and Existing Conditions for Public Wastewater and Public Water Services

#### *Public Wastewater Service History*

The detailed history of wastewater planning in Hopewell Township can be found in a report entitled “Recommendations for Wastewater Planning” dated November 2004. This report was accepted by the Township Committee in April 2005 and may be found on the Township’s website (<http://www.hopewelltpw.org/wastewater-report.html>).

The report was developed following many studies by the prior Hopewell Township Municipal Utility Authority; by the Township Committee for Princeton Farms and Brandon Farms; the Township Committee for the Trenton Sewer project; and, subsequent efforts resulting from the abandonment of that project. Recent efforts include studies on septic system management, studies to pinpoint septic failure areas, and geologic evaluations to determine the impacts of providing public sewers in designated “Areas of Concern”.

Following the general acceptance of the recommendations from the report, a draft Wastewater Management Plan (WMP) was prepared. Meetings were held with the Stony Brook Regional Sewerage Authority (SBRSA) and the Ewing Lawrence Sewerage Authority (ELSA). SBRSA endorsed the plan, however, ELSA would not endorse the plan due to the lack of a contract for capacity. Hopewell Township and ELSA are negotiating a contract for the capacity required. Therefore, the approval of the Township’s WMP is pending ELSA endorsement.

## UTILITY SERVICES PLAN, NOVEMBER 19, 2009

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Identifying wastewater disposal needs for Hopewell Township has been a continual challenge for Hopewell Township since the 1960's. With an existing population using on-site wells and septic systems on various sized lots having geologic and soil characteristics that were not conducive to suitable long-term performance of on-site systems, the idea of public sewers in Hopewell Township arose. During the late 1960's and early 1970's there was an abundance of Federal and State funding for wastewater infrastructure construction. This, combined with regionalization of sewage treatment facilities being favored during that time period as a best management practice for wastewater disposal, helped spur detailed considerations for providing public sewers to several areas of Hopewell Township.

These considerations included debates over whether or not Hopewell Township should become part of regional wastewater treatment programs in order to provide sewer service to the most densely populated areas of the Township. It was ultimately decided that Hopewell Township would not seek public sewers, primarily due to concern relating to the uncontrolled growth that public sewers might bring. There were several exceptions to this policy as follows:

- In the 1970's, the Ewing Lawrence Sewerage Authority (ELSA), the Township of Hopewell, and Pittman-Moore Inc, entered into an agreement to provide wastewater treatment to a small research facility located on Bear Tavern Road, which was limited to 100,000 gallons per day (gpd) of wastewater.
- As part of ELSA's application for funding for upgrades to its treatment plant in the 1970's, the United States Environmental Protection Agency (USEPA) and the New Jersey Department of Environmental Protection (NJDEP) mandated that ELSA reserve 400,000 gpd to Hopewell Township for wastewater generated within the Delaware River watershed portion of the Township. This funding approval came with the stipulation that there be no wastewater treatment plants permitted to discharge to surface water that drain into the Delaware River within Hopewell Township because of its location upstream of the Trenton Water plant intake. The 100,000 gpd serving Pittman-Moore was included in this 400,000 gpd reserve.
- During the late 1980's, Hopewell Township and K. Hovnanian Companies entered into negotiations with ELSA to provide wastewater treatment for a housing development that included housing that is affordable. As a result, the remaining 300,000 gpd within the ELSA plant that were designated for Hopewell Township were made available. Wastewater resulting from this development flows from Hopewell Township, through Ewing Township, and into the ELSA treatment facility.
- In 1982 a Wastewater Facilities Plan was prepared for the Hopewell Township Municipal Utilities Authority. This plan again identified several possible alternatives for providing public sewer service to portions of Hopewell Township where clusters of small lots with on-site septic systems and wells existed. The preferred alternative selected in 1982 was small community systems discharging to groundwater serving small core areas.

The Mercer County 208 Area-Wide Water Quality Management Plan (WQMP), dated 1987, identified certain developed portions of Hopewell Township for sewer service. These areas

## UTILITY SERVICES PLAN, NOVEMBER 19, 2009

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were consistent with the “core” areas recommended for sewer service by the Hopewell Township Municipal Utilities Authority (HTMUA) in 1982. The Mercer County 208 Area-Wide Water Quality Management Plan served as the only official document for wastewater planning in Hopewell Township prior to the creation and adoption of the Wastewater Management Plan (WMP) for Hopewell Township.

Consistency with a Wastewater Management Plan is required for approvals for wetlands and other watershed based activities. Hopewell Township’s first Wastewater Management Plan was prepared in 1989 in accordance with the provisions of the New Jersey Water Quality Planning Act (N.J.S.A. 58:11A-1 et seq. and the Statewide Water Quality Management Planning rules (N.J.A.C. 7:15). Preparation of this plan was required by NJDEP in order to obtain the construction permits for a reconfiguration of the Princeton Farms wastewater treatment plant to connect to the SBRSA system. This reconfiguration concluded a debate by the Township that ended with a policy decision that Hopewell Township was no longer desirous of owning and operating sewage treatment facilities.

Since 1998 there have been amendments to the original wastewater management plan. The most significant and controversial of the amendments was in 1998 when Hopewell Township sought approval to provide public sewer service to approximately 8% of its land area adjacent to the Ewing Township boundary. This Wastewater Management Plan amendment was initiated on the basis that the City of Trenton’s wastewater treatment facility had adequate and immediate treatment capacity for Hopewell Township. This amendment was approved by the New Jersey Department of Environmental Protection on September 8, 1998. Included in the approval letter from the Department, were certain stipulations. These stipulations ultimately became the framework for future planning in Hopewell Township and are described in the following excerpt:

“The following provisos are incorporated into this amendment in order to minimize secondary impacts that could be associated with development consistent with current zoning as well as to advance protection of water resources from the effects of nonpoint pollution throughout the Township. These provisos are also included in the loan agreements to be executed by the New Jersey Environmental Infrastructure Trust and the Department:

Sewer connections beyond the residential units and commercial square footage identified in the “New Jersey Infrastructure Financing Program Environmental Appraisal Table 2” dated August 19, 1998 and any changes to the sewer service area and/or the specific development identity (zoning, residential/commercial units and flows) will not be allowed without the approval of the Office of Environmental Planning and an amendment to the Mercer County Water Quality Management Plan. Any such changes, as referenced above, shall also be consistent with the State Development and Redevelopment Plan, which shall include, but not be limited to, the development of an Open Space Preservation Plan within the context of the Master Plan Cross-Acceptance process and in coordination with the development of a Town Center designation. In order for the Department to consider any change, Hopewell Township must demonstrate that any proposed density increase is a result of transfer of development potential from elsewhere in the Township. Such transfers would be based on a re-evaluation and correction of zoning to be compatible with preserving water quality and recharge. No wastewater treatment services will be provided to environmentally constrained areas, except where development requiring wastewater treatment facilities is specifically permitted by the Department.

Hopewell Township shall revise and implement their current stormwater ordinance within six months of the date of execution of the Loan Agreements. The development of the revised stormwater ordinance shall be coordinated with and approved by the Office of Environmental Planning and must meet current Department of Environmental Protection and Department of Community Affairs standards with respect to post-construction stormwater flows applied to all forms of development. The ordinance must include provisions to protect the integrity of stream channels, reduce potential flooding and 7 nonpoint source pollution problems, reduce soil erosion and maintain natural drainageways.

## UTILITY SERVICES PLAN, NOVEMBER 19, 2009

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Hopewell Township shall coordinate with the Delaware River Keeper Network, the Delaware River Basin Commission, the Stony Brook Millstone Watershed Association, Mercer County, the MSM Regional Council, and the Townships of Ewing and Lawrence in conjunction with the Office of Environmental Planning, to develop a watershed-based storm water management plan within two years of the date of execution of the Loan Agreements. Upon the Department's approval of the watershed-based stormwater management plan, the recommendations shall be incorporated within the Township's stormwater ordinance, and shall include provisions to limit impervious cover and encourage groundwater recharge."

In March 1999, the Hopewell Township Committee terminated its contract for wastewater service with the City of Trenton, invalidating the September 8, 1998 Wastewater Management Plan approval. On May 20, 1999, Lance Miller, Director of the New Jersey Department of Environmental Protection, Division of Watershed Management authored a letter that included the following stipulation:

"As you know, the Department of Environmental Protection (Department) formally adopted the subject Wastewater Management Plan (WMP), that was based upon the construction of the Trenton pipeline, on September 8, 1998. Consequently, if there is no reasonable expectation that the Trenton pipeline proposal can be implemented in accordance with the adopted WMP, then Hopewell Township, as the wastewater management planning agency, must propose and submit an appropriate WMP amendment reflecting this change in circumstance to Mercer County, the designated planning agency, and the Department.

Such an amendment shall also contain comprehensive proposals that address the planning needs and the outstanding planning issues for all of Hopewell Township and shall consolidate or be integrated with other upcoming or planned WMP amendments in Hopewell Township (such as for the township's Stony Brook Regional Sewerage Authority service districts) in order to avoid the need for multiple amendment reviews and public hearings by Mercer County and the Department. Finally, said amendment must also include an alternative planning proposal to address properties with failing septic systems in the Ingleside and Morningside sections of Hopewell Township (that are identified as Trenton service area in the adopted WMP in order to provide sewers for these sections) and the proposed planning disposition of the Ewing-Lawrence Sewerage Authority service area in the Titusville and Washington Crossing sections of the township as discussed in the Department's September 8, 1998 adoption."

In 2000, Hopewell Township entered into a settlement agreement concerning a lawsuit on sewer rate structure between the Ewing Lawrence Sewerage Authority, the Brandon Farms Property Owners Association and itself. This order mandated that Hopewell Township undertake revision of its wastewater management plan to delete any designated ELSA sewer service areas that did not have an associated contract for sewer service. This wastewater management plan revision was withheld pending completion of Hopewell Township planning efforts, then underway, to address issues raised in the 1999 NJDEP letter.

In order to advance an amendment of its wastewater management plan, Hopewell Township was compelled to consider the comprehensive criteria that were outlined by NJDEP in its 1999 letter. These criteria have since been satisfied through an extensive process that included:

**Hopewell Township Master Plan:** A comprehensive revision to the Hopewell Township Master Plan was undertaken. The most critical element to this Master Plan, the land use element, was revised in 2002 and the complementing land use ordinances were also adopted in 2002. The changes prescribed by this comprehensive revision were underwritten by a detailed evaluation of Hopewell Township's groundwater resources. This evaluation was summarized in a report by M2 Associates, Inc. dated March 2, 2001, entitled "Evaluation of Groundwater Resources of Hopewell Township, Mercer County, New Jersey". Other elements of the Master Plan such as recreation and circulation continue to be reviewed and revised as required. However, revision of 9 the most important element as it relates to long term planning and development related affects, has been completed.

## UTILITY SERVICES PLAN, NOVEMBER 19, 2009

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**Amendments to Land Use Ordinance.** In 2002 the Township adopted amendments to the Land Use and Development Ordinance (Chapter 17 of the Township Code), in order to implement the Land Use Plan Element of the Master Plan. This zoning was challenged by affected property owners, but has been upheld by the Superior Court (Law Division and Appellate Division) and the N.J. Supreme Court which denied certification on an appeal, thus ending the challenges.

Hopewell Township worked with the Stony Brook-Millstone Watershed Association (SBMWSA) to conduct a peer review of its planning policies and ordinances as part of the SBMWSA Municipal Assessment Project. The Municipal Assessment Project is intended to assist municipalities in developing additional proactive measures to ensure that natural resources are preserved and the necessary regulatory structure established. In March 2002, SBMWSA provided a document entitled "Taking the Next Step: Hopewell Township Municipal Assessment." This document supported the Township's planning program, noting that the protection and health of a watershed relies a great deal on the land use laws and policies that govern development, and that the Township was farsighted in the advancement of these laws and policies. In this assessment, the SBMWSA recommended:

- Adopting a septic system monitoring policy/ordinance for residential systems to detect failing septic systems. The Township should assess alternatives for failing septic systems.
- Continuing to distribute and revise educational information concerning septic system maintenance. Include information on who to contact in the Township if the resident has problems or questions. This is a critical first step in a long term Township septic system management plan.
- Regularly scheduling educational programs on septic system upkeep.
- Adopting an ordinance requiring regular pumpouts and upgrades or expansions when a house is expanded or altered.
- Applying for a Smart Growth grant for community septic systems, retrofitting the current failing systems.
- Providing incentives, and perhaps financial assistance, for septic system maintenance.

**Septic System Considerations.** Prior to the 1998 WMP approval, Hopewell Township had received petitions from several neighborhoods for public sewer service. In the 1998 WMP amendment, Hopewell Township relied upon research on septic systems conducted for the Hopewell Township Municipal Utilities Authority in the 1970's and 1980's. Following termination of its contract with the City of Trenton, the Township initiated the following:

- Hopewell Township contracted with the firm Cerenzio and Panaro, P.C. The consultants issued a document titled Wastewater Needs Analysis/Feasibility Study, Phase 1 Report on September 27, 2000. The purpose of this document was to review septic system failures in Hopewell Township and advise the Township if any specific areas should be considered for public sewer service. This report concluded that certain "Areas of Concern" should be further evaluated. These "Areas of Concern" included Mt. Rose, Timberlane Drive, Ingleside Drive, Diverty Road and Morningside.

## UTILITY SERVICES PLAN, NOVEMBER 19, 2009

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- In April 2001, the results of a follow-up investigation into the costs of providing localized and regionalized wastewater disposal alternatives to the Areas of Concern, titled "Feasibility Analysis for Selected Wastewater Alternatives Serving Areas of Concern", was presented by Van Cleef Engineering Associates. This analysis included additional Areas of Concern known as Penn View Heights, the Tree Streets, Indian Village, Orchard Avenue and Brandon Road. These additional areas were added to the original Areas of Concern because they too were developed areas in close proximity to the original Areas of Concern and exhibited similar characteristics to the original Areas of Concern.
- Following the issuance of the two aforementioned reports, the Hopewell Township Committee formed an advisory committee that conducted public meetings with each of the designated Areas of Concern. Each neighborhood was surveyed to determine if any particular sewer option would be favored. Responses were mixed with a general indication that the public sewer option should be pursued if costs could be kept to a minimum.
- An evaluation of environmental consequences of providing public sewer to the Areas of Concern then was commissioned by the Hopewell Township Committee. While awaiting this report, the Township reorganized the sewer advisory committee and began researching alternative septic system technologies and septic system management initiatives as an alternative to providing public sewers. During this time period an assessment prepared by M2 Associates, Inc. entitled "Assessment of Groundwater Quality and Quantity Impacts from Sewer Area Expansion in Hopewell Township, Mercer County, New Jersey", was released. This assessment identified that installing public sewers would eliminate groundwater recharge being provided by septic systems in the Areas of Concern and could impact groundwater resources in some of the Areas of Concern by creating a groundwater export (depletion) condition.
- Following the release of the M2 Associates, Inc. assessment, an extensive effort was made by the sewer advisory committee to consider septic system management as a viable alternative to public sewers. This approach involved Hopewell Township as a Responsible Management Entity and was presented to the public at a special public presentation on May 18, 2004. The public presentation was attended by over 900 people and resulted in a clear demonstration that septic system management by the municipality would not be acceptable.

In July 2004, the Hopewell Township Committee dissolved its wastewater advisory committee and solicited recommendations for wastewater management planning from its Township Engineer.

### *Existing Public Wastewater Service*

The Township is served by two regional wastewater management service agencies, the Stony Brook Regional Sewerage Authority (SBRSA) and the Ewing Lawrence Sewerage Authority (ELSA). The SBRSA was established in 1971 and operates three treatment plants. The Township is not a member of the Authority. Two of the plants are located in the Township, but service to the Township is limited. The plant on Pennington Rocky Hill Road services Pennington Borough, and within the Township services the Pennington Shopping Center, Timberlane Middle School, Hopewell Valley Central High School and Pennington Point East.

## UTILITY SERVICES PLAN, NOVEMBER 19, 2009

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The plant on Aunt Molly Road predominantly services Hopewell Borough, with service in the Township to the Princeton Farms and Hopewell Hunt subdivisions.

The Pennington plant has a surface discharge to the Stony Brook, while the Hopewell plant has a surface discharge to the Bedens Brook. Each of the plants has a rated capacity of 300,000 gallons per day (gpd); the maximum monthly flow in 2007 in the Pennington plant is 360,000 gpd, while in the Hopewell plant it is 215,000 gpd.

The ELSA sewage treatment plant located on Whitehead Road provides existing service to portions of the Township located south of Route 546 (Washington Crossing Pennington Road and Pennington Lawrenceville Road). Among the facilities in the Township served by ELSA are the Bear Tavern School and the Janssen Pharmaceutica campus, both located on Bear Tavern Road; the Merrill Lynch campus located on the east side of Scotch Road; the Hopewell Crossing Shopping Center on Route 31 and Denow Road; Hopewell Grant, Wellington Manor and Hopewell Gardens; and, the Brandon Farms development. The total sewage capacity currently provided by ELSA in the Township is approximately 800,000 gpd.

### *Public Water*

Hopewell Township was served exclusively by on-site wells until the 1960s, when Pitman Moore (now the Janssen Pharmaceutica site on Bear Tavern Road) successfully negotiated a connection to the nearby public water main in Ewing Township. That main was part of the Trenton City water system.

Hopewell Borough and Pennington Borough have water supply systems with reservoirs initially located in Hopewell Township. As a result there are some dwellings in Hopewell Township that are connected to the Borough systems. These connections are limited and not well documented. The Borough systems serve only a limited number of residents and do not offer extended service potential to the Township.

In the 1960s a developer on Jacobs Creek Road proposed a development known as Tanglewood. The applicant sought public water for this development and failed in many attempts until the 1980s, when a public water service agreement was executed between the Township of Hopewell and the City of Trenton (Trenton Water Utility, now N.J. American Water Company). This agreement eventually covered the area then known as the Township's growth zone, which encompassed all of the area bounded on the north by Mercer County Route 546, the south by the Township boundary, the west by the Delaware River, and the east by Federal City Road. There have been no changes in this service area. The one proposal to change this service area included a study to extend service to the Morningside development to address contamination found in the area; however, due to State actions, this proposal was never advanced beyond funding applications.

Due to groundwater contamination from an industrial site in Hopewell Borough, public water was extended by N.J. American Water Company to the King's Path subdivision off of Route 518 at the Hopewell Borough boundary. Washington Crossing Park Estates is served by an independent system supplied by wells.

## UTILITY SERVICES PLAN, NOVEMBER 19, 2009

An updated Environmental Resource Inventory (ERI) is currently under preparation by the Delaware Valley Regional Planning Commission (DVRPC) in conjunction with the Township's Environmental Commission (EC). The draft ERI identifies six public community water supply wells in the Township. A public community water supply well is defined as a well that has at least 15 service connections used by year-round residents, or regularly serves at least 25 year-round residents. The six public community water supply wells include three at the Mercer County Correctional Center; one off Burton Avenue operated by and supplying the Hopewell Borough Water Department; and, two originally owned by the Hopewell Township Water and Sewer Utility, which likely are the aforementioned water supply system at Washington Crossing Park Estates. The EC has commented that the list of public community water supply wells is incomplete. For example, the well(s) serving Pennington Borough that are located in the Township are not listed.

The draft ERI also identifies 75 public non-community wells in the Township, although a list or map of the locations is not provided in the draft ERI. A public non-community water supply well is a well used by institutions and businesses, as opposed to year-round residents, for at least 60 days a year. These can include wells serving schools, factories, office buildings, restaurants and motels. For example, the wells at Bristol Myers Squibb, the district schools and Pennytown would fall into this category.

### **Recommendations for Public Wastewater and Public Water Services**

#### *Public wastewater service*

Since the preparation of the 2005 WMP, there have been a number of actions which suggest revisions to the draft WMP. In particular, the designation of new affordable housing sites and sites for higher density development have resulted in the need for several new amendments to the WMP. Inclusion of the Kooltronic site on County Route 654 opposite Pennytown into a designated sewer service area is required to permit the density permitted by the new ordinance for this site. The Borough's tract on Scotch Road and inclusion of the Municipal Building site as individual service areas with discharge to groundwater is recommended. Finally, the Weidel tract that was purchased by the Township should remain in the WMP.

Additionally, the Township should consider a petition for Plan Endorsement from the Office of Smart Growth since it is expected that such an endorsement will be required for any WMP to be approved. This effort is not part of the utility element of the Master Plan but should be performed in order to satisfy NJDEP review concerns that will be raised during the WMP review process.

#### *Public water service*

The following actions are recommended relative to public water service in the Township:

## UTILITY SERVICES PLAN, NOVEMBER 19, 2009

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- Public water service should be provided to the area located on the northeast side of the Pennington Circle by an extension of the Trenton Water Utility service area, due to significant groundwater contamination in this area.
- The former Twin Pines Airport site, now owned by the Township as a recreational facility, should be included in the water service area.
- The Indian Village subdivision should be included in the Trenton Water Utility service area to offset the depletive effects of providing public sewer to this subdivision.
- The Washington Crossing Park Estates water system should be incorporated into the Trenton Water Utility service area.
- The extension of the N.J. American Water Company system from Province Line Road along Cherry Valley Road to Mt. Rose at the intersection with Carter Road, and south along Carter Road, is a requirement of the General Development Plan (GDP) approval for Berwind Property Group. When the water line is extended to Mt. Rose, it also is recommended that the water line be extended from Mt. Rose to Pennington Borough, in order to serve as an emergency interconnect for the Pennington water system. This extension will traverse an area that has either been fully developed or preserved as open space. The service area for this extension should include the Princeton Farms and Hopewell Hunt subdivisions and the Bristol Myers Squibb (BMS) campus as well as all lots fronting on Pennington-Rocky Hill (Centerville) Road. Extension of water service into these areas will eliminate the extensive use of groundwater wells in the Princeton Farms and Hopewell Hunt subdivisions, will eliminate any groundwater depletion resulting from public sewers in these subdivisions and will also offset any effects by the combined use groundwater wells for BMS or nearby farms.
- Provide public water service to the Morningside and Glenwood Pines area of Dublin Road if and when possible due to an existing New Jersey Department of Environmental Protection groundwater contamination plume in this area.
- Provide public water service to the Timberlane Middle School and the site presently known as Athletic Fields at Timberlane if and when possible.
- Fire hydrants should be provided throughout all proposed water service areas as required by the Hopewell Township Board of Fire Commissioners to help with emergency fire fighting and due to the limited sources for water for these purposes.
- Provide public water service for the Mercer County Workhouse and outbuildings if and when possible.



