

**ACT 537 PLAN**

**FRANKLIN TOWNSHIP  
OFFICIAL SEWAGE  
FACILITIES PLAN**

*Prepared for:*  
Franklin Township  
P.O. Box 118  
Kemblesville, Pennsylvania 19347

January 2002

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Commonwealth of Pennsylvania  
Department of Environmental Protection  
Bureau of Water Quality Protection

**ACT 537 PLAN CONTENT  
AND ENVIRONMENTAL ASSESSMENT CHECKLIST**

For specific details covering Act 537 planning requirements, refer to Chapters 71 and 73 of DEP's Regulations.

Municipality: Franklin County: Chester

Local Municipal Contact Official: Robert Meyer, Township Manager

Telephone Number of Official: 610.255.5212

Consultant: URS Corporation

Consultant's Telephone Number: 302.791.0700

Consultant's Contact Person: Christopher Rogers, AICP

Title of Submission: Franklin Township Official Sewage Facilities Plan

Date Submitted: January 31, 2002

About this checklist . . . . .

- \* DEP publication 3640-BK-DER1480 11/92, "A Guide For Preparing Act 537 Update Revisions -- November 1992", is obsolete. Do not use checklist pages from that publication.
- \* You must complete and attach this checklist when you submit the plan to the department for review and approval.
- \* This checklist is composed of two parts, one for Administrative Completeness and one for General Plan Content. A plan must be "administratively complete" in order to be formally reviewed and approved by the department. The General Plan Content checklist identifies each of the issues which must be addressed in your Act 537 Plan Update based on a pre-planning meeting between you and/or your consultant and the Department. The Administrative Completeness checklist is found on page 3. The General Content checklist is found on pages 4 through 14. PENNVEST funded or applicant plans must address planning requirements on page 15.
- \* You must use the right-hand column blanks in the checklist to identify the page in the plan on which each planning issue is found or reference a previously approved update or special study (title and page number).
- \* If you determine a planning issue is not applicable even though it was previously thought to be needed, please explain your decision within the text of the plan (or as a footnote) and indicate the page number where this documentation is found.
- \* After Municipal Adoption by Resolution, submit three copies of the plan, any attachments or addenda, and this checklist to the department.

## ADMINISTRATIVE COMPLETENESS CHECKLIST

EP Use Only	Indicate Page #(s) in Plan	In addition to the main body of the plan, the plan must include items one through eight listed below to be accepted for formal review by the department. Incomplete Plans will be returned unless the municipality is clearly requesting an advisory review.
_____	<u>Not Numbered</u>	1. Table of Contents
_____	<u>ii-1</u>	2. Plan Summary
_____	<u>ii-1</u>	A. Identify the proposed service areas and major problems evaluated in the plan. (Reference - Title 25, §71.21.a.7.i).
_____	<u>ii-1</u>	B. Identify the alternative(s) chosen to solve the problems and serve the areas of need identified in the plan. Also, include any institutional arrangements necessary to implement the chosen alternative(s). (Reference Title 25 §71.21.a.7.ii).
_____	<u>ii-1</u>	C. Present the estimated cost of implementing the proposed alternative (including the user fees) and the proposed funding method to be used. (Reference Title 25, §71.21.a.7.ii).
_____	<u>ii-1</u>	D. Identify the municipal commitments necessary to implement the Plan. (Reference Title 25, §71.21.a.7.iii).
_____	<u>ii-1</u>	E. Provide a schedule of implementation for the project which identifies the MAJOR milestones with dates necessary to accomplish the project to the point of operational status. (Reference Title 25, §71.21.a.7.iv).
_____	<u>iii-1</u>	3. Original, signed and sealed Resolution of Adoption by the municipality which contains, at a minimum, alternatives chosen and a commitment to implement the Plan in accordance with the implementation schedule. (Reference Title 25, §71.31.f) Section V.F. of the Planning Guide.
_____	<u>iv-1</u>	4. Evidence that the municipality has requested, reviewed and considered comments by appropriate official planning agencies of the municipality, planning agencies of the county, planning agencies with areawide jurisdiction (where applicable), and any existing county or joint county departments of health. (Reference-Title 25, §71.31.b) Section V.E.1 of the Planning Guide.
_____	<u>v-1</u>	5. Proof of Public Notice which documents the proposed plan adoption, plan summary, and the establishment and conduct of a 30 day comment period. (Reference-Title 25, §71.31.c) Section V.E.2 of the Planning Guide.
_____	<u>N/A</u>	6. Copies of ALL written comments received and municipal response to EACH comment in relation to the proposed plan. (Reference-Title 25, §71.31.c) Section V.E.2 of the Planning Guide.
_____	<u>VIII-8</u>	7. A complete project implementation schedule with milestone dates specific for each existing and future area of need. Other activities in the project implementation schedule should be indicated as occurring a finite number of days from a major milestone. (Reference-Title 25, §71.31.d) Section F of the Planning Guide. Include dates for the future initiation of feasibility evaluations in the project's implementation schedule for areas proposing completion of sewage facilities for planning periods in excess of five years. (Reference Title 25, §71.21.b).
_____	<u>iv-1</u>	8. Documentation indicating that the appropriate agencies have received, reviewed and concurred with the method proposed to resolve identified inconsistencies within the proposed alternative and consistency requirements in 71.21.(a)(5)(i-iii). (Reference-Title 25, §71.31.e). Appendix B of the Planning Guide.

## GENERAL PLAN CONTENT CHECKLIST

DEP Use Only	Indicate Page #(s) in Plan	Item Required
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**I. Previous Wastewater Planning**

**A. Identify and briefly analyze all existing wastewater planning that:**

- |       |            |   |
|-------|------------|---|
| _____ | <u>I-1</u> | 1. Has been previously undertaken under the Sewage Facilities Act (Act 537). (Reference-Act 537, Section 5 §d.1).   |
| _____ | <u>I-1</u> | 2. Has not been carried out according to an approved implementation schedule contained in the plans. (Reference-Title 25, §71.21.a.5.i.A-D). Section V.F of the Planning Guide. |
| _____ | <u>I-1</u> | 3. Is anticipated or planned by applicable sewer authorities. (Reference-Title 25, §71.21.a.5.i.A). Section V.D. of the Planning Guide.   |
| _____ | <u>I-1</u> | 4. Has been done through planning modules for new land development, planning “exemptions” and addenda. (Reference-Title 25, §71.21.a.5.i.A).                                    |

**B. Identify and briefly summarize all municipal and county planning documents adopted pursuant to the Pennsylvania Municipalities Planning Code (Act 247) including:**

- |       |            |  |
|-------|------------|--|
| _____ | <u>I-1</u> | 1. All land use plans and zoning maps which identify residential, commercial, industrial, agricultural, recreational and open space areas. (Reference-Title 25, §71.21.a.3.iv).                        |
| _____ | <u>I-3</u> | 2. Zoning or subdivision regulations that establish lot sizes predicated on sewage disposal methods. (Reference-Title 25 §71.21.a.3.iv).   |
| _____ | <u>I-5</u> | 3. All limitations and plans related to floodplain and stormwater management and special protection (Ch. 93) areas. (Reference-Title 25 §71.21.a.3.iv) Appendix B, Section II.F of the Planning Guide. |

**II. Physical and Demographic Analysis utilizing written description and mapping (All items listed below require maps, and all maps should show all current lots and structures and be of appropriate scale to clearly show significant information).**

- |       |             |  |
|-------|-------------|--|
| _____ | <u>II-1</u> | A. Identification of planning area(s), municipal boundaries, Sewer Authority/Management Agency service area boundaries. (Reference-Title 25, §71.21.a.1.i).  |
| _____ | <u>II-5</u> | B. Identification of physical characteristics (streams, lakes, impoundments, natural conveyance, channels, drainage basins in the planning area). (Reference-Title 25, §71.21.a.1.ii).   |
| _____ | <u>II-7</u> | C. Soils - Analysis with description by soil type and soils mapping. Show areas suitable for in-ground on-lot systems, elevated sand mounds, individual residential spray irrigation systems, and areas unsuitable for soil dependent systems. (Reference-Title 25, §71.21.a.1.iii). Show Prime Agricultural Soils and any locally protected agricultural soils. (Reference-Title 25, §71.21.a.1.iii). |

- II-11 D. Geologic Features - (1) Identification through analysis, (2) mapping and (3) their relation to existing or potential nitrate-nitrogen pollution and drinking water sources. Include areas where existing nitrate-nitrogen levels are in excess of five mg/l. (Reference-Title 25, §71.21.a.1.iii).
- II-13 E. Topography - Depict slopes that are suitable for conventional systems; slopes that are suitable for elevated sand mounds; slopes that are unsuitable for on-lot systems. (Reference-Title 25, §71.21.a.1.ii).
- II-17 F. Potable Water Supplies - Identification through mapping, description and analysis to include available public water supply capacity and aquifer yield for groundwater supplies. (Reference-Title 25 §71.21.a.1.vi). Section V.C. of the Planning Guide.
- II-5 G. Wetlands-Identify wetlands as defined in Title 25, Chapter 105 by description, analysis and mapping. Include National Wetland Inventory mapping and potential wetland areas per USDA, SCS mapped hydric soils. Proposed collection, conveyance and treatment facilities and lines must be located and labeled, along with the identified wetlands, on the map. (Reference-Title 25, §71.21.a.1.v). Appendix B, Section II.I of the Planning Guide.

### III. Existing Sewage Facilities in the Planning Area - Identifying the Existing Needs

- A. Identify, map and describe municipal and non-municipal, individual and community sewerage systems in the planning area including:
  - III-1 1. Location, size and ownership of treatment facilities, main intercepting lines, pumping stations and force mains including their size, capacity, point of discharge. Also include the name of the receiving stream, drainage basin, and the facility's effluent discharge requirements. (Reference-Title 25, §71.21a.2.i.A).
  - III-1 2. A narrative and schematic diagram of the facility's basic treatment processes including the facility's NPDES permitted capacity, and the Clean Streams Law permit number. (Reference-Title 25, §71.21.a.2.i).
  - III-1 3. A description of problems with existing facilities (collection, conveyance and/or treatment), including existing or projected overload under Title 25, Chapter 94 (relating to municipal wasteload management) or violations of the NPDES permit, Clean Streams Law permit, or other permit, rule or regulation of the department. (Reference-Title 25, §71.21.a.2.i.B).
  - III-1 4. Details of scheduled or in-progress upgrading or expansion of treatment facilities and the anticipated completion date of the improvements. Discuss any remaining reserve capacity and the policy concerning the allocation of reserve capacity. Also discuss the compatibility of the rate of growth to existing and proposed wastewater treatment facilities. (Reference-Title 25, §71.21.a.4.i & ii).
  - III-1 5. A detailed description of operation and maintenance requirements of the municipality for on-lot systems and the status of past and present compliance with these requirements and any other requirements relating to sewage management programs. (Reference-Title 25, §71.21.a.2.i.C).
  - III-2 6. Disposal areas, if other than stream discharge, and any applicable groundwater limitations. (Reference-Title 25, §71.21.a.4.i & ii).
- B. Using DEP's manual titled "Sewage Disposal Needs Identification Guidance," identify, map and describe areas that utilize individual and community on-lot sewage disposal and, unpermitted collection and disposal systems ("wildcat" sewers, borehole disposal, etc.) and

retaining tank systems in the planning area including:

- \_\_\_\_\_ III-1 1. The types of systems in use. (Reference-Title 25, §71.21.a.2.ii.A).
  - \_\_\_\_\_ III-1 2. A sanitary survey complete with a description of documented and potential public health pollution, and operational problems (including malfunctioning systems) with the systems, including violations of local ordinances, the Sewage Facilities Act, the Clean Stream Law or regulations promulgated thereunder. (Reference-Title 25, §71.21.a.2.ii.B).
  - \_\_\_\_\_ III-2 3. A comparison of the types of on-lot sewage systems installed in an area with the types of systems which are appropriate for the area according to soil, geologic conditions, topographic limitations sewage flows, and Title 25 Chapter 73 (relating to standards for sewage disposal facilities). (Reference-Title 25, §71.21.a.2.ii.C).
  - \_\_\_\_\_ III-2 4. An individual water supply survey to identify possible contamination by malfunctioning on-lot sewage disposal systems consistent with the DEP Sewage Disposal Needs Identification Guidance manual. (Reference-Title 25 §71.21.a.2.ii.B).
- C. Identify wastewater sludge and septage generation, transport and disposal methods. Include this information in the sewage facilities alternative analysis including:
- \_\_\_\_\_ III-2 1. Location of sources of wastewater sludge or septage (Septic tanks, holding tanks, wastewater treatment facilities). (Reference-Title 25 §71.71).
  - \_\_\_\_\_ III-2 2. Quantities of the types of sludges or septage generated. (Reference-Title 25 §71.71).
  - \_\_\_\_\_ III-2 3. Present disposal methods, locations, capacities and transportation methods. (Reference-Title 25 §71.71).

#### IV. Future Growth and Land Development

A. Delineate and describe the following through map, text and analysis:

- \_\_\_\_\_ IV-1 1. Areas with existing development or plotted subdivisions. Include the name, location, description, total number of EDU's in development, total number of EDU's currently developed and total number of EDUs remaining to be developed (include time schedule for EDU's remaining to be developed). (Reference-Title 25, §71.21.a.3.i).
- \_\_\_\_\_ IV-3 2. Land use designations established under the Pennsylvania Municipalities Planning Code (35 P.S. 10101-11202), including residential, commercial and industrial areas. (Reference-Title 25, §71.21.a.3.ii). Include a comparison of proposed land use as allowed by zoning and existing sewage facility planning. (Reference-Title 25, §71.21.a.3.iv).
- \_\_\_\_\_ IV-3 3. Future growth areas with population and EDU projections for these areas using historical, current and future population figures and projections of the municipality. Discuss and evaluate discrepancies between local, county, state and federal projections as they relate to sewage facilities. (Reference-Title 25, §71.21.a.1.iv). (Reference-Title 25, §71.21.a.3.iii).
- \_\_\_\_\_ IV-4 4. Zoning, and/or subdivision regulations; local, county or regional comprehensive plans; and existing plans of a Commonwealth agency relating to the development, use and protection of land and water resources with special attention to: (Reference-Title 25, §71.21.a.3.iv).

--public ground/surface water supplies

- recreational water use areas
- groundwater recharge areas
- industrial water use
- wetlands

IV-6

5. Sewage planning to provide adequate wastewater treatment for the municipality. This planning must be related to both the five and ten year future planning periods and be based on growth impacts on existing and proposed wastewater collection and treatment facilities. (Reference-Title 25, §71.21.a.3.v).

**V. Identify Alternatives to Provide New or Improved Wastewater Disposal Facilities**

A. Conventional collection, conveyance, treatment and discharge alternatives including:

Discussed  
Throughout  
Chapter

1. The potential for regional wastewater treatment. (Reference-Title 25, §71.21.a.4).
2. The potential for extension of existing municipal or non-municipal sewage facilities to areas in need of new or improved sewage facilities. (Reference-Title 25, §71.21.a.4.i).
3. The potential for the continued use of existing municipal or non-municipal sewage facilities through one or more of the following: (Reference-Title 25, §71.21.a.4.ii).
  - a. Repair. (Reference-Title 25, §71.21.a.4.ii.A).
  - b. Upgrading. (Reference-Title 25, §71.21.a.4.ii.B).
  - c. Reduction of hydraulic or organic loading to existing facilities. (Reference-Title 25, §71.71).
  - d. Improved operation and maintenance. (Reference-Title 25, §71.21.a.4.ii.C).
  - e. Other applicable actions that will resolve or abate the identified problems. (Reference-Title 25, §71.21.a.4.ii.D).
4. The need for construction of new community sewage systems including sewer systems and/or treatment facilities. (Reference-Title 25, §71.21.a.4.iii).
5. Repair or replacement of collection and conveyance system components. (Reference-Title 25, §71.21.a.4.ii.A).
6. Use of innovative/alternative methods of collection/conveyance to serve needs areas using existing wastewater treatment facilities. (Reference-Title 25, §71.21.a.4.ii.B).

**Discussed  
Throughout  
Chapter**

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B. The use of individual sewage disposal systems including individual residential spray irrigation systems based on:

1. Soil and slope suitability. (Reference-Title 25, 71.21.a.2.ii.C).
2. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.21.a.2.ii.C).
3. The establishment of a sewage management program. (Reference-Title 25, §71.21.a.4.iv). See also Part "F" below.
4. The repair, replacement or upgrading of existing malfunctioning systems in areas suitable for on-lot disposal considering: (Reference-Title 25, §71.21.a.4).
  - a. Existing technology and sizing requirements of Title 25 Chapter 73. (Reference-Title 25, §73.31-73.72).
  - b. Use of expanded absorption areas or alternating absorption areas. (Reference-Title 25, §73.16).
  - c. Use of water conservation devices. (Reference-Title 25, §71.73.b.2.iii).

**Discussed  
Throughout  
Chapter**

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C. The use of small flow sewage treatment facilities or package treatment facilities to serve individual homes or clusters of homes based on: (Reference-Title 25, §71.64.d).

1. Treatment and discharge requirements. (Reference-Title 25, §71.64.d).
2. Soil suitability. (Reference-Title 25, §71.64.c.1).
3. Preliminary hydrogeologic evaluation. (Reference-Title 25, §71.64.c.2).
4. Agency or other controls over operation and maintenance requirements. (Reference-Title 25, §71.64.d). See Part "F" below.

**Discussed  
Throughout  
Chapter**

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D. The use of community land disposal alternatives including:

1. Soil and site suitability. (Reference-Title 25, 71.21.a.2.ii.C).
2. Preliminary hydrogeologic evaluation. (Reference-Title 25, 71.21.a.2.ii.C).
3. Controls over operation and maintenance requirements through a Sewage Management Program (Reference-Title 25, 71.21.a.2.ii.C). See Part "F" below.
4. The rehabilitation or replacement of existing malfunctioning community land disposal systems. (See Part V, B, 4, a, b, c above). See also Part "F" below.

**Discussed  
Throughout  
Chapter**

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- E. The use of retaining tank alternatives on a temporary or permanent basis including: (Reference- Title 25, §71.21.a.4).
1. Commercial, residential and industrial use. (Reference-Title 25, §71.63.e).
  2. Designated conveyance facilities (pumper trucks). (Reference-Title 25, §71.63.b.2).
  3. Designated treatment facilities or disposal site. (Reference-Title 25, 71.63.b.2).
  4. Implementation of a retaining tank ordinance by the municipality. (Reference-Title 25, §71.63.b.2). See Part "F" below.
  5. Financial guarantees when retaining tanks are used as an interim sewage disposal measure. ( Reference-Title 25, §71.63.c.2).

**Discussed  
Throughout  
Chapter**

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- F. Sewage management programs to assure the future operation and maintenance of existing and proposed sewage facilities through:
1. Municipal ownership or control over the operation and maintenance of individual on-lot sewage disposal systems, small flow treatment facilities, or other traditionally non-municipal treatment facilities. (Reference-Title 25, §71.21.a.4.iv).
  2. Required inspection of sewage disposal systems on a schedule established by the municipality. (Reference-Title 25, §71.73.b.1).
  3. Required maintenance of sewage disposal systems including septic and aerobic treatment tanks and other system components on a schedule established by the municipality. (Reference-Title 25, §71.73.b.2).
  4. Repair, replacement or upgrading of malfunctioning on-lot sewage systems. (Reference-Title 25, §71.21.a.4.iv) through:
    - a. Aggressive pro-active enforcement of ordinances which require operation and maintenance and prohibit malfunctioning systems. (Reference-Title 25, §71.73.b.5).
    - b. Public education programs to encourage proper operation and maintenance and repair of sewage disposal systems.
  5. Establishment of joint municipal sewage management programs. (Reference-Title 25, §71.73.b.8).
  6. Requirements for bonding, escrow accounts, management agencies or associations to assure operation and maintenance for non-municipal facilities. (Reference-Title 25, §71.71).

**Discussed  
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- G. Non-structural comprehensive planning alternatives that can be undertaken to assist in meeting existing and future sewage disposal needs including: (Reference-Title 25, §71.21.a.4).
  - 1. Modification of existing comprehensive plans involving:
    - a. Land use designations. (Reference-Title 25, §71.21.a.4).
    - b. Densities. (Reference-Title 25, §71.21.a.4).
    - c. Municipal ordinances and regulations. (Reference-Title 25, §71.21.a.4).
    - d. Improved enforcement. (Reference-Title 25, §71.21.a.4).
    - e. Protection of drinking water sources. (Reference-Title 25, §71.21.a.4).
  - 2. Consideration of a local comprehensive plan to assist in producing sound economic and consistent land development. (Reference-Title 25, §71.21.a.4).
  - 3. Alternatives for creating or changing municipal subdivision regulations to assure long-term use of on-site sewage disposal which consider lot sizes and protection of replacement areas. (Reference-Title 25, §71.21.a.4).
  - 4. Evaluation of existing local agency programs and the need for technical or administrative training. (Reference-Title 25, §71.21.a.4).

**Discussed  
Throughout  
Chapter**

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- H. A no-action alternative which includes discussion of both short-term and long-term impacts on: (Reference-Title 25, §71.21.a.4).
  - 1. Water Quality/Public Health. (Reference-Title 25, §71.21.a.4).
  - 2. Growth potential (residential, commercial, industrial). (Reference-Title 25, 71.21.a.4).
  - 3. Community economic conditions. (Reference-Title 25, 71.21.a.4).
  - 4. Recreational opportunities. (Reference-Title 25, §71.21.a.4).
  - 5. Drinking water sources. (Reference-Title 25, §71.21.a.4).
  - 6. Other environmental concerns. (Reference-Title 25, 71.21.a.4).

**VI. Evaluation of Alternatives**

- A. Technically feasible alternatives identified in Section V of this check-list must be evaluated for consistency with respect to the following: (Reference-Title 25, §71.21.a.5.i.A).

**VI-1**

- 1. Applicable plans developed and approved under Sections 4 and 5 of the Clean Streams Law or Section 208 of the Clean Water Act (33 U.S.C.A. 1288). (Reference-Title 25, §71.21.a.5.i.A). Appendix B, Section II.A of the Planning Guide.

- VI-1
2. Municipal wasteload management plans developed under PA Code, Title 25, Chapter 94. (Reference-Title 25, §71.21.a.5.i.B). The municipality's recent Wasteload Management (Chapter 94) Reports should be examined to determine if the proposed alternative is consistent with the recommendations and findings of the report. Appendix B, Section II.B of the Planning Guide.
- VI-1
3. Plans developed under Title II of the Clean Water Act (33 U.S.C.A. 1281-1299) or Titles II and VI of the Water Quality Act of 1987 (33 U.S.C.A 1251-1376). (Reference-Title 25, §71.21.a.5.i.C). Appendix B, Section II.E of the Planning Guide.
- VI-2
4. Comprehensive plans developed under the Pennsylvania Municipalities Planning Code. (Reference-Title 25, §71.21.a.5.i.D). The municipality's comprehensive plan must be examined to assure that the proposed wastewater disposal alternative is consistent with land use and all other requirements stated in the comprehensive plan. Appendix B, Section II.D of the Planning Guide.
- VI-2
5. Antidegradation requirements as contained in PA Code, Title 25, Chapters 93, 95 and 102 (relating to water quality standards, wastewater treatment requirements and erosion control) and the Clean Water Act. (Reference-Title 25, §71.21.a.5.i.E). Appendix B, Section II.F of the Planning Guide.
- VI-2
6. State Water Plans developed under the Water Resources Planning Act (42 U.S.C.A. 1962-1962 d-18). (Reference-Title 25, §71.21.a.5.i.F). Appendix B, Section II.C of the Planning Guide.
- VI-2
7. Pennsylvania Prime Agricultural Land Policy contained in Title 4 of the Pennsylvania Code, Chapter 7, Subchapter W. Provide narrative on local municipal policy and an overlay map on prime agricultural soils. (Reference-Title 25, §71.21.a.5.i.G). Appendix B, Section II.G of the Planning Guide.
- VI-2
8. County Stormwater Management Plans approved by DEP under the Storm Water Management Act (32 P.S. 680.1-680.17). (Reference-Title 25, §71.21.a.5.i.H). Conflicts created by the implementation of the proposed wastewater alternative and the existing recommendations for the management of stormwater in the county Stormwater Management Plan must be evaluated and mitigated. If no plan exists, no conflict exists. Appendix B, Section II.H of the Planning Guide.
- VI-2
9. Using wetland mapping developed under Section II.A.7, identify and discuss mitigative measures including the need to obtain permits for any encroachments on wetlands from the construction or operation of any proposed wastewater facilities. Appendix B, Section II.I of the Planning Guide.
- VI-3
10. Protection of rare, endangered or threatened plant and animal species as identified by the Pennsylvania Natural Diversity Inventory (PNDI). (Reference-Title 25, §71.21.a.5.i.J). Provide the department with a copy of the completed Request For PNDI Search document. Also provide a copy of the response letter from the Department of Conservation and Natural Resources' Bureau of Forestry regarding the findings of the PNDI search. Appendix B, II.J.

- VI-3 11. Historical and archaeological resource protection under P.C.S. Title 37, Section 507 relating to cooperation by public officials with the Pennsylvania Historical and Museum Commission. (Reference-Title 25, §71.21.a.5.i.K). Provide the department with a completed copy of a Cultural Resource Notice request to the Bureau of Historic Preservation (BHP) to provide a listing of known historical sites and potential impacts on known archaeological and historical sites. Also provide a copy of the response letter from the BHP. Appendix B, Section II.K of the Planning Guide.
- VI-3 B. Provide for the resolution of any inconsistencies in any of the points identified in Section VI.A. of this checklist by submitting a letter from the appropriate agency stating that the agency has received, reviewed and concurred with the resolution of identified inconsistencies. (Reference-Title 25, §71.21.a.5.ii). Appendix B of the Planning Guide.
- VI-3 C. Evaluate alternatives identified in Section V of this checklist with respect to applicable water quality standards, effluent limitations or other technical, legislative or legal requirements. (Reference-Title 25, §71.21.a.5.iii).
- VI-3 D. Provide cost estimates using present worth analysis for construction, financing, on going administration, operation and maintenance and user fees for alternatives identified in Section V of this checklist. Estimates shall be limited to areas identified in the plan as needing improved sewage facilities within five years from the date of plan submission. (Reference-Title 25, §71.21.a.5.iv).
- VI-4 E. Provide an analysis of the funding methods available to finance the proposed alternatives evaluated in Section V of this checklist. Also provide documentation to demonstrate which alternative and financing scheme combination is the most cost-effective; and a contingency financial plan to be used if the preferred method of financing cannot be implemented. The funding analysis shall be limited to areas identified in the plan as needing improved sewage facilities within five years from the date of the plan submission. (Reference-Title 25, §71.21.a.5.v).
- F. Analyze the need for immediate or phased implementation of each alternative proposed in Section V of this checklist including: (Reference-Title 25, §71.21.a.5.vi).
- VI-6 1. A description of any activities necessary to abate critical public health hazards pending completion of sewage facilities or implementation of sewage management programs. (Reference-Title 25, §71.21.a.5.vi.A).
- VI-6 2. A description of the advantages, if any, in phasing construction of the facilities or implementation of a sewage management program justifying time schedules for each phase. (Reference-Title 25, §71.21.a.5.vi.B).
- VII-1 G. Evaluate administrative organizations and legal authority necessary for plan implementation. (Reference - Title 25, §71.21.a.5.vi.D).

**VII. Institutional Evaluation**

A. Provide an analysis of all existing wastewater treatment authorities, their past actions and present performance including:

VII-1  
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\_\_\_\_\_  
\_\_\_\_\_

1. Financial and debt status. (Reference-Title 25, §71.61.d.2).
2. Available staff and administrative resources. (Reference-Title 25, §71.61.d.2).
3. Existing legal authority to:
  - a. Implement wastewater planning recommendations. (Reference-Title 25, §71.61.d.2).
  - b. Implement system-wide operation and maintenance activities. (Reference-Title 25, §71.61.d.2).
  - c. Set user fees and take purchasing actions. (Reference-Title 25, §71.61.d.2).
  - d. Take enforcement actions against ordinance violators. (Reference-Title 25, §71.61.d.2).
  - e. Negotiate agreements with other parties. (Reference-Title 25, §71.61.d.2).
  - f. Raise capital for construction and operation and maintenance of facilities. (Reference-Title 25, §71.61.d.2).

VII-1  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. Provide an analysis and description of the various institutional alternatives necessary to implement the proposed technical alternatives including:

1. Need for new municipal departments or municipal authorities. (Reference-Title 25, §71.61.d.2).
2. Functions of existing and proposed organizations (sewer authorities, on-lot maintenance agencies, etc.). (Reference-Title 25, §71.61.d.2).
3. Cost of administration, implementability, and the capability of the authority/agency to react to future needs. (Reference-Title 25, §71.61.d.2).

C. Describe all necessary administrative and legal activities to be completed and adopted to ensure the implementation of the recommended alternative including:

VII-1  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1. Incorporation of authorities or agencies. (Reference-Title 25, §71.61.d.2).
2. Development of all required ordinances, regulations, standards and inter-municipal agreements. (Reference-Title 25, §71.61.d.2).
3. Description of activities to provide rights-of-way, easements and land transfers. (Reference-Title 25, §71.61.d.2).
4. Adoption of other municipal sewage facilities plans. (Reference-Title 25, §71.61.d.2).
5. Any other legal documents. (Reference-Title 25, §71.61.d.2).
6. Dates or timeframes for items 1-5 above on the project's implementation schedule.

\_\_\_\_\_ VII-1 \_\_\_\_\_

- D. Identify the proposed institutional alternative for implementing the chosen technical wastewater disposal alternative. Provide justification for choosing the specific institutional alternative considering administrative issues, organizational needs and enabling legal authority. (Reference-Title 25, §71.61.d.2).

**VIII. Justification for Selected Technical & Institutional Alternatives**

- A. Identify the technical wastewater disposal alternative which best meets the wastewater treatment needs of each study area of the municipality. Justify the choice by providing documentation which shows that it is the best alternative based on:

\_\_\_\_\_ Discussed  
\_\_\_\_\_ Throughout  
\_\_\_\_\_ Chapter  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1. Existing wastewater disposal needs. (Reference-Title 25, §71.21.a.6).
2. Future wastewater disposal needs. (5 and 10 years growth areas). (Reference-Title 25, §71.21.a.6).
3. Operation and maintenance considerations. (Reference-Title 25, §71.21.a.6).
4. Cost-effectiveness. (Reference-Title 25, §71.21.a.6).
5. Available management and administrative systems. (Reference-Title 25, §71.21.a.6).
6. Available financing methods. (Reference-Title 25, §71.21.a.6).
7. Environmental soundness and compliance with natural resource planning and preservation programs. (Reference-Title 25, §71.21.a.6).

- B. Designate and describe the capital financing plan chosen to implement the selected alternative(s). Designate and describe the chosen back-up financing plan.

## **PLAN SUMMARY**

This plan represents an Official Sewage Facilities Plan for Franklin Township in Chester County, Pennsylvania. The purpose of this Plan is to evaluate the wastewater needs of the Kemblesville Study Area, and to evaluate wastewater treatment and disposal methods in the other Study Areas.

The basic features of the Plan are as follows:

- The selected alternative for the Kemblesville Study Area is use of a grinder pump/force main collection and conveyance system with treatment and disposal occurring at the proposed Echo Hill Farms development. The type of treatment and disposal at Echo Hill Farms will be decided by the Township during Sewage Planning Module review and approval process.
- The selected alternative for the remaining Study Areas is use of either the Individual On-Lot Disposal (OLDS) or Community On-Lot Disposal (COLDS) Selection Strategies depending on the development type (i.e., cluster or conventional) chosen by the developer and approved by the Township.
- Where COLDS are used, the Township will choose the type of treatment and disposal technology on a case-by-case basis depending on site specific considerations.
- The Township intends to own and operate any privately constructed community systems either by requiring a continuing offer of dedication or by stipulating the transfer of ownership to occur at some prescribed level of build-out.
- The Township will adopt an OLDS Management Ordinance that requires proof of pump out once every three (3) years.

## **IMPLEMENTATION SCHEDULE**

The implementation of the selected alternative for the Kemblesville Study Area is completely contingent upon the proposed development of Echo Hill providing additional capacity in the COLDS for the Study Area. Although there has been considerable land development submittal activity in the area, no Sewage Planning Module has been officially submitted that would accommodate the wastewater needs of the Study Area. For this reason, no implementation schedule is provided herein. The Township fully intends and commits to actively pursuing additional capacity in the COLDS being proposed in the area. Once a development plan and sewage planning module have been approved, the Township will pursue design and permitting of the collection and conveyance system serving the Kemblesville Study Area.

RESOLUTION NO. 2001 - 24  
Township of Franklin  
Chester County, Pennsylvania

**A resolution of the Township of Franklin, Chester County, Pennsylvania for  
adoption of an Act 537 Sewage Facilities Plan.**

WHEREAS Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act", as amended, and the Rules and Regulations of the Pennsylvania Department of Environmental Protection, the Department adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, requires municipalities to adopt an Official Sewage Facilities Plan for the provision of adequate sewage systems and to revise said plan from time to time as may be necessary, and

WHEREAS Franklin Township has prepared the said Sewage Facilities Plan and has found it to be adequate for the wastewater disposal and management needs of the planning area.

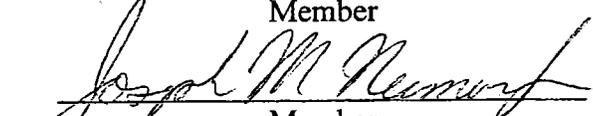
NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of Franklin Township that Franklin Township hereby adopts the plan known as the Franklin Township Act 537 Sewage Facilities Plan, this 13<sup>th</sup> day of December 2001. The Franklin Township Board of Supervisors hereby assures the Department of the proper and timely implementation of the said Plan as set forth therein.

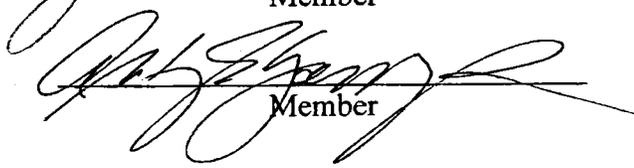
The Plan provides for the Kemblesville Study Area to be served by a proposed treatment and disposal facility for the Echo Hill Farms development. Sewage will be conveyed from Kemblesville via individual inder pumps and a low pressure force main. Other areas of the Township will be served by either individual or community on-lot systems depending on the development type approved by the Township. The Plan also provides for an on-lot management program that requires a property owner to provide proof to the Township that the system has been pumped out at least once every three years.

FRANKLIN TOWNSHIP  
BOARD OF SUPERVISORS

  
Chairman

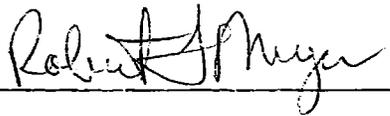
  
Member

  
Member

  
Member

Member

Attest:



Supervisor Yarmolyk made a motion to approve a drawdown in the amount of \$111,544.00 from the escrow created by Land Associates, Inc. for the White Briar Subdivision. Chairman Walls seconded the motion and the vote was unanimous.

**Zoning Officer's Report:** Township Manager Meyer reported that five (5) Building Permits were issued and eleven (11) construction inspections were completed in September.

**Snow Removal:** Chairman Walls tabled the opening of the Snow Removal Bid received until the Board of Supervisors meeting in November or after a five (5) day advertised notice for a special meeting.

**Walker Road Improvements:** The township received one bid on the proposed project to widen Walker Road. Chairman Walls opened the bid from S. A. Macanga and reported that the total bid amount was \$19,678.00 and a 10% Bid Bond was attached. Chairman Walls presented the bid package to Lloyd Noll for review of completeness and accuracy.

**Zoning Ordinance Review:** Township Manager Meyer stated that the next meeting to review ordinances will be held on November 5, 2001. The proposed ordinance for the servicing of on-lot sewer systems will be presented at the next Planning Commission meeting. The key issue in preparing the draft of this ordinance is to define the starting point.

**Other:**

Act 537: Township Manager Meyer requested the Board to advertise the availability of the proposed Act 537 Plan for public inspection for 30 days and that the Board consider the plan for adoption at the Board of Supervisors meeting in December. Supervisor Yarmolyk stated that the Board would address comments received and incorporate any appropriate changes to the draft of the plan to be adopted and submitted to the outside agencies for approval.

Chairman Walls made a motion to advertise the 30 day public comment period of the proposed draft of the Act 537 Plan. Supervisor Yarmolyk seconded the motion and the vote was unanimous.

Impact Fee Study Committee: Mr. Kevin Barrows reported that the committee has requested information from the county to help determine what roads will be impacted in the future. The committee may not be able to meet the end of the year deadline and the approval by Chester County may take 30 days.

Equipment Purchase: The equipment that the township would like to purchase for the loading of salt into the trucks for snow removal during the winter season has not been located. Chairman Walls had the township's request for equipment added to a list at Federal Surplus and will continue the search for the equipment.

**Public Comment:** Ms. Berdsie Ott requested clarification of the bid process on snow removal and other major projects.

January 4, 2002

Mr. William H. Fulton, AICP  
Planning Commission  
601 Westtown Road  
Government Services Center, Suite 270  
P.O. Box 2747  
West Chester, PA 19380

**FILE COPY**

**Re: Franklin Township Act 537 Plan Update**

Dear Mr. Fulton:

Thank you for your letter dated November xx, 2001 to Chairman Walls concerning the Franklin Act 537 Plan. In response to your specific comments, we offer the following:

**A. Consistency with the County Plan – *Landscapes***

1. No comment necessary.
2. No comment necessary.

**B. Selection of Alternative:**

1. No comment necessary.

**C. General Comments**

1. Page I-3. Zoning Ordinance – The Zoning Map from the Township Zoning Ordinance has been added to the Plan.
2. Page II-1. Delineation of Study Area – The Future Land Use Map from the Township Comprehensive Plan has been added to this Plan.
3. Page IV-5 & 6. Wild and Scenic Program – The text has been updated to reflect the recent designation of the White Clay Creek as a Wild and Scenic River.
4. Page V-13. Individual On-Lot Disposal Systems (OLDS) – No comment necessary.
5. Page V-13. Community On-Lot Disposal Systems (COLDS) – The Township prefers to consider the types of COLDS proposed for a particular development on a case by case basis. This will allow the maximum flexibility to react to the specific needs of the Township and developer based on the characteristics of the site.
6. Page V-15. Kemblesville Study Area – A reference in the text has been added to direct the reader to Table VIII-1 to show the existing and future wastewater flows of the Village of Kemblesville.

7. Page V-16. Gravity – The reference has been changed to read ‘Map’ as opposed to ‘Figure’.
8. Page V-16. Low Pressure Force Main – The reference has been changed to read ‘Map’ as opposed to ‘Figure’.
9. Page V-22. Management System for Individual OLDS – Comment noted.
10. Page VI-1. Consistency Evaluation – A statement has been included to indicate the level of consistency with the County Comprehensive Plan, *Landscapes*.
11. Map VIII-1. Kemblesville Study Area – The page sequence has been corrected.
12. Page VIII-1. Existing and Future Wastewater Disposal Needs – The reference has been changed to read ‘Map’ as opposed to ‘Figure’.
13. Page VIII-1. Existing and Future Wastewater Disposal Needs – The Township is in the process of reviewing a combined Sewage Planning Module for Echo Hill Farms, the McMaster Tract and the Sharr property. Based on a telephone conversation with the Township Engineer, the draft-combined module for these developments appears to include approximately 20,000 gpd of additional capacity in the treatment and disposal system to serve the Village of Kemblesville. The Township will assure that, at a minimum, this additional capacity be set aside for the wastewater needs of the Village. To clarify the Draft Plan, a statement has been added to Section VII.A.1 stating:  
  
*At the time of adoption of this plan by the Township, the original proposed development of Echo Hill Farms was no longer being considered by the Township. A new Echo Hill Farms proposal was being considered which combined wastewater flows from other nearby proposed developments. The Selected Alternative remains unchanged – flows from the Kemblesville Study Area will be conveyed via grinder pumps and low pressure force main to the treatment system for the proposed developments. The type of treatment and disposal for the above-mentioned developments will be decided by the Township during the review of the Sewage Planning Module for the same. In addition, the Township will assure that additional capacity is provided in the proposed treatment and disposal system serving the proposed developments to accommodate the wastewater needs of the Village of Kemblesville.*
14. Page VIII-6. Chesterville Study Area. – The reference has been changed to ‘Table VIII-2’

The above-mentioned revisions will be made to the Plan that is sent to DEP. We hope the above addresses any concerns you may have. Again, thank you for your comments.

If you have any questions or need additional information, please do not hesitate to call.

Sincerely,

**URS Corporation**

Christopher J. Rogers, AICP  
Project Manager

cc: Glen Stinson  
Lloyd Noll – Pennoni



# THE COUNTY OF CHESTER


**COMMISSIONERS:**

Colin A. Hanna, Chairman  
 Karen L. Martynick  
 Andrew E. Dinniman

WILLIAM H. FULTON, AICP  
 Executive Director

**PLANNING COMMISSION**

Government Services Center, Suite 270  
 601 Westtown Road  
 P.O. Box 2747  
 West Chester, PA 19380-0990  
 (610) 344-6285  
 FAX: (610) 344-6515

November 26, 2001

Harold Walls, Chairman  
 Franklin Township Board of Supervisors  
 P.O. Box 118  
 Kemblesville, PA 19347

Re: Act 537 Plan Update

Dear Mr. Walls:

The Chester County Planning Commission (CCPC) has reviewed the Draft 537 Plan dated September 2001 as required by Section 71.53(a)(2) of the Pennsylvania Sewage Facilities Act (Act 537). The Plan/Update, was prepared by URS Corporation. The Plan was received on September 27, 2001.

This Plan was prepared to reflect that the sewage needs of the Village of Kemblesville will be accommodated in the Echo Hill Farms sewage system and to refine other portions of the 1999 draft plan to address the sewage facilities' needs of the entire Township.

The following comments are offered based on review of the draft Plan:

A. Consistency with the County Plan – *Landscapes*:

1. *Landscapes*, through use of the *Livable Landscapes Map*, identifies four general land patterns, or Landscapes, of future development in the County – urban, suburban, rural and natural. The Rural Landscape is characterized by farms, farm-related businesses, villages, and scattered housing sites. In order for this pattern to occur, *Landscapes* supports the provision of necessary sewer and water services to existing rural centers and villages while restricting these services in agricultural areas.
2. Franklin Township is located primarily within the area designated in *Landscapes* as the Rural Landscape. It also contains a large area of the Natural Landscape and a Rural Center in the Kemblesville area. *Landscapes* recommends focusing development within the Rural Centers while limiting growth and population densities within the Rural and Natural Landscapes. In order for this pattern to occur, *Landscapes* supports the provision of necessary sewer and water services to existing rural centers and villages while restricting these services in agricultural areas.

B. Selection of Alternative:

1. We commend the Township officials for their decision to address the problem of failing on-lot sewage systems in the Village of Kemblesville and the agreement to convey the wastewater to the Echo Hill Farms development for treatment and disposal. While this update states that the Township has not yet selected the type of treatment and disposal system to be utilized, from the planning module submitted by the Echo Hill Farms applicant, staff understands that spray and drip irrigation methods are being considered. *Landscapes* policy encourages the use of land application disposal

wherever possible. The Township officials are also commended for the decision to not provide sewers to the Rural and Natural Landscapes within the Township and for their decision to implement a Sewage Management Program and ordinance to regulate the proper operation and maintenance of the on-lot systems. *Landscapes* policy encourages the provision of sewer services to support development in Rural Centers while restricting their extension into Rural and Natural Landscapes.

C. General Comments:

1. Page I-3. Zoning Ordinance – The text discusses the different land use districts within the Township and where they are located. Including the Township’s Zoning Map, which is also referenced on Page II-4, would be a helpful reference.
2. Page II-1. Delineation of Study Area – Throughout the description of the five study areas, the text for Future Land Use refers to the Future Land Use Map of the Comprehensive Plan. A copy of that map should be included here for reference purposes.
3. Page IV-5 & 6. Wild and Scenic Program – The text discusses the potential designation of the White Clay Creek as a Wild and Scenic River. This text needs to be updated since the White Clay Creek received this designation on September 24, 2001.
4. Page V-13. Individual On-Lot Disposal Systems (OLDS) – Staff supports the method chosen by the Township of outlining the selection progression, illustrated in Table V-3, to determine the technology utilized for individual parcels.
- ✓ 5. Page V-13. Community On-Lot Disposal System (COLDS) – The text describes a range of technologies that will be considered by the Township, in no particular order, for new COLDS. While the technology to be used will be considered on a case by case basis, staff recommends that the spray and drip irrigation methods be given preference for wastewater disposal over other methods such as stream discharge.
6. Page V-15. Kemblesville Study Area – The text states that 20,000 gpd has been allocated by the Echo Hill Farms developer to the Township to address the needs of the Village of Kemblesville. However, there is no mention as to how 20,000 gpd was determined to be a sufficient allocation to meet the wastewater disposal needs for the Village of Kemblesville. A reference should be added to the text referring to Table VIII-1 to show the existing and future wastewater flows of the Village of Kemblesville.
7. Page V-16. Gravity – A reference is made at the end of the paragraph to Figure V-1, which is labeled as Map V-1. Previous references in the text refer to maps instead of figures. For consistency, the reference should be changed to Map V-1 before submittal to PADEP.
8. Page V-16. Low Pressure Force Main – A reference is made at the end of this paragraph to Figure V-2, which is labeled as Map V-2. As with the previous comment, the reference should be changed to Map V-2 before submittal to PADEP.
9. Page V-22. Management System for Individual OLDS – Again, staff commends the decision of the Township to implement a Sewage Management Program and ordinance to regulate the proper operation and maintenance of the on-lot systems. Staff also supports the selection of program option 2 from Table V-4 since it requires proof-of-pump out once every three years.

Page: 3  
November 21, 2001  
Re: Act 537 Plan Update  
Franklin Township

10. Page VI-1. Consistency Evaluation - PA Acts 67 and 68 require that plans such as this indicate their level of consistency with County Plans. This section should contain a statement about the consistency with the County Comprehensive Plan, *Landscapes*.
11. Map VIII-1. Kemblesville Study Area – It appears this map has been inserted into the document out of sequence. If Map VIII-1 is intended to follow Page VIII-1, a change should be made to the sequence of these pages before submittal to PADEP.
12. Page VIII-1. Existing and Future Wastewater Disposal Needs - A reference is made at the beginning of the paragraph to Figure VIII-1, which is labeled as Map VIII-1. As with previous comments 7 & 8, the reference should be changed to Map VIII-1 before submittal to PADEP.
13. Page VIII-1. Existing and Future Wastewater Disposal Needs – The Plan states that the total design flow of the proposed treatment and disposal system is 40,000 gpd. Is this just for the Kemblesville collection and conveyance system or the intended capacity of the entire Echo Hill Farms facility? We ask this because in reviewing the Echo Hill Farms / McMaster Tract Planning Module, dated October 18, 2001, the capacity of the treatment facility is designed to handle flows of 77,900 gpd. These figures should be clarified.
14. Page VIII-6. Chesterville Study Area – A reference is made at the top of the page to Table VII-2, however, this table was not included in the document submitted for review and Table VIII-2 appears to contain the intended information. If Table VIII-2 is the intended table to be referenced, a change should be made to the text before submittal to PADEP.

We trust that these comments will be of assistance to you as you prepare the final document for submission to PADEP. Thank you for the opportunity to offer comments on this plan.

Sincerely,



William H. Fulton, AICP  
Secretary

WHF/CG/kp

cc: Glenn Stinson, PADEP  
Ralph DeFazio, CCHD  
Robert Meyer, Township Manager  
Christopher J. Rogers, URS Corporation

September 25, 2001

**FILE COPY**

Mr. William H. Fulton  
Chester County Planning Commission  
601 Westtown Road, Suite 270  
West Chester, Pennsylvania 19380-0990

Sent By Certified Mail

**Re: Franklin Township Official Sewage Facilities Plan**

Dear Mr. Fulton:

On behalf of Franklin Township, and in accordance with the Pennsylvania Sewage Facilities Act, enclosed please find a draft of the Official Sewage Facilities Plan for Franklin Township, Chester County for your review and comment.

The basic features of the Draft Plan are as follows:

- The selected alternative for the Kemblesville Study Area is use of a grinder pump/force main collection and conveyance system with treatment and disposal occurring at the proposed Echo Hill Farms development. The type of treatment and disposal at Echo Hill Farms will be decided by the Township during Sewage Planning Module review and approval process.
- The selected alternative for the remaining Study Areas is use of either the Individual On-Lot Disposal (OLDS) or Community On-Lot Disposal (COLDS) Selection Strategies depending on the development type (i.e., cluster or conventional) chosen by the developer and approved by the Township.
- Where COLDS are used, the Township will choose the type of treatment and disposal technology on a case-by-case basis depending on site specific considerations.
- The Township intends to own and operate any privately constructed community systems either by requiring a continuing offer of dedication or by stipulating the transfer of ownership to occur at some prescribed level of build-out.
- The Township will adopt an OLDS Management Ordinance that requires proof of pump out once every three (3) years.

Please forward any comments that you may have regarding the Draft Plan.

Very truly yours,

**URS Corporation**

Christopher J. Rogers, AICP  
Project Manager

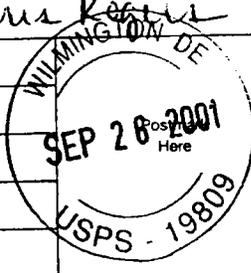
cc: Franklin Township Board of Supervisors

**U.S. Postal Service  
CERTIFIED MAIL RECEIPT**  
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7099 3400 0017 8265 2371

Attn Chris Rogers

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Return Receipt Fee (Endorsement Required)	1.50
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<b>Total Postage &amp; Fees</b>	<b>\$8.80</b>



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 City, State, ZIP+4

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
 William H. Fulton  
 CCPC  
 601 Nuttman Rd.  
 Suite 270  
 West Chester, PA  
 19380

2. Article Number (Copy from service label)

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 IRS CORPORATION

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 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

7099 3400 0017 8265 2371

January 4, 2002

Mr. Ralph DeFazio  
Environmental Health Supervisor  
Chester County Health Department  
Government Services Center, Suite 288  
P.O. Box 2747  
West Chester, PA 19380

**Re: Franklin Township Act 537 Plan**

Dear Mr. DeFazio:

Thank you for your comments, dated November 15, 2001, on the Franklin Township Act 537 Plan. In response to your specific comments, we offer the following:

- The Heritage Village Apartments are within the Parsons Road Study Area which is mostly comprised on High Density Residential (HDR) Zoning. This Zoning category will most likely generate the need for new community system(s) for new development. As development within this Study Area is proposed, the Township will determine the need to provide additional capacity to accommodate the wastewater needs of existing nearby development.
- The Township is in the process of reviewing a combined Sewage Planning Module for Echo Hill Farms, the McMaster Tract and the Sharr property. Based on a telephone conversation with the Township Engineer, the draft-combined module for these developments appears to include approximately 20,000 gpd of additional capacity in the treatment and disposal system to serve the Village of Kemblesville. The Township will assure that, at a minimum, this additional capacity is set aside for the wastewater needs of the Village. To clarify the Draft Plan, a statement has been added to Section VII.A.1 stating:

*At the time of adoption of this plan by the Township, the original proposed development of Echo Hill Farms was no longer being considered by the Township. A new Echo Hill Farms proposal was being considered which combined wastewater flows from other nearby proposed developments. The Selected Alternative remains unchanged – flows from the Kemblesville Study Area will be conveyed via grinder pumps and low pressure force main to the treatment system for the proposed developments. The type of treatment and disposal for the above-mentioned developments will be decided by the Township during the review of the Sewage Planning Module for the same. In addition, the Township will assure that additional capacity is provided in the proposed treatment and disposal system serving the proposed developments to accommodate the wastewater needs of the Village of Kemblesville.*

If you have any questions or need additional information, please do not hesitate to call.

Sincerely,

**URS Corporation**

Christopher J. Rogers, AICP  
Project Manager

cc: Glen Stinson  
Lloyd Noll – Pennoni  
Michael Lane, BVE



# THE COUNTY OF CHESTER



COMMISSIONERS:  
Colin A. Hanna, Chairman  
Karen L. Martynick  
Andrew E. Dinniman

CHESTER COUNTY HEALTH DEPARTMENT  
601 Westtown Road, Suite 288  
P.O. Box 2747  
West Chester, PA 19380-0990  
FAX: 610-344-5934

Sewage/Wells 610-344-6526  
Food/Institution 610-344-6689  
Laboratory 610-344-6439

Certified Food Manager 610-344-5938  
Solid Waste Mgt./Recycling 610-344-5937  
Weights & Measures/Consumer Affairs 610-344-6150  
Engineering/Public Water 610-344-6237

Christopher J. Rogers  
URS Corporation  
1200 Philadelphia Pike  
Wilmington, DE 19809

November 15, 2001

RECEIVED

NOV 26 2001

URS CORPORATION

RE: Franklin Township Official Sewage Facilities Plan

Dear Mr. Rogers:

This Department has reviewed the draft of the Official Sewage Facilities Plan for Franklin Township, prepared by the URS Corporation and dated September 2001. The following comments are offered for your consideration:

- Heritage Village Apartments, located on Gypsy Hill road, has a long history of sewage system malfunctions. Although the property owner is currently investigating the possibility of installing a drip irrigation disposal system to remedy this situation, it may be advisable to address the feasibility of including this site in any consideration of proposed community systems nearby.
- The current proposal for the Echo Hill Farms site involves flows of 24,425 GPD for said property and a maximum allocation of 20,000 GPD for the Village of Kemblesville; the submitted draft plan considers these figures as 14,500 GPD and 23,500 GPD (15,500 existing and 8000 unallocated) respectively. It is recommended that these discrepancies be satisfactorily reconciled without compromising the current and future needs of the Village of Kemblesville.

The aforementioned comments notwithstanding, this Department is satisfied that the draft plan appears to adequately address the current and future sewage disposal needs of Franklin Township.

Sincerely,

Ralph DeFazio  
Environmental Health Supervisor

cc: Franklin Township, Board of Supervisors  
Pennsylvania Department of Environmental Protection  
Chester County Planning Commission  
Stan Corbett, CCHD  
file

September 26, 2001

Mr. Ralph E. DeFazio  
Chester County Health Department  
601 Westtown Road, Suite 288  
West Chester, Pennsylvania 19380-0990

**FILE COPY**

Sent By Certified Mail

**Re: Franklin Township Official Sewage Facilities Plan**

Dear Mr. DeFazio:

On behalf of Franklin Township, and in accordance with the Pennsylvania Sewage Facilities Act, enclosed please find a draft of the Official Sewage Facilities Plan for Franklin Township, Chester County for your review and comment.

The basic features of the Draft Plan are as follows:

- The selected alternative for the Kemblesville Study Area is use of a grinder pump/force main collection and conveyance system with treatment and disposal occurring at the proposed Echo Hill Farms development. The type of treatment and disposal at Echo Hill Farms will be decided by the Township during Sewage Planning Module review and approval process.
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- Where COLDS are used, the Township will choose the type of treatment and disposal technology on a case-by-case basis depending on site specific considerations.
- The Township intends to own and operate any privately constructed COLDS either by requiring a continuing offer of dedication or by stipulating the transfer of ownership to occur at some prescribed level of build-out.
- The Township will adopt an OLDS Management Ordinance that requires proof of pump out once every three (3) years.

Please forward any comments that you may have regarding the Draft Plan.

Very truly yours,

**URS Corporation**

Christopher J. Rogers, AICP  
Project Manager

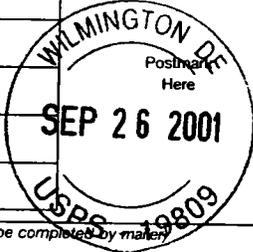
cc: Franklin Township Board of Supervisors

7049 3400 0017 8265 2388

**U.S. Postal Service**  
**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

*Wm. Chris Rogers*

Postage	\$ 5.20
Certified Fee	2.10
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Recipient's Name (Please Print Clearly) (to be completed by mailer)  
**CCHD**  
 Street, Apt. No.; or PO Box No.  
 City, State, ZIP+4  
 PS Form 3800, February 2000 See Reverse for Instructions

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
*Ralph DeFazio*  
*CCHD*  
*601 Nuttman Rd.*  
*Suite 288*  
*W.C., PA 19380*

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) *[Signature]* B. Date of Delivery *9-27-01*  
 C. Signature *[Signature]*  Agent  Addressee

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 Registered  Return Receipt for Merchandise  
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4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number (Copy from service label) *7049 3400 0017 8265 2388*

**FILE COPY**

November 9, 2001

Ms. Jeanne Harris  
Department of Conservation and Natural Resources  
Bureau of Forestry (FAS)  
PNDI Program  
P. O. Box 8552  
Harrisburg, PA 17105-8552

**Re: PER No. 11943, Franklin Township Official Sewage Facilities Plan**

Dear Ms. Harris:

This letter is in response to your letter to me October 12, 2001 regarding the Franklin Township Act 537 Plan (Draft Plan). Please note that the only improvements being specified in the Township's Draft Plan are the collection and conveyance facilities within the Village of Kemblesville which will convey wastewater from the Village to a proposed treatment plant at the nearby proposed development of Echo Hill. I have included a portion of the Newark West and West Grove U.S.G.S 7.5 Minute Quadrangle map with the collection and conveyance system indicated for your convenience. The proposed collection and conveyance facilities serving the Village of Kemblesville will be constructed within the shoulders, or just off the shoulders, of the existing roadways. The collection and conveyance facilities consist of low pressure force mains constructed in shallow trenches or through subsurface tunneling. All other disturbances for wastewater facilities within Franklin Township will be considered during the review of specific Sewage Planning Modules for a particular development, including the treatment plant at Echo Hill.

If you have any questions, or need additional information please do not hesitate to call.

Sincerely,

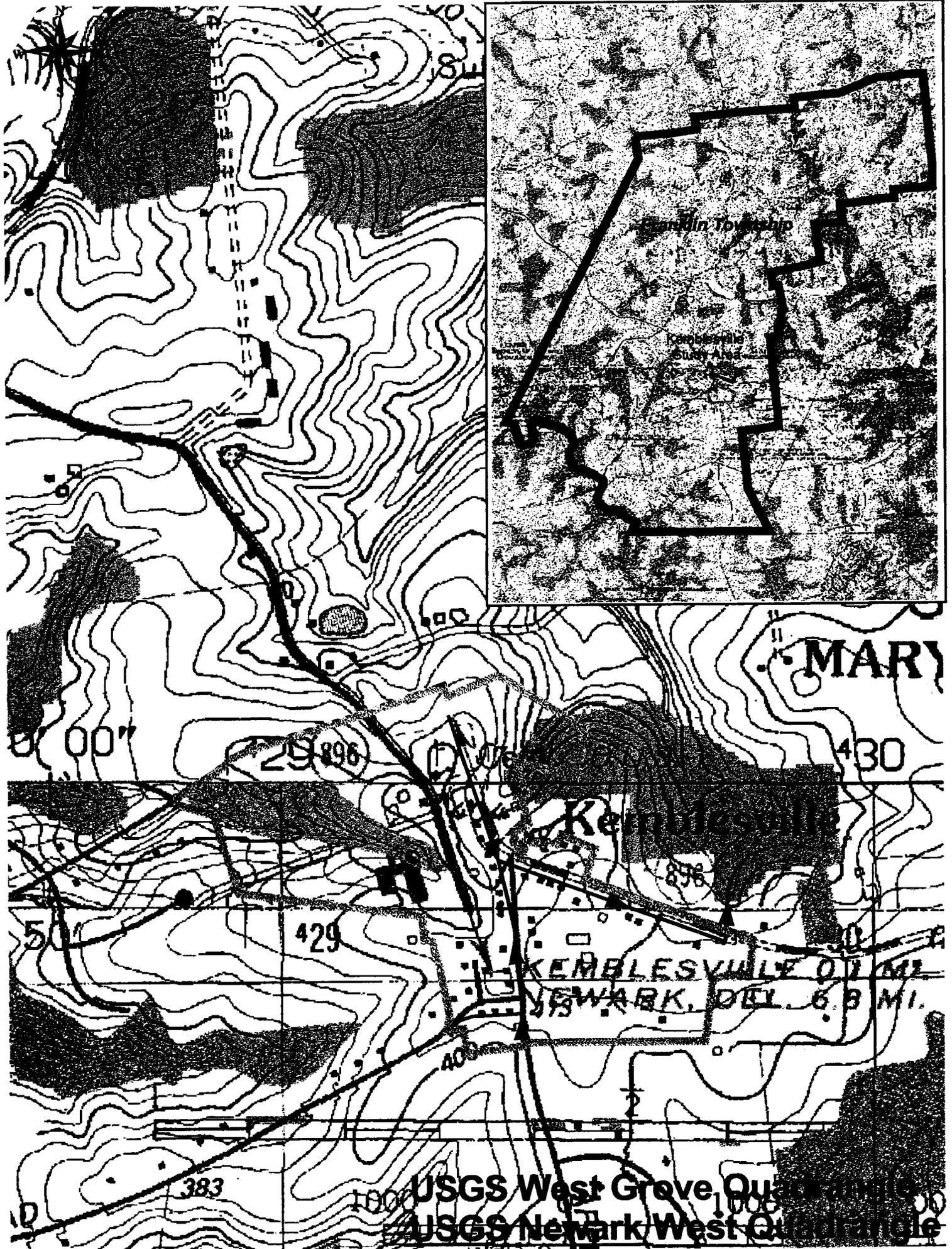
**URS Corporation**



Christopher J. Rogers, AICP  
Project Manager

cc: Robert Meyer- Franklin Township Manager  
Glen Stinson

*Telecon w/ Jeanne Harris on 11/20.  
Still potential for better habitat  
in project vicinity*





# Pennsylvania Natural Diversity Inventory

Scientific information and expertise for the conservation of Pennsylvania's native biological diversity

October 12, 2001

**Bureau of Forestry**

717-772-0258

Fax 717-772-0271

Christopher J. Rogers  
URS Corporation  
1200 Philadelphia Pike  
Wilmington, DE 19809

RECEIVED

OCT 18 2001

URS CORPORATION

**Re: Pennsylvania Natural Diversity Inventory Review of Franklin Township Official Sewage  
Facilities Plan, Chester County, PA.**

**PER No: 11943**

Dear Mr. Rogers,

In response to your request on September 26, 2001, the Pennsylvania Natural Diversity Inventory (PNDI) information system was used to gather information regarding the presence of resources of special concern within the referenced site. PNDI records indicate potential impact to several species of special concern in the project vicinity.

Because of the close proximity of the project to several species of special concern, our office recommends that you contact **Bonnie Crosby** of US Fish & Wildlife Service at (814) 234-4090 and **Andy Shiels** of the Pennsylvania Fish & Boat Commission for recommendations on potential impact on endangered animals in the area.

Pennsylvania Fish and Boat Commission  
Bureau of Fisheries and Engineering  
450 Robinson Lane  
Bellefonte, PA 16823

This response represents the most up-to-date summary of the PNDI data files and is applicable for one year. However, an absence of recorded information does not necessarily imply actual conditions on site. A field survey of any site may reveal previously unreported populations. Should project plans change or additional information on listed or proposed species become available this determination may be reconsidered.

PNDI is a site specific information system that describes significant natural resources of Pennsylvania. This system includes data descriptive of plant and animal species of special concern, exemplary natural communities and unique geological features. PNDI is a cooperative project of the Department of Conservation and Natural Resources, The Nature Conservancy, and the Western Pennsylvania Conservancy.

Please phone this office if you have questions concerning this response or the PNDI system.

Sincerely,

Jeanne Harris

Environmental Review Specialist

September 26, 2001

Department of Conservation and Natural Resources  
Bureau of Forestry (FAS)  
PNDI Program  
P. O. Box 8552  
Harrisburg, PA 17105-8552

**FILE COPY**

Sent By Certified Mail

**Re: Franklin Township Official Sewage Facilities Plan**

To Whom It May Concern:

On behalf of Franklin Township, and in accordance with the Pennsylvania Sewage Facilities Act, enclosed please find a draft of the Official Sewage Facilities Plan for Franklin Township, Chester County for your review and comment. Also enclosed is a portion of the Newark West and West Grove U.S.G.S. 7.5 Minute Quadrangle Maps and a PINDI Data Request Form for your convenience. Please note that the only area proposed for disturbance as a result of this Draft Plan results from the disturbance associated with the collection and conveyance system as shown on Map V-2 of the Draft Plan. Any other disturbances associated with wastewater facilities in Franklin Township will be considered during the review of specific Sewage Planning Modules for a particular development.

The basic features of the Draft Plan are as follows:

- The selected alternative for the Kemblesville Study Area is use of a grinder pump/force main collection and conveyance system with treatment and disposal occurring at the proposed Echo Hill Farms development. The type of treatment and disposal at Echo Hill Farms will be decided by the Township during Sewage Planning Module review and approval process.
- The selected alternative for the remaining Study Areas is use of either the Individual On-Lot Disposal (OLDS) or Community On-Lot Disposal (COLDS) Selection Strategies depending on the development type (i.e., cluster or conventional) chosen by the developer and approved by the Township.
- Where COLDS are used, the Township will choose the type of treatment and disposal technology on a case-by-case basis depending on site specific considerations.
- The Township intends to own and operate any privately constructed community systems either by requiring a continuing offer of dedication or by stipulating the transfer of ownership to occur at some prescribed level of build-out.
- The Township will adopt an OLDS Management Ordinance that requires proof of pump out once every three (3) years.

Please forward any comments that you may have regarding the Draft Plan.

Very truly yours,

**URS Corporation**

Christopher J. Rogers, AICP  
Project Manager

cc: Franklin Township Board of Supervisors

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dept. of Conservation  
 Bureau of Forestry  
 PNDI Program  
 P.O. Box 8552  
 Harrisburg, PA 17105

2. Article Number (Copy from service label)

7099 3400 0017 8265

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
 SEP 28 2001

C. Signature  
 X *Alshaw*  Agent  
 Addressee

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

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 OCT 03 2001

3. Service Type  
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 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

PS Form 3811, July 1999

Domestic Return Receipt

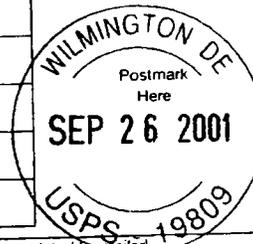
102595-00-M-0952

4932 5928 2100 004E 6601 7099 3400 0017 8265 2364

**U.S. Postal Service  
 CERTIFIED MAIL RECEIPT**  
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*Alta Chris Rogers*

Postage	\$ 5.20
Certified Fee	2.10
Return Receipt Fee (Endorsement Required)	1.50
Restricted Delivery Fee (Endorsement Required)	
<b>Total Postage &amp; Fees</b>	<b>\$ 9.80</b>



Recipient's Name (Please Print Clearly) (to be completed by Mailer)  
 DEPT. OF CONSERVATION  
 Street, Apt. No., or PO Box No.  
 PNDI  
 City, State, ZIP+4

PS Form 3800, February 2000

See Reverse for Instructions



Commonwealth of Pennsylvania  
Pennsylvania Historical and Museum Commission  
**Bureau for Historic Preservation**  
Commonwealth Keystone Building, 2nd Floor  
400 North Street  
Harrisburg, PA 17120-0093  
www.phmc.state.pa.us

December 10, 2001

**RECEIVED**  
**DEC 14 2001**  
**URS CORPORATION**

URS Corporation  
Attn: Christopher J. Rogers  
1200 Philadelphia Pike  
Wilmington, DE 19809

Re: ER# 01-4095-029-B  
DEP: Official Sewage Facilities Plan  
Franklin Township, Chester County

Dear Mr. Rogers:

The Bureau for Historic Preservation has reviewed the above named project under the authority of the Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988). Our comments are as follows:

Thank you for providing the additional information for this project. In our opinion, no archaeological investigations are necessary for the proposed collection and conveyance facilities, given that these facilities will be placed within or next to existing road shoulders.

It is our understanding that all other disturbances for wastewater facilities in Franklin Township will be considered during the review of future planning modules for specific developments, and that this will include the proposed treatment plant at Echo Hill referenced in your letter of November 9, 2001. We appreciate your cooperation in taking into account the potential effects of project activities on this state's significant cultural resources.

If you have any questions or comments concerning our review, please contact Mark Shaffer at (717) 783-9900.

Sincerely,

Kurt W. Carr, Chief  
Division of Archaeology & Protection

cc: DEP, Southeast Region

**FILE COPY**

November 9, 2001

Mr. Kurt W. Carr, Chief  
Division of Archaeology and Protection  
Pennsylvania Historical and Museum Commission  
Bureau of Historic Preservation  
P. O. Box 1026  
Harrisburg, PA 17108

**Re: ER # 2001-4095-029-A, Franklin Township Official Sewage Facilities Plan**

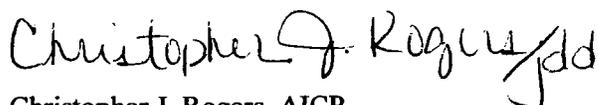
Dear Mr. Carr:

This letter is in response to your letter to me October 18, 2001 regarding the Franklin Township Act 537 Plan (Draft Plan). Please note that the only improvements being specified in the Township's Draft Plan are the collection and conveyance facilities within the Village of Kemblesville which will convey wastewater from the Village to a proposed treatment plant at the nearby proposed development of Echo Hill. I have included a portion of the Newark West and West Grove U.S.G.S 7.5 Minute Quadrangle map with the collection and conveyance system indicated for your convenience. The proposed collection and conveyance facilities serving the Village of Kemblesville will be constructed within the shoulders, or just off the shoulders, of the existing roadways. The collection and conveyance facilities consist of low pressure force mains constructed in shallow trenches or through subsurface tunneling. All other disturbances for wastewater facilities within Franklin Township will be considered during the review of specific Sewage Planning Modules for a particular development, including the treatment plant at Echo Hill.

If you have any questions, or need additional information please do not hesitate to call.

Sincerely,

**URS Corporation**



Christopher J. Rogers, AICP  
Project Manager

cc: Robert Meyer, Franklin Township Manager  
Glen Stinson



Commonwealth of Pennsylvania  
Pennsylvania Historical and Museum Commission  
**Bureau for Historic Preservation**  
Commonwealth Keystone Building, 2nd Floor  
400 North Street  
Harrisburg, PA 17120-0093  
www.phmc.state.pa.us

RECEIVED  
OCT 24 2001  
URS CORPORATION

October 18, 2001

URS Corporation  
Attn: Christopher J. Rogers  
1200 Philadelphia Pike  
Wilmington, DE 19809

Re: ER# 2001-4095-029-A  
DEP: Official Sewage Facilities Plan  
Franklin Township, Chester County

Dear Mr. Rogers:

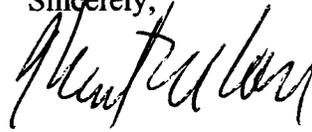
The Bureau for Historic Preservation has reviewed the above named project under the authority of the Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988). Our comments are as follows:

This project is a planning study, therefore this office cannot assess the effects on specific historic and archaeological resources at this time. During the project planning stages, provisions should be made for the identification of historic and archaeological resources listed in or eligible for the National Register of Historic Places and for the assessment of the effects on these resources. The Bureau for Historic Preservation maintains records of National Register listed and eligible resources as well as archaeological surveys (P.A.S.S. files) and historic resource survey files. These surveys vary in their scope and methodology, therefore we recommend that you contact local historical societies and consult tax and deed records for additional information regarding your project area.

In the future, please do not send us the entire municipal sewage facilities plan. The technical data found in the plan has no relevance to cultural resources. If you have specific areas within Franklin Township for which you would like our comments in accordance with the provisions of the State History Code, please provide a succinct project narrative for the activities proposed in such areas and describe the location, nature and extent (horizontal and vertical) of all proposed excavation and project related ground disturbing activity. For all such areas, please clearly outline the areas to be affected on a copy of the appropriate U.S.G.S. topographic map.

If you need further information concerning archaeological resources, please contact Mark Shaffer at (717) 783-9900. If you need further information concerning historic resources, please contact Ann Safley at (717) 787-9121.

Sincerely,

A handwritten signature in black ink, appearing to read "Kurt Carr", written in a cursive style.

Kurt W. Carr, Chief  
Division of Archaeology & Protection

cc: DEP, Southeast Region

September 26, 2001

**FILE COPY**

Pennsylvania Historical and Museum Commission  
Bureau of Historic Preservation  
P. O. Box 1026  
Harrisburg, PA 17108

Sent By Certified Mail

**Re: Franklin Township Official Sewage Facilities Plan**

To Whom It May Concern:

On behalf of Franklin Township, and in accordance with the Pennsylvania Sewage Facilities Act, enclosed please find a draft of the Official Sewage Facilities Plan for Franklin Township, Chester County for your review and comment. Also enclosed is a portion of the Newark West and West Grove U.S.G.S. 7.5 Minute Quadrangle Maps for your convenience. Please note that the only area proposed for disturbance as a result of this Draft Plan results from the disturbance associated with the collection and conveyance system as shown on Map V-2 of the Draft Plan. Any other disturbances associated with wastewater facilities in Franklin Township will be considered during the review of specific Sewage Planning Modules for a particular development.

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- The Township intends to own and operate any privately constructed community systems either by requiring a continuing offer of dedication or by stipulating the transfer of ownership to occur at some prescribed level of build-out.
- The Township will adopt an OLDS Management Ordinance that requires proof of pump out once every three (3) years.

Please forward any comments that you may have regarding the Draft Plan.

Very truly yours,

**URS Corporation**

Christopher J. Rogers, AICP  
Project Manager

cc: Franklin Township Board of Supervisors

**U.S. Postal Service**  
**CERTIFIED MAIL RECEIPT**  
*(Domestic Mail Only; No Insurance Coverage Provided)*

7099 3400 0017 8265 2395

Addressee: <i>Chris Rogers</i>	
Postage	\$ <i>5.20</i>
Certified Fee	<i>2.10</i>
Return Receipt Fee (Endorsement Required)	<i>1.50</i>
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Recipient's Name (Please Print Clearly) (to be completed by mailer)  
*PHMC*

Street, Apt. No., or PO Box No.  
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City, State, ZIP+4  
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PS Form 3800, February 2000 See Reverse for Instructions

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1. Article Addressed to:

*PA Historical and  
 Museum Comm.  
 P.O. Box 1026  
 Harrisburg, PA 17108*

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) | B. Date of Delivery  
 \_\_\_\_\_ | **SEP 27 2001**

C. Signature  
*[Signature]*  Agent  Addressee

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 If YES, enter delivery address below: \_\_\_\_\_

3. Service Type  
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 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number (Copy from service label) *7099 3400 0017 8265 2395*

OK - RSM  
10/29/01

# Proof of Publication of Notice in the Avon Grove Sun West Grove, PA/Journal Register Company

(Under Act. No. 587 Approved May 16, 1929)

State of Pennsylvania  
County of Chester

Edward S. Condra, Publisher of the *Avon Grove Sun*, of the County and State aforesaid, being duly sworn, deposes and says that the *Avon Grove Sun*, a periodical published in West Grove, County and State aforesaid, was established in 1999, since which date the *Avon Grove Sun* has been regularly issued in said County, and that printed notice of publication attached here is exactly the same as was printed and published in the regular editions and issues of the *Avon Grove Sun* on the following dates, viz.,

10/25/01

Affiant further deposes that he is Publisher of the *Avon Grove Sun*, a periodical of general circulation, to verify that foregoing statement under oath, and that neither the affiant nor the *Avon Grove Sun* is interested in the subject matter of the aforesaid notice or advertisement, and that all allegations in the foregoing statement as to time, place and character of publication are true.

### Public Notice

Official Sewage Facilities Plan for Franklin Township

with Title 25, Pennsylvania Code Chapter 71, Franklin Township is accepting comments over the plans on the proposed Official Sewage Facilities Plan for Franklin Township (the Plan). Major items in the Plan include the wastewater needs of the Village of Kemblesville being accommodated proposed Echo Hill Farms development, the use of individual or community on-lot wastewater systems in areas of the Township depending on the development-type, and adoption of an on-lot system management plan. The Plan can be reviewed at the Township Building, 20 Municipal LA, Kemblesville, PA 19347.

Comments must be submitted in writing by November 25, 2001 to:

Robert Meyer, Manager  
Franklin Township  
Box 118  
Kemblesville, PA 19347

10/25/01 218763

to and subscribed before me this

25 Day of OCT., 20 01

*Joan M. Dupuis*  
Notary Public

NOTARIAL SEAL  
JOAN M. DUPUIS, NOTARY PUBLIC  
QUARRYVILLE BOROUGH, COUNTY OF LANCASTER  
MY COMMISSION EXPIRES AUGUST 20, 2005

My Commission Expires

For publishing the notice of publication hereto on the above stated dates ..... \$ 44.00  
Probating same ..... \$ \_\_\_\_\_  
Total ..... \$ 44.00

### Publisher's Receipt for Advertising

The *Avon Grove Sun*, a weekly newspaper, hereby acknowledges receipt of the aforesaid notice and publication costs and certifies that the same have been duly paid.

## CHAPTER I

### PREVIOUS SEWAGE FACILITIES PLANNING

#### A. Existing Sewage Facility Planning

Act 537, enacted by the Pennsylvania Legislature in 1966, requires that every municipality in the state develop and maintain an up-to-date sewage facilities plan. Until this time, the Township has been utilizing a plan entitled, Comprehensive Area-wide Sewage Plan of Chester County, prepared by Roy F. Weston in 1970 as the Official Sewage Plan for the Township. This plan noted that there were no problem areas within the Township and that the Township was served entirely by individual on-lot systems.

Facing increasing development pressure and the realization that the Village of Kemblesville is experiencing problems with on-lot systems, the Township undertook the Official Sewage Facilities Planning process in 1998. A draft plan was completed in 1999 that proposed the use of a low-pressure community collection system to transport effluent from septic tanks in the Village of Kemblesville, to a subsurface disposal facility located on Township property at the southern end of the Village. The 1999 draft plan also recommended a management program for individual on-lot systems that required pumping of septic tanks every year in the Village of Kemblesville, and once every three years, or whenever an inspection reveals that the tank is one-third full, for all other areas.

Near the end of 1999, a developer agreed to provide additional capacity in a community wastewater treatment and disposal system intended to serve a proposed new development (Echo Hill Farms) just east of the Village of Kemblesville on Newark New London Road. This additional capacity is being made available to accommodate the wastewater needs of the Village as defined in the 1999 draft plan which can be found in Appendix A.

The purpose of this plan is to reflect that the sewage needs of the Village of Kemblesville will be accommodated in the Echo Hill Farms sewage system, and to refine other portions of the 1999 draft plan to address the sewage facilities' needs of the entire Township.

Portions of this plan draw upon text and data included in the 1999 draft plan prepared by The Grafton Association.

#### B. Analysis of Township Planning Documents

##### 1. Comprehensive Plan

The main objective of the Franklin Township Comprehensive Plan (1991) is to protect sensitive lands while allowing sensible population growth. The transformation of agricultural land into residential land and a decline in prime developable land, leading to an increase usage of constrained land, are significant trends noted in the Comprehensive Plan.

The background analyses provides discussions of the natural features in the Township and the restrictions that they impose on development. Map 8 of the Comprehensive Plan, “Environmentally Sensitive Areas”, provides a graphical representation of the cumulative features that restrict development. The Township has four classifications of sensitive areas:

- Severe 16%
- Significant 5.17%
- Moderate 13.74%
- Slight 65.08%

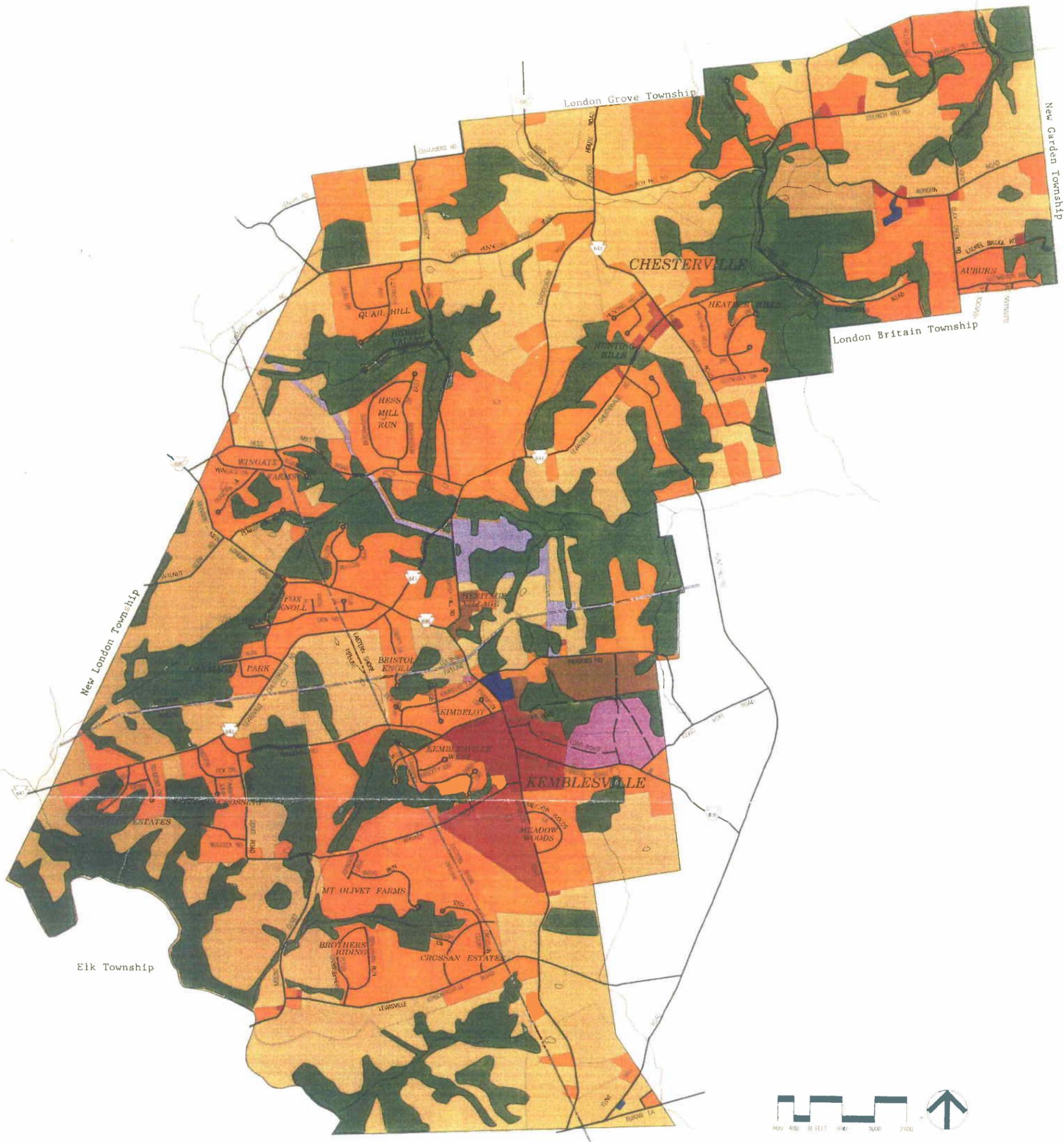
The “severe” areas have the most limitations or constraints on development. The “significant” classification requires special consideration before development. The “moderate” classification contains sensitive areas where appropriate measures are required to prevent environmental degradation. Finally, the “slight” classification is considered suitable for development.

The Township’s Comprehensive Plan divides the Township into eight (8) land use categories for analysis of existing and future land use. The Residential District includes three (3) subcategories reflecting varying densities.

The rural density subcategory of the Residential District has experienced the greatest increase from 1980 to 1991 out of all of the Land-Use Districts. The plan notes this trend is expected to continue in the future. The existing land-use pattern as of 1991 was as follows:

- Agriculture 44.11%
- Residential
  - Rural density 20.85%
  - Low density 0.31%
  - Medium density 0.12%
- Village Center 0.58%
- Public/Institutional 0.17%
- Commercial 0.02%
- Utilities/Transportation 5.67%
- Light Industrial 0.01%
- Woodland 28.16%

The Township’s Comprehensive Plan makes recommendations for future land use to limit development on environmentally sensitive landscapes, preserve agricultural and open space land, and to provide adequate housing for the growing population only where shown on the Future Land Use Map (Map 14) as seen on page I-3. Section VI of the Comprehensive Plan entitled “Future Land Use”, identifies the need to “analyze the feasibility of the Township participating in the development of a sewage treatment system to serve some of the problem areas within the Village Center” (117).



STATE OF MARYLAND

## LEGEND

- |  |   |
|--|---|
|  WOODLAND                   |  VILLAGE CENTER              |
|  AGRICULTURAL               |  PUBLIC AND INSTITUTIONAL    |
|  RURAL DENSITY RESIDENTIAL  |  UTILITIES                   |
|  LOW DENSITY RESIDENTIAL    |  LIGHT INDUSTRIAL            |
|  MEDIUM DENSITY RESIDENTIAL |  ENVIRONMENTALLY CONSTRAINED |



MAP 14  
1991 FRANKLIN TOWNSHIP

FUTURE LAND USE  
COMPREHENSIVE PLAN  
CHESTER COUNTY, PENNSYLVANIA

The plan's future expectations of land use for 2000 are as follows:

• Agricultural	34.04%
• Residential	
Rural density	27.43%
Low density	1.21%
Medium density	0.74%
• Village Center	1.16%
• Commercial <sup>1</sup>	--
• Public/Institutional	0.17%
• Utilities/Transportation	6.26%
• Light Industrial	0.83%
• Woodlands	28.61%

<sup>1</sup> There is no commercial land proposed beyond the Village Center

Franklin Township is not scheduled to be served by any central sewage system, making the Township utilize on-site systems. The plan identifies the need for a localized system which would serve small population concentrations such as cluster developments. As of 1991, the Township was considering a package plant near the Village Center.

## 2. Zoning Ordinance

The Franklin Township Zoning Ordinance (1996) was enacted to implement some of the land use recommendations of the 1991 Comprehensive Plan. The community development objectives stated in Sect. 102 of the Zoning Ordinance are designed to:

- Guide future development of the Township in accordance with comprehensive planning policy recommendations for land use and population density.
- Maintain a significant amount of open space and preserve the rural character of the Township.
- Protect and conserve natural resources through the control of land use and development in the environmentally sensitive areas of the Township and in relation to surface and groundwater resources susceptible to pollutants.

The ordinance provides five districts for residential use: Agricultural/Residential (AR), Low Density (LDR), Medium Density (MDR), High Density (HDR), and Village District (V) as seen on page I-8.

In the AR, LDR, and MDR zones, cluster development is optional on tracts of 10 to 20 acres, and mandatory when the tract exceeds 20 acres or the proposed subdivision exceeds 20 units.

The purpose of the AR District is to conserve prime agricultural soils and critical natural areas by providing for relatively low-density residential use. Single family detached dwellings are permitted with a minimum lot area of 50,000 square feet.

There are no provisions in the AR District for reduced lot sizes and the use of community sewage facilities. Developments are required to use on-site sewage disposal systems in order to replenish groundwater supplies.

The LDR District accommodates the typical rural characteristics of the Township and is not currently provided with public water and sewer facilities, thus requiring on-site or community systems. The area and bulk regulations require a minimum lot size of 40,000 square feet for individual on-lot systems and 30,000 square feet for lots served by community/public sewers.

The MDR District is not currently provided with public water and sewer facilities and requires on-site or community systems. Area and bulk regulations require a maximum lot size for a single family unit of 30,000 square feet with an individual on-lot sewer system, and 25,000 square feet for a community/pubic sewer system. The minimum lot area for a two family unit is 30,000 square feet per unit and reduced to 17,500 square feet/unit when using a community/public sewer. The minimum lot area for a multi-family development is 43,560 square feet.

The HDR District is adjacent to the Village of Kemblesville and is not currently served with public water and sewer. Within the HDR District, mobile homes and mobile home parks are permitted by the provisions set forth in Article XVIII, Sect. 1808. Mobile home parks require the use of public or community sewage systems. Area and bulk regulations for the HDR District require the following:

<b>Provision</b>	<b>Individual Sewer</b>	<b>Community/Public Sewer</b>
<b>Minimum Lot Area:</b>		
<b>Two Family</b>	30,000 sq. ft.	12,500 sq. ft./du
<b>Multi-Family</b>	N/A	5 Acres
<b>Maximum Density</b>	N/A	5 du/Acre

The Village District, by right, permits residential dwellings, government institutions, and public and private parks. Limited commercial activities are conditional uses permitted within this district. Regulations require a minimum lot area of 30,000 square feet for units with individual sewer, and 10,000 square feet with community/public sewer.

The Township provides a Commercial (C) District where retail and commercial activities can occur outside of the Village District. The only C District in the Township is located adjacent to Kemblesville. Minimum lot area is 30,000 square feet with individual sewer and 18,000 square feet with community/public sewer.

A Limited Industrial (LI) District “is designed to accommodate a variety of uses which may not be able to compete with more intensive uses in the Commercial District due to the need for a significant amount of land area” (Article X, Sect. 1000). The minimum lot area for industrial development is 43,560 square feet. By special exception, sewage sludge storage facilities are permitted in the LI District subject to the provisions of Article XVI, Sect. 1606 which states the facility’s minimum acreage can be no less than 10 acres, must have a 100 foot

setback from any property line, a 300 foot buffer from any well, water supply, or dwelling, and a 100 foot minimum distance between the access point for the facility and an abutting residential property. There are no provisions for varying lot sizes for different sewage disposal systems in the LI District.

The Special Use District (SU) is designed to accommodate all other uses not included in the other districts. Minimum lot areas in this district are 43,560 square feet. Single family detached units are permitted as conditional uses in accordance with the provisions of the AR District. Neither the AR District nor the SU District provides for varying lot sizes for different sewage disposal systems.

The ordinance describes the protection of two environmentally sensitive features that are to be protected and are applied as an overlay to the Township Zoning Map:

- a. The Flood Hazard (FH) District is defined as those areas subject to inundation by flooding during a 100-year storm. FH District restricts any sewage disposal system within 50 feet of the FH District. Storm sewer outlets, sewage treatment plants and pumping stations are permitted by Special Exception and are subject to approval by the Pennsylvania Department of Environmental Protection (DEP). Treatment plants, and associated structures, are required to be designed and located in such a way that eliminates or minimizes infiltration of flood waters into the systems and discharges from the systems into the floodwaters (Article XII, Sect. 1212.D).
- b. The Steep Slope Conservation District is defined as slopes between 15% and 25% (Low Intensity Slope District) and slopes greater than 25% (Conservation Slope District). In the Conservation Slope District, on-site subsurface disposal fields are prohibited. (Article XIII, Sect. 1305.D).

The open space areas of the Township allow sewage treatment facilities involving land disposal and groundwater recharge, but prohibit buildings and other above ground structures associated with such facilities (Article XV, Sect. 1510.G.4).

Article XVI, Sect. 1611 entitled 'Residential Conversion' states when sites are converted to residential use, the applicant shall provide on-site sewage disposal when off-site is not available.

The Township Zoning Ordinance also provides overall design standards for building lots. Under the section entitled 'Environmental Resource Protection' (Article XXIV, Sect. 2404.A), all proposed building lots for which individual on-site sewage disposal systems are proposed must consist of at least 30,000 square feet. Sect. 2404.B states all proposed building lots for which community/public sewage disposal systems are proposed must consist of at least 10,000 square feet. These aforementioned areas require sewage disposal areas to be contiguous, free of any Protected Area, and accessible without crossing any Protected Area. A

Protected Area is defined as land within the Flood Hazard or Conservation District, or any wetland.

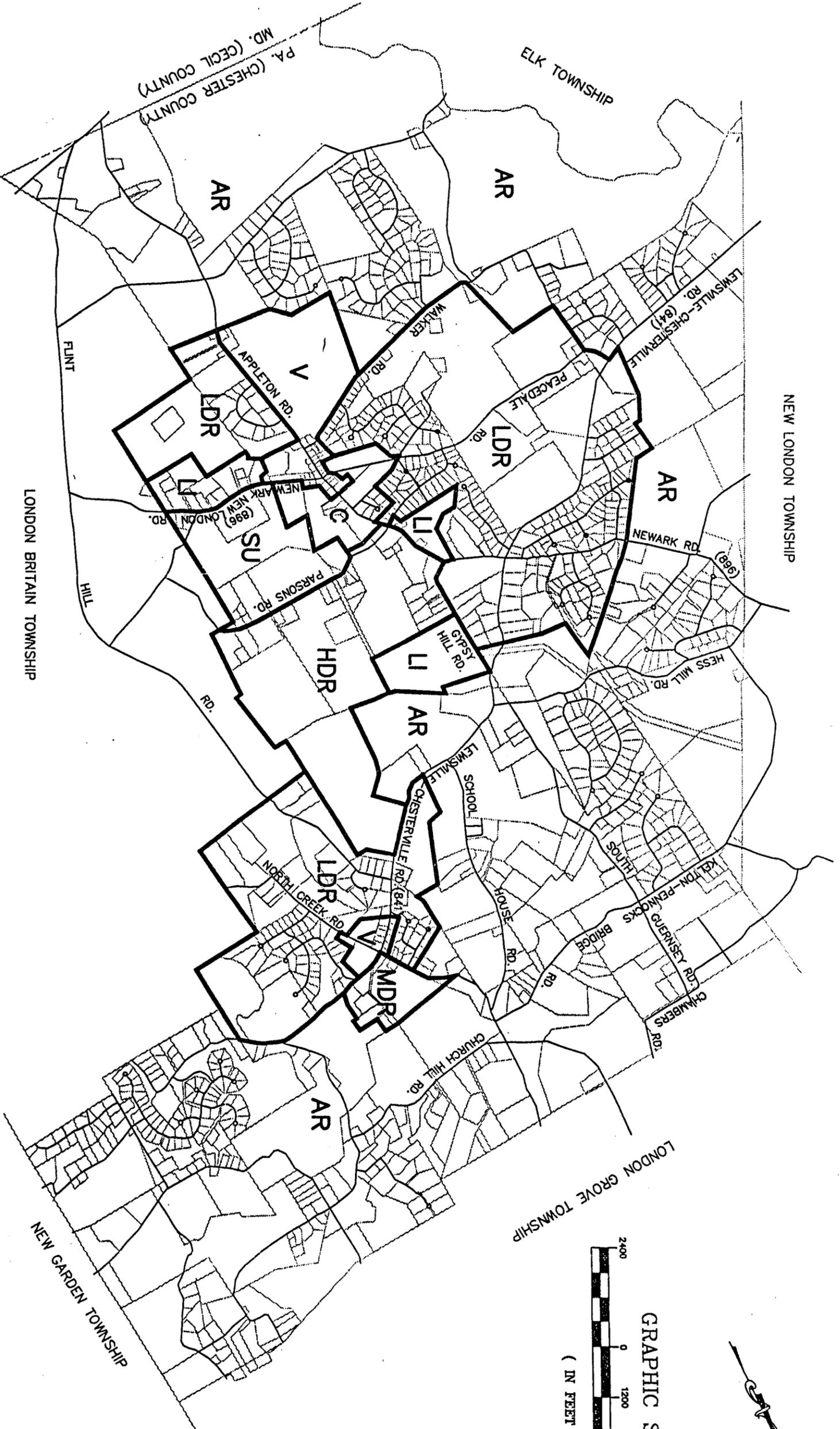
3. Subdivision and Land Development Ordinance

The Franklin Township Subdivision and Land Development Ordinance was enacted in 1982, amended through 1990, and revised in 2000. Among the provisions in Article VII, the Township has requirements for Stormwater Management (Sect. 719), Storm Drainage (Sect. 720), Sewage Disposal (Sect. 722), and Water Supply (Sect. 723).

Sect. 722 provides specific regulations, requirements, and responsibilities for sewage disposal systems with the Township. All sewage disposal systems shall conform to the regulations of the Township, DEP and the Chester County Health Department (CCHD), and are subject to approval by these organizations.

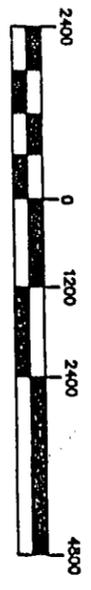
Sanitary Sewage Disposal Systems are outlined in Sect. 722.J. Where a community system is proposed, subdividers are required to provide a complete community or public sanitary sewage disposal system subject to the approval of the Township Engineer, the Township Planning Commission and Board of Supervisors. If individual on-site sanitary sewage disposal systems are utilized within a subdivision, such facilities are subject to the approval of the DEP, or shall be guaranteed that the purchaser of such lot or parcel will install such facilities. If the probability exists that a subdivision may receive sanitary trunk sewers to serve the property being subdivided within ten years, the Township Planning Commission and Board of Supervisors shall require the installation and capping of sanitary sewer mains and house connections in addition to individual on-site systems.

Individual On-Site Sewage Disposal Systems are outlined in Sect. 722.K. Each lot to be served by an individual on-site sewage disposal system shall be of a size and shape to accommodate the requirements of the sewage disposal system. These on-site sewage disposal systems are to be located on the lot that they serve and are subject to the regulations set forth by the Township, DEP, and the CCHD. Soil percolation tests are required at the time of construction where public or community sanitary sewage disposal systems are not utilized.



**LEGEND**

- |            |                                     |           |                             |
|------------|-------------------------------------|-----------|-----------------------------|
| <b>AR</b>  | AGRICULTURAL RESIDENTIAL DISTRICT   | <b>V</b>  | VILLAGE DISTRICT            |
| <b>LDR</b> | LOW DENSITY RESIDENTIAL DISTRICT    | <b>C</b>  | COMMERCIAL DISTRICT         |
| <b>MDR</b> | MEDIUM DENSITY RESIDENTIAL DISTRICT | <b>LI</b> | LIMITED INDUSTRIAL DISTRICT |
| <b>HDR</b> | HIGH DENSITY RESIDENTIAL DISTRICT   | <b>SU</b> | SPECIAL USE DISTRICT        |



**"FRANKLIN TOWNSHIP ZONING MAP"**

FRANKLIN TOWNSHIP  
CHESTER COUNTY  
PENNSYLVANIA

## CHAPTER II

### PHYSICAL AND DEMOGRAPHIC ANALYSIS

#### A. Delineation of Study Areas

The Township has been divided into five study areas to facilitate the analysis of the various wastewater alternatives. These study areas are smaller portions of the Township that have similar characteristics and wastewater planning concerns. The following parameters were utilized in defining the boundaries of the study areas: existing land-use, zoning, physiographic features, and future growth areas. Map II-1 illustrates the study areas.

##### 1. Kemblesville Study Area

###### a. Location

This study area contains the Village Center of Kemblesville and the southern portion of the Special Use District bordering Newark, New London and Good Hope Roads.

###### b. Existing Land Use

The Village District provides a mix of existing residential, commercial, and governmental uses. The Special Use (SU) District is designed to accommodate a variety of uses which, because of their nature, may be incompatible with most other uses in other districts. Residential uses are permitted as conditional uses in the SU District.

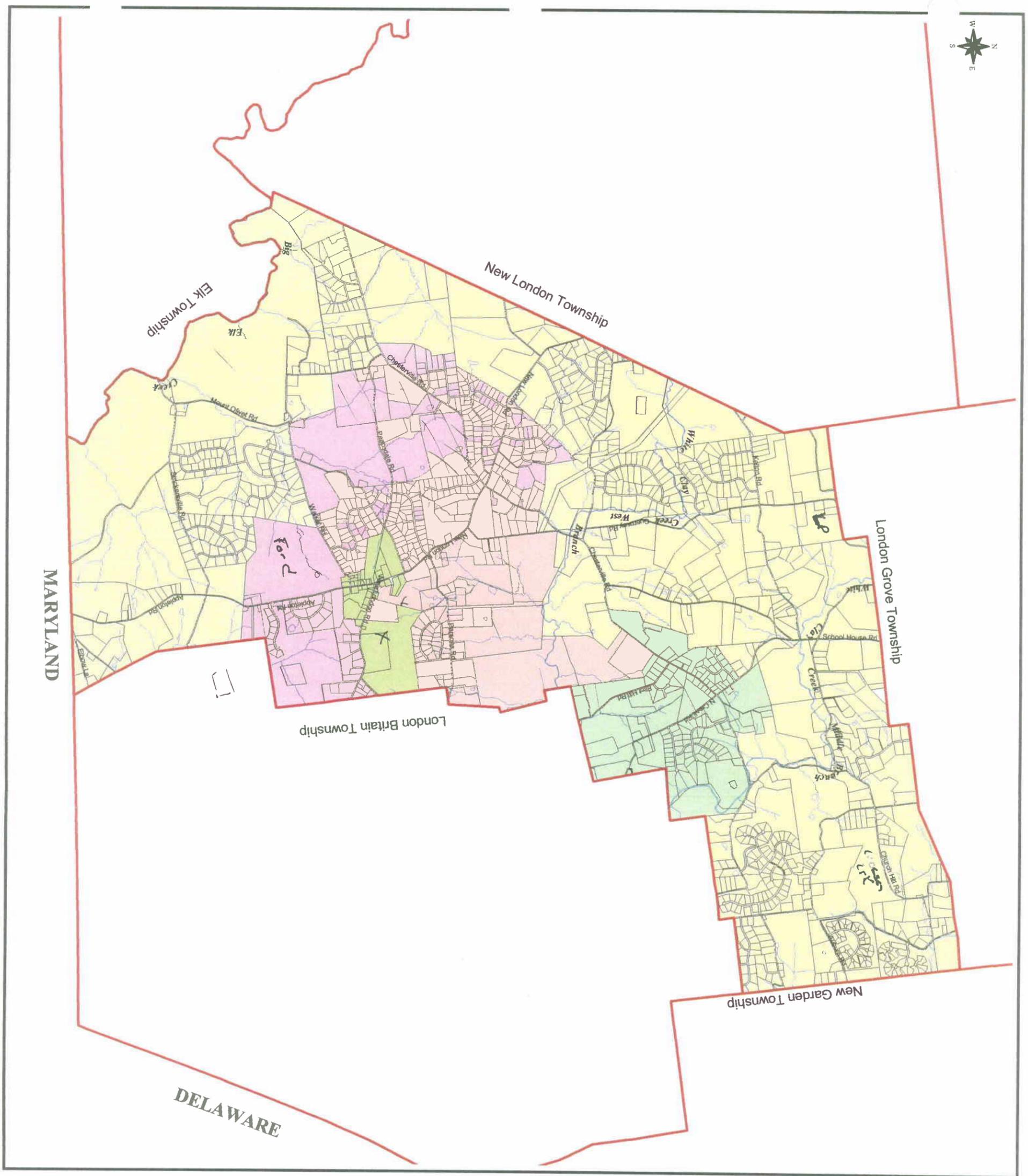
###### c. Future Land Use

This area is depicted as being a Village Center and Light Industrial on the Future Land Use Map of the Township Comprehensive Plan. The Village of Kemblesville is noted for having septic system problems and the Township Comprehensive Plan recommends the participation of this area in a sewer treatment system to serve some of the problem areas.

##### 2. Chesterville Study Area

###### a. Location

This study area is centered at the intersection of North Creek Road and Chesterville Road. Church Hill Road bounds it to the north, London Britain Township to the south, the rear of lots along Flint Hill Road to the southwest, and Schoolhouse Road and Chesterville Road to the west and south, respectively.



# Franklin Township Act 537 Plan

**Legend**

-  Municipal Boundary
-  Streams
-  Roads

**Study Areas**

-  Rural
-  Chesterville
-  Parsons Road
-  Kemblesville
-  Low Density Residential

Sources:  
Chester County Bureau of Land Records.



**URS**

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Map 11-1

Study Areas

b. Existing Land Use

This area contains the Village of Chesterville, cultivated and uncultivated farmland, commercial uses, woodlands, and rural and low density housing. The area is not served with public sewer or water service, thus requiring the use of on-site or community systems. This area contains environmentally sensitive areas along the Middle Branch of White Clay Creek.

c. Future Land Use

This study area is capable of future growth based upon its location with regard to the arterial road network of the Township as evidenced in the Low Density Residential (LDR), Medium Density Residential (MDR) and Village (V) District designations on the Township Zoning Map. The Future Land Use Map within the Comprehensive Plan identifies this area as remaining mostly agricultural land.

3. Parsons Road Study Area

a. Location

This study area is located on the eastern side of the Township along Parsons Road, Newark New London Road and Gypsy Hill Road. It is bounded by London Britain to the east, and corresponds to the high density residential, light industrial, and commercial boundaries depicted by the Township Zoning Ordinance.

b. Existing Land Use

Existing land use consists of a public and institutional area, cultivated and uncultivated farmland, woodlands, rural to medium density residential uses, and light industrial uses.

c. Future Land Use

The Future Land Use Map indicates this area spanning medium to rural density residential, a public and institutional use, and agricultural uses. A large portion of this study area is zoned as High Density Residential (HDR) and is not served by public sewer or water services; however, community systems are required at certain densities specified in the Zoning Ordinance.

4. Low Density Residential Study Area

a. Location

This study area corresponds to the Low Density Residential (LDR) District areas, as indicated on the Zoning Map, east and west of the Village Center of Kemblesville.

b. Existing Land Use

This area contains rural density housing, cultivated and uncultivated farmland, and woodlands.

c. Future Land Use

Rural density housing is expected to increase in this area as indicated by the Future Land Use Map and as permitted by the LDR designation.

5. Rural Study Area

a. Location

This area includes the remaining portions of the Township not included in the other study areas. London Grove and New Garden Townships bound it to the north and northeast, respectively, New London on the west, and the Elk Creek and the Maryland State line to the south.

b. Existing Land Use

The existing land use is a mix of agricultural and rural density housing. Steep slopes along the valleys associated with the White Clay and Elk Creeks restrict development potential in those areas.

c. Future Land Use

The Future Land Use Plan within the Comprehensive Plan of the Township anticipates residential activity continuing to compete with agricultural land uses. The plan also states that the preservation of farmland should be pursued by enacting some sort of restrictive development program such as an Act 515 or an Agricultural Preservation District.

**B. Drainage Basins, Streams, Lakes, Floodplains**

The Township has five distinct drainage basins within its boundaries. Approximately 35 percent of Township is located in the Big Elk Basin, which can be found in the southwestern portion of the Township. The White Clay Basin runs through the middle of the Township and accounts for approximately 32 percent of the Township. The Middle Branch of White Clay Creek Basin is just north of the White Clay Basin and makes up an estimated 20 percent of the Township. The East Branch of White Clay Basin located to the east of the previous makes up an approximate seven percent of the Township. The Christina Basin located in the southeastern portion of the Township makes up the final six percent of the Township.

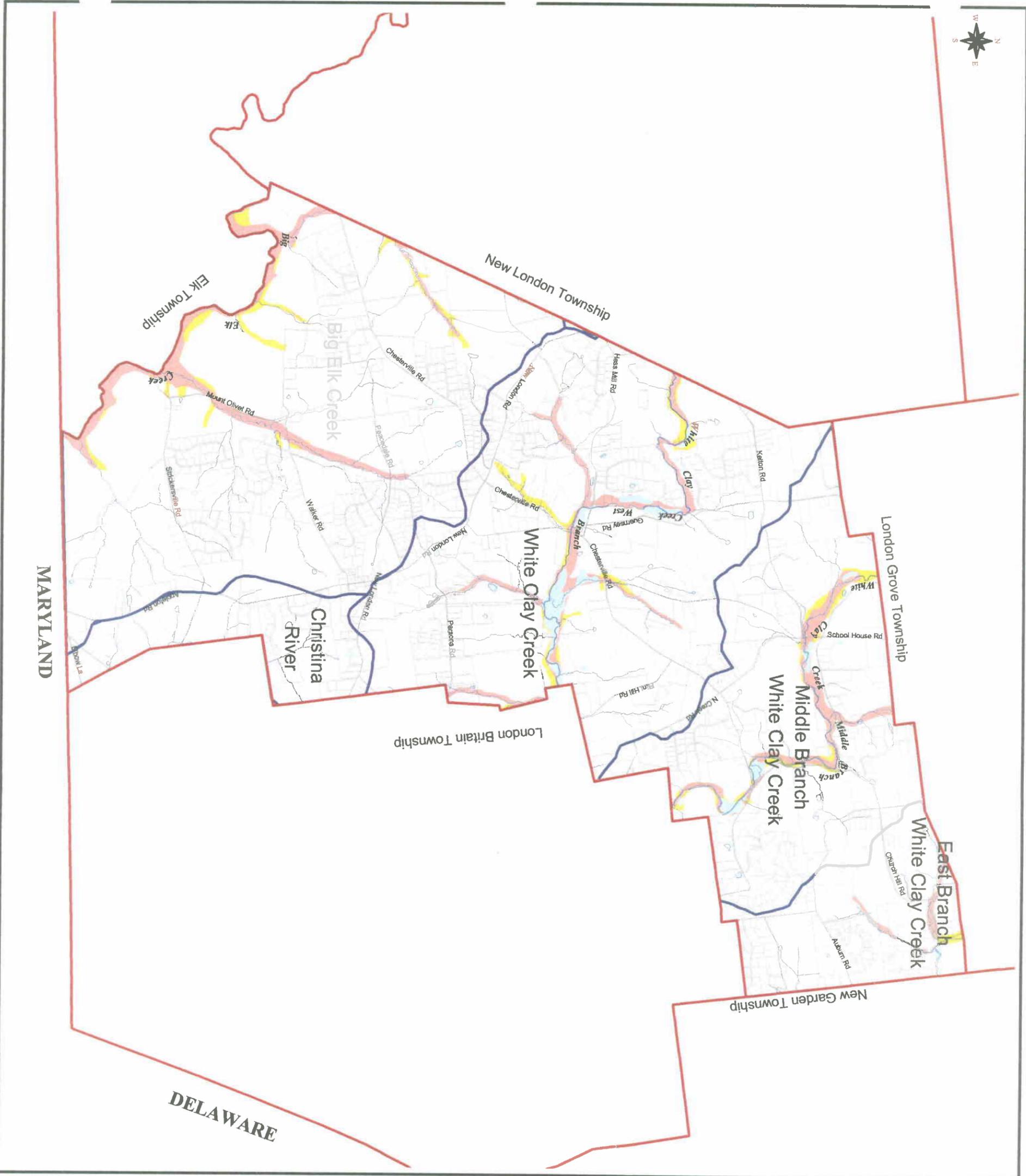
Protection of floodplain areas is essential not only to the aesthetic and ecological environment, but also to protect the community from possible flood damage. Most communities recognize the importance of controlling development in and near floodplains and have incorporated appropriate restrictions into their zoning regulations. Franklin Township has enacted a Flood Hazard District (Article XII, Franklin Township Zoning Ordinance, 1995) that protects such features.

Wetland areas are important local resource areas since they help reduce potential flood damage, act as important stormwater controls, are important vegetation and wildlife habitats, help to protect surface water quality by purifying overland flows of water, and are areas where recharge of the groundwater reservoirs occur. For these reasons, and because the loss of wetlands has become an important environmental concern, these areas are protected by federal and state regulations. Proposed development activity which will impact these areas must be reviewed and approved by the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the State Department of Environmental Protection.

The floodplain areas are mapped by the Federal Emergency Management Agency (FEMA). In addition to the areas mapped by FEMA, there are areas of alluvial or floodplain soils where restrictions are also applicable.

In terms of wastewater planning, it is essential that treatment systems in or near wetlands do not contaminate or interfere with the natural functions of these resources. Wetlands should be buffered from potential contamination sources, such as conventional on-site treatment system components. While it is important to protect wetlands from potential wastewater system problems, wetlands have been used as components of some innovative on-site treatment systems. This technology uses the wetland as a final purification component and supplies nutrients and water to support these local resource areas. This type of technology can be quite successful if designed and maintained correctly thereby achieving retention of local groundwater supplies.

Drainage basins, streams, lakes, floodplains, alluvial soils and wetlands are illustrated in Map II-2.



### Franklin Township Act 537 Plan

**Legend**

- Municipal Boundary
- Streams
- Roads
- Wetlands
- Watershed Divide
- Soils  
Alluvial
- Floodplains  
100 Year Floodplain

Sources:  
21st Century Appraisers,  
Chester County Bureau of Land Records,  
ERRI, FEMA, NWI.



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Map II-2

Drainage Basins, Streams,  
Lakes, and Floodplains

## C. Soils

Soils lying above the water table have a natural ability to attenuate pollutants. The effectiveness of a soil in attenuating pollutants depends on its composition, thickness, and degree of saturation with water. There are five separate processes operating in soils that can help to remove contaminants. The sixth, evaporation, can increase the concentration of contaminants. The six processes are:

1. Filtration processes depend on the soil acting as a physical filter to trap suspended solids.
2. Sorption and adsorption processes involve soil particles physically and chemically capturing dissolved or suspended compounds.
3. Oxidation and reduction of contaminants can render them chemically inert or may hasten their precipitation out of solution.
4. Biological assimilation processes involve the uptake of contaminants by plant material.
5. Dilution and volatilization processes can decrease the concentration of contaminants in soils to acceptable levels.
6. Evaporation processes can increase the concentration of contaminants.

The processes can be very effective in attenuating pollutants under the right conditions. Proper operation of on-site sewage disposal systems depends on these processes to treat wastewater properly; if conditions are not suitable, potential pollution problems can result. It is important to note that once contaminants have reached the saturated zone (below the water table) of an aquifer, there are few mechanisms to remove or contain the contaminants.

Floodplains, wet soils, shallow soils, steep slopes, and areas with fractured rock are more susceptible to pollution because the contaminants can reach the groundwater without sufficient opportunity or time for the above processes to operate. This, in turn, can contaminate surface water resources. Surface water can also be easily contaminated by system malfunctions in areas adjacent to stream corridors if untreated wastewater is not filtered and allowed to run off.

### 1. Subsurface Disposal

The Pennsylvania Department of Environmental Protection's Technical Manual for Sewage Enforcement Officers (Technical Manual) has classified soils in Pennsylvania into fifteen categories based on suitability for subsurface disposal of wastewater and probable percolation rates. The classification system from the Technical Manual is included in Appendix B. It should be noted that the Technical Manual does not consider slope in classifying the suitability of a soil for subsurface disposal of wastewater. The impact of slope on wastewater disposal will be discussed later in this Chapter.

According to the 1997 version of the Soil Survey Geographic Database for Chester County, Pennsylvania, there are eight major soil series in Franklin Township. For the purposes of this study, using the Technical Manual classifications and additional characteristics from the Soil Survey for Chester and Delaware Counties, May 1963, soils in Franklin have been classified into three categories relative to subsurface disposal suitability: generally suitable, conditionally suitable and generally unsuitable. Map II-3, "Subsurface Disposal Soils Suitability", illustrates the distribution of soil suitability for subsurface disposal systems in the Township. Table II-1 displays the major soil types in the Township, their subsurface suitability, comments relative to their suitability, acreage and the percentage of the total Township associated with each major soil type. It should be noted that land classified as Urban Soil is generally developed land. For the purposes of this study, the suitability class for the Urban Soil Series is based on the former soil series prior to development. Due to wide variations in drainage, slope and development conditions, local evaluations must be made before considering land listed as "urban" for subsurface disposal. A summary of the soil suitability classification for subsurface disposal systems is as follows:

2. Soils Generally Suited for Subsurface Disposal Systems

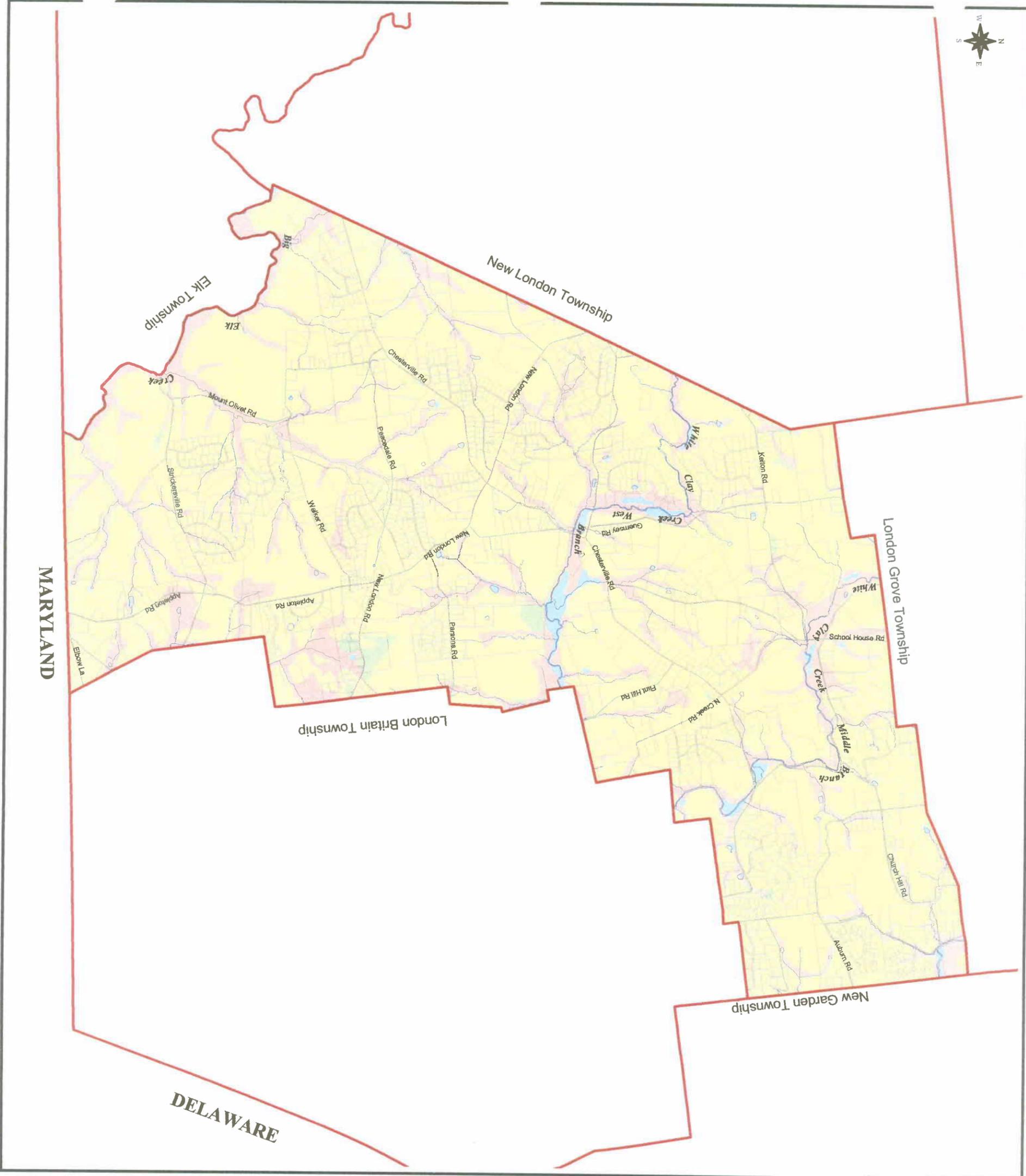
Approximately one (1) percent of the soils in the Township are considered to be generally suitable for on-lot subsurface disposal. These lands are located within the Chester soil series.

3. Soils Conditionally Suited for Subsurface Disposal Systems

Approximately 82 percent of the soils in the Township are considered to be conditionally suitable for on-lot subsurface disposal. These lands are predominantly located within the Glenelg (40%), and Manor (33%).

4. Soils Generally Unsuitable for Subsurface Disposal Systems

Approximately 13 percent of the soils in the Township are considered to be generally unsuitable for on-lot subsurface disposal. The Glenville (6%) soils are limited by seasonably high water tables. The Chewacla (3%) and Wehadkee (2.5%) soils are associated with floodplains; drainage class or water table limits the Worsham (1%) soils; and finally, the Congeree (0.5%) soils are associated with floodplains.



# Franklin Township Act 537 Plan

**Legend**

- Municipal Boundary
- Streams
- Roads
- Wetlands

**Soil Suitability**

- Generally Suitable
- Conditionally Suitable
- Generally Unsuitable

Sources:  
21st Century Appraisers;  
Chester County Bureau of Land Records;  
NWI.



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Map 11-3

Soil Suitability for  
Subsurface Disposal

**TABLE II-1****MAJOR SOIL TYPES IN FRANKLIN TOWNSHIP**

Soil Symbol	Soil Series Name	Suitability for Subsurface Disposal	Comments	Acres	Percent of Total
CdA, CdB, CdB2, CdB3	Chester	Generally Suitable		59	1
Ch	Chewacla	Generally Unsuitable	Floodplain	292	3
Cn	Congaree	Generally Unsuitable	Floodplain	31	0.5
GeA2, GeB, GeB2, GeB3, GeC, GeC2, GeC3, GeD, GeD2, GeD3, GeE, GeE3, GgB3,	Glenelg	Conditionally Suitable	Depth to bedrock 3-5'	3192	40
GnA, GnB, GnB2, GnC2, GsB	Glenville	Generally Unsuitable	Seasonably high water table	521	6
MgB2, MgB3, MgC, MgC2, MgC3, MgD, MgD2, MgD3, MhE, MhE3, MkF, MmD, MmF	Manor	Conditionally Suitable	Depth to bedrock 2-7'	2807	33
UoB, UsbB, UsbD, UzdB, UzdD, UzxB	Urban	N/A		729	9
We	Wehadkee	Generally Unsuitable	Floodplain	190	2.5
WoA, WoB, WoB2	Worsham	Generally Unsuitable	Seasonable high water table	323	1

Source: 21<sup>st</sup> Century Appraisers

"Soil Survey, Chester and Delaware Counties, Pennsylvania."

USDA Soil Conservation Service. Series 1959, No.19, May 1963.

Suitability for Subsurface Disposal based on the *Technical Manual for Sewage Enforcement Officer*, Pennsylvania Department of Environmental Protection, Revised: December 1993.

**D. Geologic Features**

Various considerations regarding the underlying geology of an area are additional factors that can affect the suitability of a site for subsurface system operations. The primary consideration of geology regarding wastewater disposal is the potential for contamination of the water supply contained within the various rock formations. The types and amount of systems that are utilized and the attenuation characteristics of the overlying soil, in addition to geologic formation characteristics, affect the potential for contamination.

Franklin Township lies entirely within the Piedmont Province of the Appalachian Highlands. The Piedmont Province is characterized by gently rolling uplands with occasional low hills and ridges underlain by diabase, quartzite, and other resistant rocks. The base geology of Franklin Township is typical of the Piedmont association of diabase, quartzite, and other rocks of a more resistant nature (Franklin Township Comprehensive Plan, 1991).

According to the United States Geologic Survey (USGS) West Grove and Newark West 7.5 minute Quadrangle maps, Wissahickon Formation of Oligoclase Mica Schist formation underlies the vast majority of the Township. Extensive weathering found in this rock formation produces good groundwater yields.

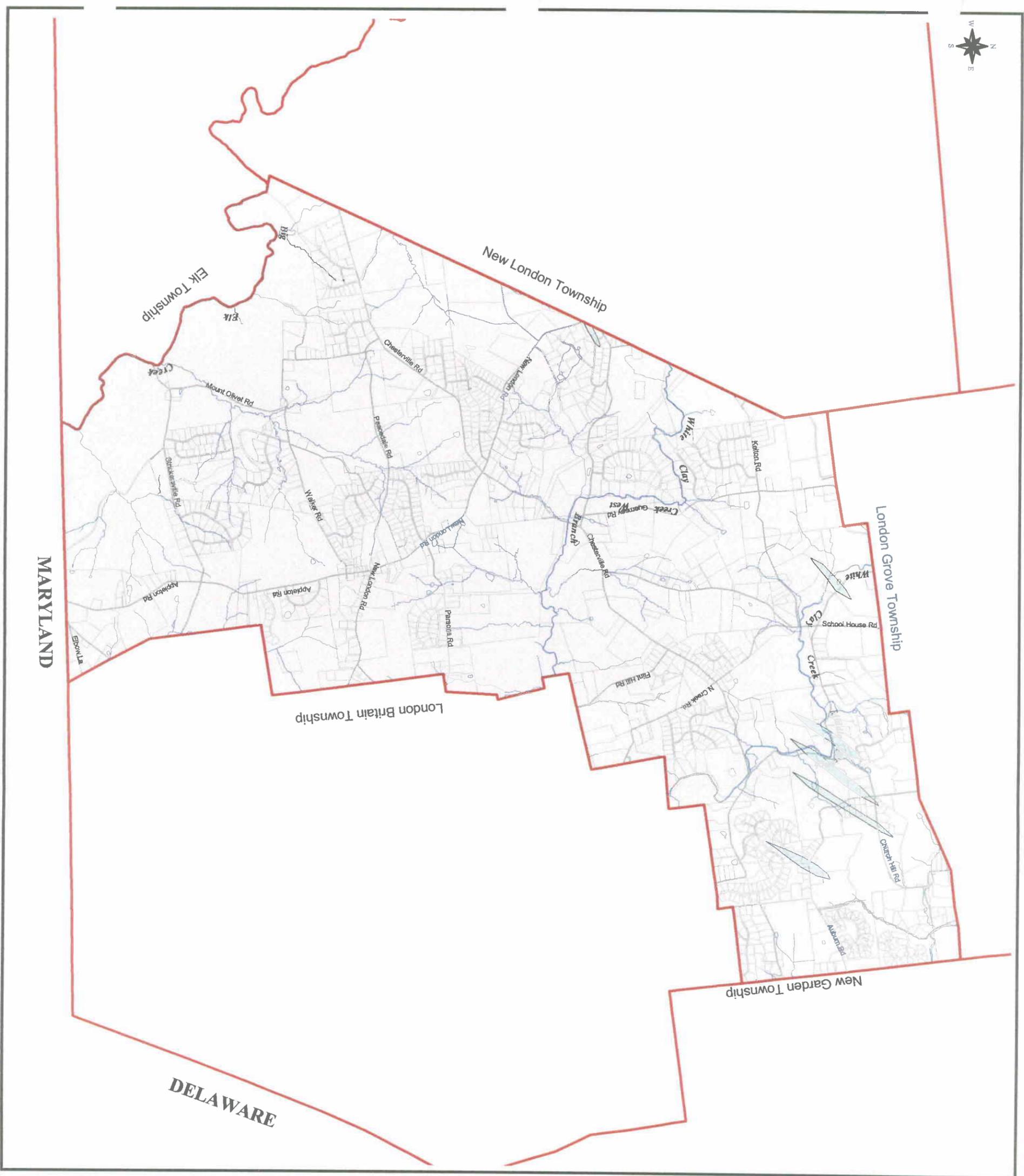
The remaining formations are belts of Mafic Gneiss or Gabbroic Gneiss running from the northeast to the southwest in the vicinity of Auburn and Clay Creek Roads. Additional bands are located near the London Grove Township line along SR 841, and near New London Township line along SR 896. This formation has a limited, average groundwater yield and consists of hard rock that is resistant to erosion and has few fractures. Table II-2, "Geologic Formations of Franklin Township", identifies the physical characteristics of each formation. Map II-4, "Surface Geology", displays the approximate locations of the formations found in the Township. Differences have been noted between the calculations found within this document and the calculations found in the Comprehensive Plan of Franklin Township. The differences can be attributed to the varying data sources utilized at the time of analysis.

**TABLE II-2**

**GEOLOGIC FORMATIONS OF FRANKLIN TOWNSHIP**

<b>Formation</b>	<b>Characteristics</b>	<b>Percent of Township</b>
Wissahickon Oligoclase Mica Schist	Moderately hard rock, weathered to a depth of 30 to 50 feet. Good recharge potential. Good quality as foundations for heavy structures, Contains feldspar and quartz-muscovite.	99
Mafic Gneiss or Gabbroic Gneiss	Coarse-grained rock, weathered to a depth of approximately 8 feet. Limited recharge potential. Excavation is poor, often requiring blasting. Fair quality as foundation for heavy structures. Contains quartz and calcic plagioclase.	1

Source: Chester County Geology Report, Chester County Planning Commission, 1980; USGS West Grove and Newark West Quads.



# Franklin Township Act 537 Plan

**Legend**

-  Municipal Boundary
-  Streams
-  Roads

**Surface Geology**

-  Wissahickon Schist
-  mafic gneiss, amphibolite facies



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Map 11-4

Surface Geology

## **E. Topographic Features**

The topography, or slope, of the land is another important consideration, which requires analysis to determine site suitability for wastewater disposal. The topography is also a controlling factor when evaluating wastewater collection and conveyance systems to serve a given area.

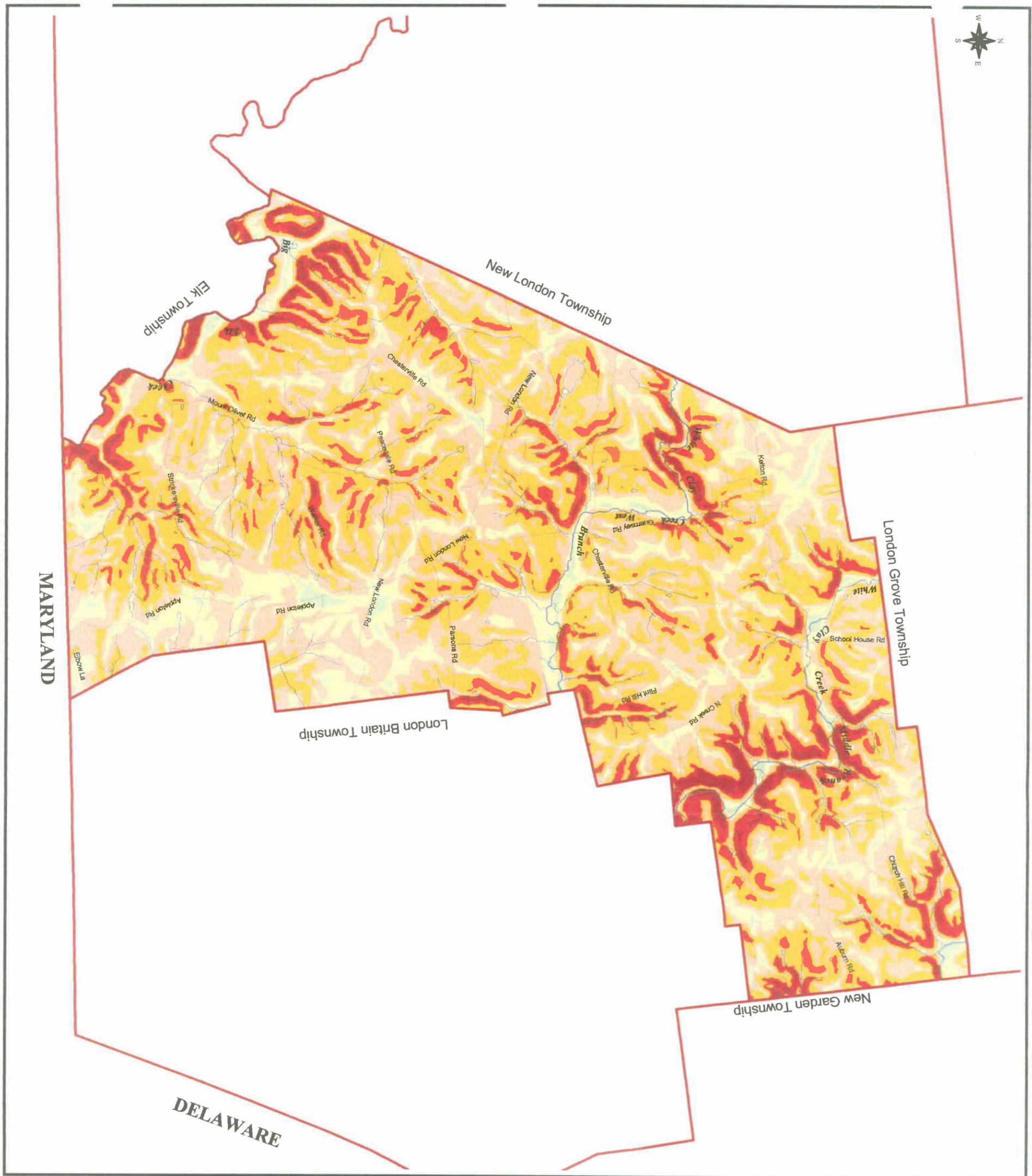
The degree of slope, measured as the change in elevation over a horizontal distance, provides an indication of site suitability for wastewater systems. Any slope encountered is an important consideration, and must be evaluated with regard to the particular wastewater disposal or conveyance application. Areas with slope in excess of 15 percent present serious constraints to the successful operation of soil absorption systems. DEP requires modified system design on slopes between 15-25 percent. In areas where the slope exceeds 25 percent, the use of such systems is unsuitable and is restricted under Chapter 73 of DEP's Rules and Regulations.

In level areas, the standards in Chapter 73 require that there be a minimum of 48" of suitable soil beneath the system to properly attenuate of the pollutants, but in areas where slope is encountered, this standard may need to be increased. If slope is encountered, the use of a pressure dosed trench system or some other form of absorption technology may perform better than the standard trench.

The slope requirements of Chapter 73 are based upon the type of system. As mentioned above, the typical subsurface absorption system cannot be used on slopes of 25% or greater. Spray irrigation systems may be used on slopes in excess of 25%, although application rates would be seriously restricted. Application would also be affected by other site characteristics such as vegetation, soils, and geology. In addition, recent policy statements by DEP indicate that drip irrigation systems may be considered on slopes over 25%.

Topographic elevations within the Township range approximately from 180 feet above sea level, located on the southern border of the Township along the banks of the Elk Creek, to 459 feet above sea level, located in the northwestern corner of the Township. The mean elevation of the Township is 318 feet above sea level.

Map II-5, "Topography", displays the location of various slope classifications throughout the Township. This map was created using a USGS 7.5-minute Digital Elevation Model (DEM) to derive slope. The percentage of the Township in each slope classification can be found in Table II-3, "Township Slope Characteristics". Again, there are differences between the Township's Comprehensive Plan and this analysis. By using soils to generate topographic maps (Franklin Township Comprehensive Plan 1991, Map 7), the results become generalized due to the aggregation of the data associated with varying soil types; whereas this analysis applies current technological tools and data to create more accurate results.



### Franklin Township Act 537 Plan

#### Legend

-  Municipal Boundary
-  Streams
-  Roads



Source: Wetlands - U.S. Fish & Wildlife Service,  
National Wetlands Inventory; DEM -  
Pennsylvania Spatial Data Access Center;  
Floodplain - FEMA.



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Map 11-5

Topography

**TABLE II-3**  
**TOWNSHIP SLOPE CHARACTERISTICS**

<b>Slope Characteristic</b>	<b>Percent of Township</b>	<b>Total Area (Acres)</b>
0 – 3%	3.67	309.12
3 – 8%	16.73	1406.48
8 – 15%	36.28	3051.40
15 – 25%	32.09	2699.19
25 – 35%	9.15	770.17
35+%	2.07	175.29

Source: Derived from USGS Chester County DEM  
Note: Values are approximate

About 57 percent of the land in Franklin Township falls within the gentle and moderate slope category (0 – 15%) distributed evenly throughout the Township. Land having slope within these categories generally impose few environmental limitations on residential, commercial, and industrial development. Potential soil erosion and sedimentation problems, which might occur during periods of ground disturbance, can be minimized when conventional conservation practices are properly employed. Nevertheless, moderate slopes frequently exhibit moderate to severe loss of the topsoil mantle due to erosion, primarily due to historic farming practices not geared to soil conservation. Highly eroded soils, with thin depth to underlying rock, may not accept conventional on-site sewage disposal. Further, it should be noted that lands sloping greater than 12 percent (in the middle of the moderate slope range) will not be permitted to host a sand mound disposal system.

About nine percent of the land in the Township is within the 15 to 25 percent steep slope category. Activities in this category require special conservation practices to limit soil erosion during construction. Such conditions may require engineering modifications to on-site sanitary sewer systems. Subdivision design must carefully consider steep slope conditions, and where possible, maintain these areas free from development. When construction occurs on steep slope areas, ground disturbances must be limited.

Approximately 11 percent of land in the Township is in excess of 25 percent slope and are unsuitable for development using conventional practices. The steep slope factor provides a high potential for soil erosion during development, and makes it difficult to re-establish vegetation cover once ground disturbance has occurred. Except for drip irrigation systems, to be considered on a case by case basis, on-site sewage disposal systems are not permitted on slopes exceeding 25 percent. These sensitive areas should remain open to prevent environmental deterioration. Areas within the Township having a concentration of slopes of 25 percent or greater are located in the vicinities of the three Branches of the White Clay Creek within the Township, and the Big Elk Creek.

**F. Demographic Conditions**

**1. Population**

- a. This section outlines the demographic and housing trends within the Township. The analysis is based on data from the Franklin Township Comprehensive Plan (1991), official US Census Bureau data, and the Chester County Planning Commission. Data have been revised and estimates are provided where possible. Past trends are projected to identify what can be expected to occur in the future.

According to statistics from the 1970 and 1980 Census, Franklin Township experienced an increase of population of 84.1 percent within that ten year span. The 1990 Census accounts for a population of 2,779 in the Township, indicating an increase of 44.7 percent from 1980 to 1990. This trend is expected to continue.

The Township Comprehensive Plan (1991) estimated population projections up to the year 2020 based on 1990 Census data. The following table from the Comprehensive Plan was an update for the Township's 1980 population projections adjusted for 1990 Census data:

<b>Year</b>	<b>Arithmetic</b>	<b>Linear Regression</b>
1990	2,779	2,779
2000	3,647	3,856
2010	4,515	4,829
2020	5,383	5,383

Source: Franklin Township Comprehensive Plan (1991)

According to the Chester County Planning Commission, the 1990 population of 2,779 grew 20.2 percent to 3,340 in 1997. The Chester County Planning Commission also makes projections to the year 2020. These projections, which are generally less than either of the two projections contained in the Comprehensive Plan, are as follows:

<b>Year</b>	<b>Population</b>
1990	2,779
2000	3,850
2010	4,370
2020	5,020

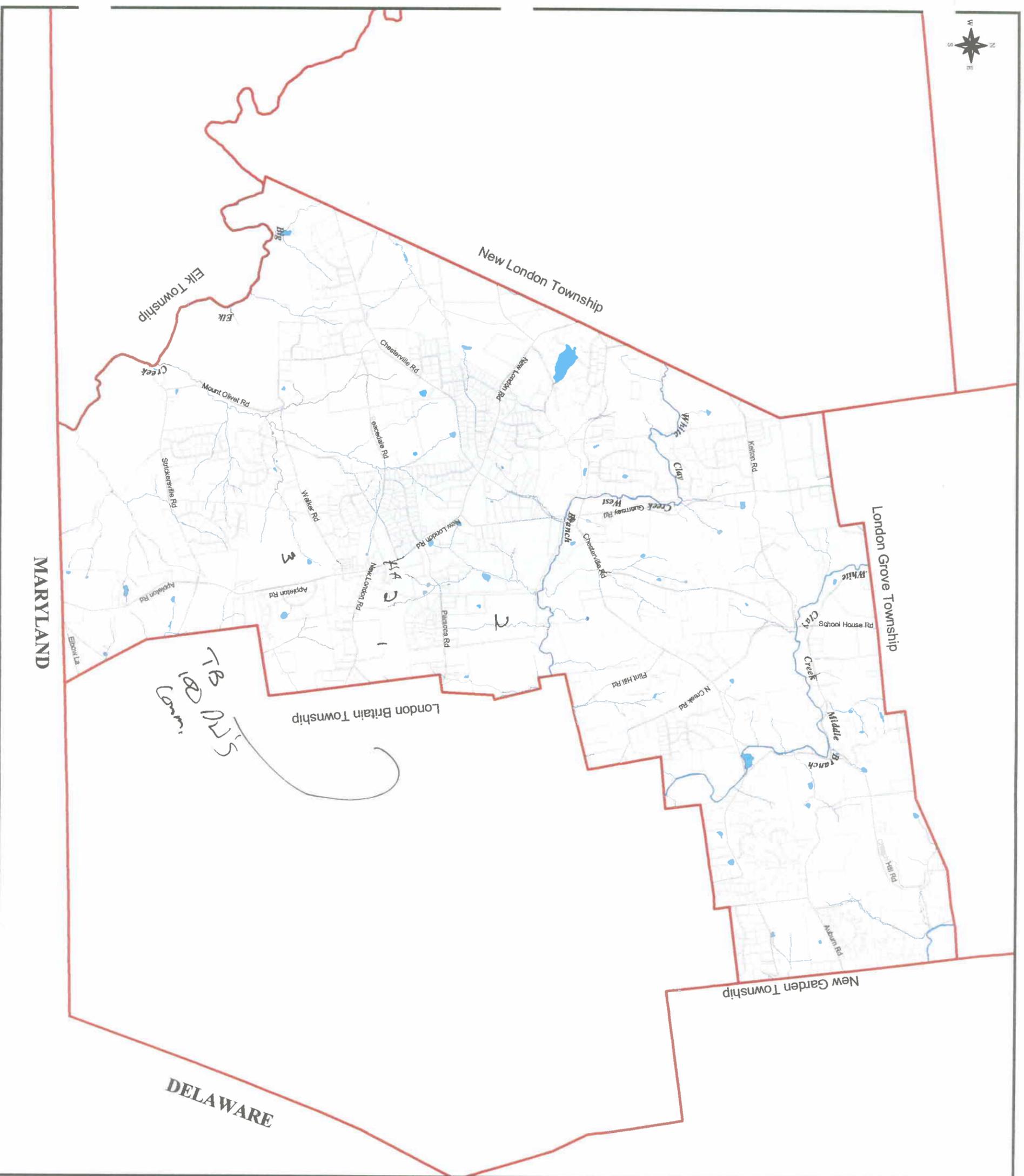
Source: Chester County Planning Commission

2. Housing

- a. Available 1990 Census data shows that Franklin Township currently averages 2.95 persons per housing unit. The Township's Comprehensive plan notes those current (1991) characteristics of zoning and dwelling types are expected to continue.
- b. According to the 1980 Census, the number of housing units increased from 316 in 1970 to 649 in 1980, for a 105 percent increase. From 1980 to 1990, housing units increased to 942 units, for a 45 percent increase. The units within the Township are mostly single-family detached dwellings with a fairly large lot size. Housing trends are expected to continue due to the growth patterns and the general characteristics of the Township.

G. Water Supply

The majority of the Township is served by individual on-site wells with portions being served by the Philadelphia Suburban Water Company. The public water supply areas can be found in Map II-6.



# Franklin Township Act 537 Planning

## Legend

-  Roads
-  Streams
-  Municipal Boundary
-  Approximate Extent of Public Water Service

Source: Chester County Profile, 1998



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Map 11-6

Potable Water Supplies

## CHAPTER III

### EXISTING SEWAGE TREATMENT FACILITIES IN THE PLANNING AREA

#### A. Existing Public/Community Facilities

In the Chester County Sewage Systems Inventory of 1991, two community facilities are shown. These are the Kemblesville Elementary School and the Heritage Village Apartments. Both of these have on-lot subsurface systems. The Kemblesville Elementary School (Avon Grove School District) was built in 1956 and is serviced with septic tanks and drain fields. In 1991, the system was said to be in good condition. Placement of the treatment facility is behind the school at Franklin and Peacedale Roads. A private company handles sludge disposal. Currently, the system is servicing 560 students and staff and the school desires to expand to approximately 700 students and staff.

The second community system identified in the Sewage Inventory is the Heritage Village Apartments. The 1991 Inventory lists the owner as Time Investment Corporation, Landenberg, PA. The system consists of septic tanks and drain fields. In 1991, the system was only 2 years old and in good condition. The treatment of the sewage is performed by an on-site subsurface system. A private company handles sludge disposal. One hundred percent of the flow in this system is residential. There are 36 apartment units in this complex. This system is located directly south of the Cornerstone Presbyterian Church and is reportedly in fair condition.

#### B. Identification of Malfunctioning Systems

##### 1. Existing Malfunctions

In the spring of 1998, a windshield survey of Franklin Township was performed. This survey and discussions with Allen D. Robertson, an environmental health specialist with the Chester County Health Department, identified the Village of Kemblesville as a major problem area within the Township. Numerous systems are failing or have been replaced along the Route 896/Appleton Road corridor. This area is bounded on the north by the Kemblesville Elementary School and on the south by Township property. Due to lot size, geometry of the lots, and soil conditions, replacement areas are not available on-site or immediately off-site to repair these systems.

According to the telephone conversations with Allen D. Robertson in April 2000, there are no other substantial concentrations of malfunctioning systems.

##### 2. Potential Malfunctions

Physical constraints associated with wetlands, slopes and soil suitability for subsurface systems are shown in Chapter 2. The majority of the subdivided lots in the Township are not located in environmentally constrained areas as depicted

in Chapter 2. The maps contained in Chapter 2 should be used for planning purposes and do not necessarily indicate the exact location of environmentally sensitive lands or those areas offering constraints for sewage disposal systems.

3. On-lot Septage Generation

Except for the previously mentioned community systems, the majority of the Township relies on individual on-lot systems for sewage disposal. These systems produce septage, the material which accumulates in the septic tanks. For a system to function correctly, the septage must be removed from the septic tank periodically. Removal is done by private companies and individual septic haulers.

There are a number of parties involved in the creation, regulation and disposal of septage. The homeowner or party responsible for the septic system must ensure that the system is functioning properly through routine maintenance and periodic pumping.

Septic tanks are pumped by private companies or individual haulers which must be licensed by the Chester County Health Department. Once the septage is removed from the tank, it is the hauler's responsibility to see that the septage is disposed of in an approved disposal site in a safe manner. A list of licensed septage haulers for Chester County, prepared by the Chester County Health Department, is provided in Appendix C.

Disposal sites may be landfills or agricultural lands where the septage is land applied as a fertilizer. Sites, which are acceptable for septage disposal, are regulated and must be permitted by DEP. Disposal site owners should be familiar with the regulations governing the proper disposal of septage, and report any illegal dumping activities which may occur on the site.

## CHAPTER IV

### IDENTIFICATION OF FUTURE DEVELOPMENT AND GROWTH AREAS

#### A. Existing Developments or Plotted Subdivisions

A list of the existing subdivisions can be found in Table IV-1 and a map of the same can be found in Map IV-1.

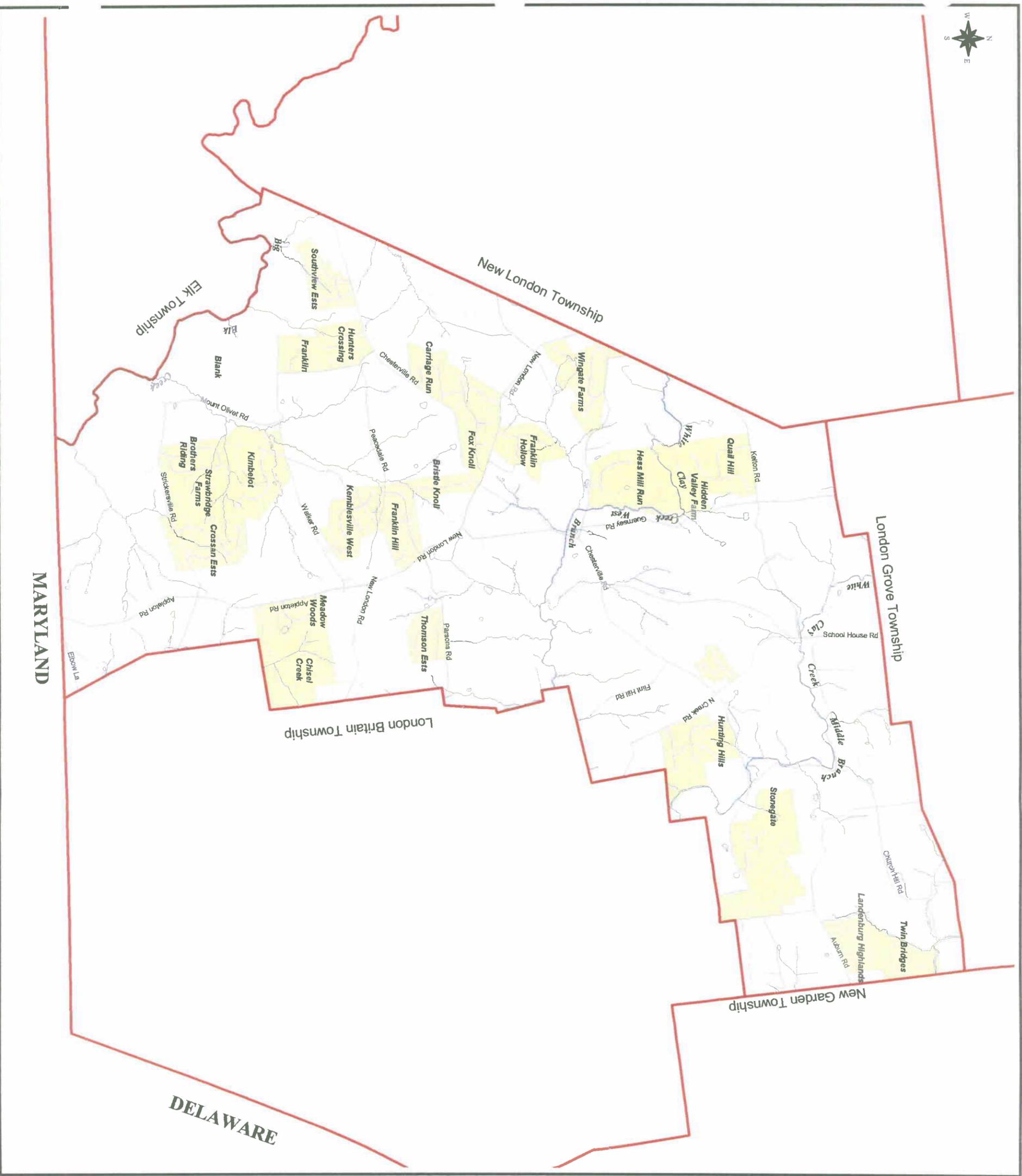
**TABLE IV-1**

#### **EXISTING SUBDIVISIONS**

<b>Subdivision Name</b>	<b>No. of Parcels</b>
Bristle Knoll	21
Brothers Riding	37
Carriage Run	25
Chisel Creek	13
Crossan Ests	43
Fox Knoll	72
Franklin	10
Franklin Hill	53
Franklin Hollow	28
Hess Mill Run	46
Hidden Valley Farm	18
Hunters Crossing	19
Hunting Hills	69
Kemblesville West	50
Kimbelot	33
Landenburg Highlands	48
Meadow Woods	15
Quail Hill	39
Southview Ests	25
Stonegate	79
Strawbridge Farms	6
Thomson Ests	32
Twin Bridges	25
Wingate Farms	44
<b>Sum</b>	<b>850</b>

#### B. Existing Land Use

The 1991 Township Comprehensive Plan included an existing land use map with associated acreage data. As of 1991, agricultural land use within the Township accounts for 44.11 percent of the land. Residential land use accounts for 21.28 percent of the land. The Township Comprehensive Plan states that agricultural land is declining and shifting toward an increase of residential land in the form of rural density residential subdivisions.



**Franklin Township  
Act 537 Plan**

**Legend**

- Roads
- Streams
- Municipal Boundary
- Existing Subdivisions

Sources:  
Chester County Bureau of Land Records.



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Map IV-1

Existing Subdivisions

Other land uses such as commercial and light industrial are primarily located around the Village Center of Kemblesville. As seen on the Township Zoning map extending from the Village Centers of Kemblesville and Chesterville, are low density residential, medium density residential, light industrial, a single commercial, and a high density residential zone. Outside these areas are agricultural and rural residential zoning. The Existing Land Use Map generally follows the patterns established by the Zoning Ordinance. Both existing (1991) and future (2000) land-use percentages from the Comprehensive Plan are located in the Chapter I Comprehensive Plan.

#### Future Growth Areas and Population Projections

The Comprehensive Plan provides a conceptual framework for future land use and development in the Township. The Zoning Ordinance provides the specific requirements for each zone as recommended by the Comprehensive Plan. Using these sources, the Township identifies future growth areas by the language found within the Zoning Ordinance.

The AR District has been created to encourage the use of prime agricultural soils and to conserve environmentally sensitive areas; this is achieved by maintaining relatively low densities along roads which cannot accommodate high traffic volumes. In 1991, this area had the most active development activity within the Township. On-site domestic waste disposal systems are to be utilized in order to maintain groundwater recharge rates in these areas.

The LDR District is designed to maintain the rural characteristics of the Township. Much of this area has been developed and uses individual on-site waste disposal systems.

The MDR District is intended to accommodate housing that is primarily rural residential. The only MDR District is located adjacent to the Village of Chesterville.

The HDR District provides a variety of housing at higher densities than permitted elsewhere in the Township. Community wastewater systems are required to achieve permitted densities.

The Village District is intended to maintain the attributes and characteristics of a traditional village. As noted earlier, this District encompasses the Village of Kemblesville which is experiencing problems with on-site systems as well as a portion of Chesterville.

The Commercial District provides commercial and retail activities that may not be established within the Village District. Based on the proposed use, individual or community sewers may be required.

The Limited Industrial District is designed to reduce the impact of industrial uses on traffic, community services and residential neighborhoods. Based on the proposed use, individual or community sewers may be required.

The Special Use District is designed to accommodate uses that, because of their nature, may not be compatible with most other uses provided in other districts. The location of this area is intended to reduce conflict of other uses. Based on the proposed use, individual or community sewers may be required.

C. **Land Use Regulations and Plans Relating to the Use and Protection of Water Resources**

1. **Water Quality Designations**

In 1937, Pennsylvania passed the Clean Streams Law (Act 394), which enabled the state through its agencies to protect the quality of water. With amendments in 1972 to the Federal Water Pollution Control Act, which established uniform standards on effluent limitations for “point sources” of water pollution, came amendments to Act 394 to regulate discharges into state waters.

The Clean Streams Law is administered by the DEP. The various rules and regulations which DEP is required to follow are contained in chapters which specify the procedures to be utilized. Chapter 93, Water Quality Standards, contains designations for most of the state waterways plus standards that place limitation on the amount of dissolved solids that can be discharged into the various waterway segments. The waterway designations, contained in Chapter 93, are based on uses which are to be protected such as aquatic habitats, water supplies, and recreational activities. There are also special designation categories for waters of special quality or environmental importance, called high quality (HQ) or exceptional value (EV).

The classification system is divided into four separate categories based on continued support of aquatic life and biological processes unique to water composition. They are: 1) Cold Water Fishes (CWF); 2) Warm Water Fishes (WWF); 3) Migratory Fishes (MF); and 4) Trout Stocking (TSF). These classifications require that the temperature and dissolved oxygen levels be maintained at levels adequate to support the various fish species indigenous to these waters, as well as, the flora and fauna necessary to support these species. Chapter 93 also contains a list of allowable loading levels of various pollutants for the various designation categories. Not all potential pollutants are listed but the Act states that unlisted substances which are harmful to the designated use will be regulated by the DEP.

For the waterway segments identified as high quality or exceptional value, special protection measures are taken, including the requirement to submit a Social and Economic Justification Report to demonstrate why the benefits of a new discharge would outweigh the potential problems as a result of these additional loadings.

As mentioned above, the regulation of new or expanded stream discharge is controlled by the DEP through the Clean Streams Law. It is, however, important for local municipalities to be actively involved in review of these permit applications or renewals, as provided by Act 394. Through this participation, local governments can help ensure that these resources are not degraded due to contamination problems, as a result of system malfunction or overloading of contaminants.

Table IV-2 lists the designations for each of the river and stream segments in Franklin Township. For the most current pollutant loading criteria and other requirements, a copy of Chapter 93 standards can be obtained from the DEP office in Conshohocken.

**TABLE IV-2**  
**FRANKLIN TOWNSHIP WATER QUALITY DESIGNATIONS**

Waterway	Segment	Chapter 93 Designation <sup>1</sup>
White Clay Creek	Basin, Confluence of East and Middle Branches to PA-DE Border	CWF
Middle Branch White Clay Creek	Basin, Source to Confluence with East Branch White Clay Creek	TSF, MF
East Branch White Clay Creek	Basins, Northern Border of Avondale Borough to Confluence with Middle Branch.	CWF
Christina River	Basins, all Sections in PA, Source to PA-DE Border	WWF
Big Elk Creek	Basin, all Sections in PA	HQ-TSF; MF
Indian Run	Basin	HQ-CWF
Source: Chapter 93, Water Quality Standards, Title 25. Environmental Protection, PA Dept. of Environmental Protection, 1997		

Designations: CWF- Cold Water Fishes  
 TSF - Trout Stocking  
 MF - Migratory Fishes  
 WWF- Warm Water Fishes  
 HQ- High Quality

2. Wild and Scenic River Program

The Wild and Scenic River Program was established by Congress twenty-six years ago to encourage the protection of rivers through cooperation between local, state and federal agencies, private organizations and citizens. Currently there are 140 rivers that have been designated under the program in 33 states. The White Clay Creek Watershed Association is participating in a study to evaluate the possibility of the White Clay Creek being included in the Wild and Scenic River System. The White Clay Creek study includes not only the creek itself and the adjacent riparian zones, but also the entire watershed. The study encompasses cultural resources, geology, fish and wildlife, vegetation, land use and recreation within the watershed.

There are two components of the ongoing study - Eligibility Determination, and the Management Plan. The U.S. National Park Service is responsible for determining the eligibility of the White Clay Creek against criteria established in the law. Entire rivers or portions of rivers may be designated as either "wild", "scenic" or "recreational". The Park Service has determined that the White Clay Creek meets

the criteria for “scenic” and “recreational”, and thus accepted into the Wild and Scenic Program.

The designation as a Wild Scenic River does not create additional regulations within the watershed. Most of the protection of the watershed emanates from the Management Plan, which is developed cooperatively among local governments and a task force of the White Clay Creek Watershed Association.

The White Clay Creek watershed makes up 59 percent of Franklin Township. The selection of wastewater programs to address the long-term needs of the Township is directly related to health and vitality of the watershed.

### 3. Township Regulations

The Township addresses the importance of preserving environmentally sensitive features within the Comprehensive Plan and enforces specific regulations within the Subdivision & Land Development Ordinance of 2000, and the Zoning Ordinance. Wetlands, alluvial soils, floodplains, woodlands, significant trees, and steep slopes are areas where restrictions apply to reduce negative environmental conditions.

## **D. Wastewater Facility Planning**

The impacts of population growth for the next five years, and ten years on sewage facilities, in the Township are not overly large. As mentioned in Chapter III, there are only two (2) existing community systems in the Township. These systems do not provide service to any off-site uses. Growth is planned for by on-lot systems, community systems, and regional systems as described below. For the purposes of this plan, a regional system is considered to be a community system that provides service to more than one community or other off-site uses.

### 1. Policies

In order to achieve rational wastewater disposal planning objectives, the following municipal wastewater facility policies are proposed:

- a. Provide for flexibility in the consideration of wastewater service to new developments by allowing for either an individual on-lot disposal system (OLDS) or community on-lot disposal system (COLDS), depending on the development type, i.e., cluster or conventional;
- b. Where community systems are necessary due to development type, encourage the creation of a centralized wastewater facility to address the needs of the entire study area. Due to the size of the Rural Study Area, one system that addresses the needs of the entire study area is not practical. The Township will encourage the use of community systems in the Rural Study Area that accommodate the wastewater needs of other off-site communities to the extent practical;

- c. Promote the use of wastewater treatment systems which are economically sound and compatible with local and state regulations;
- d. Encourage the continued use of wastewater disposal technologies which recharge the groundwater table in an environmentally sensitive manner;
- e. Adopt regulations which enable the Township to exercise the necessary management control of community wastewater systems;
- f. Adopt standards and specifications for those collection, treatment and disposal facilities to be dedicated to the Township;
- g. Develop an on-lot disposal system (OLDS) management program that includes an educational component as well as requirements to provide proof of pump-out to the Township; and
- h. Accommodate the wastewater needs of Kemblesville in the wastewater treatment and disposal system at Echo Hill Farms.

Three specific types of wastewater system approaches are recommended based upon the study areas delineated in Chapter II. The first is the centralized system which is defined as those systems that can accommodate other off-site wastewater needs. The second is the Community Sewage Disposal System approach. The third is the Individual On-Lot Disposal System approach.

## 2. Sewage Planning Needs

The sewage planning needs of each study area identified in Chapter II are discussed below.

- a. Kemblesville Study Area
  - 1) Evaluate alternatives to collect and convey the sewage from the Village to the Echo Hill Farms development.
- b. Chesterville Study Area
  - 1) Provide for a COLDS Selection Strategy consistent with the natural resource goals and objectives of the Township Comprehensive Plan that permits cluster subdivisions to meet the open space design standards in the Zoning Ordinance.
  - 2) Provide for an OLDS Selection Strategy for those developments that are not required to cluster, and for the replacement of failing on-lot systems.

- c. Parsons Road Study Area
  - 1) Provide for a COLDS Selection Strategy consistent with the natural resource goals and objectives of the Township Comprehensive Plan that permits cluster subdivisions to meet the open space design standards in the Zoning Ordinance.
  - 2) Provide for an OLDS Selection Strategy for those developments that are not required to cluster, and for the replacement of failing on-lot systems.
  
- d. Low Density Residential Study Area
  - 1) Provide for a COLDS Selection Strategy consistent with the natural resource goals and objectives of the Township Comprehensive Plan that permits cluster subdivisions to meet the open space design standards in the Zoning Ordinance.
  - 2) Provide for an OLDS Selection Strategy for those developments that are not required to cluster, and for the replacement of failing on-lot systems.
  
- e. Rural Study Area
  - 1) Provide for a COLDS Selection Strategy consistent with the natural resource goals and objectives of the Township Comprehensive Plan that permits cluster subdivisions to meet the open space design standards in the Zoning Ordinance.
  - 2) Provide for an OLDS Selection Strategy for those developments that are not required to cluster, and for the replacement of failing on-lot systems.

## CHAPTER V

### WASTEWATER ALTERNATIVES

This chapter will identify the range of wastewater alternatives technologically feasible for use in Franklin Township. Each of the considered alternatives has a track record of successful operation, as evidenced by the granting of permits from the DEP.

That range will then be reduced to those alternatives that are consistent with the Township's land use and natural resource protection policies. For that more narrow set of alternatives, a selection hierarchy will be presented; this prioritized ranking will then serve as the Township's statement of preference among the wastewater alternatives, putting any future providers of sewage facilities on notice as to the Township's expectations.

The preferred alternatives will be further evaluated in relation to the five study areas into which the Township has been divided for this plan. Finally, this chapter will address the wastewater management needs inherent in the preferred alternatives.

#### A. Technology Options

Table V-1 presents, at the broad generic level, the components of various wastewater options, organized by the three major system components of collection, treatment, and disposal.

**TABLE V-1**

#### **TECHNOLOGY OPTIONS BY WASTEWATER SYSTEM COMPONENT**

<b>Collection</b>	<b>Treatment</b>	<b>Disposal</b>
<ul style="list-style-type: none"> <li>• Individual On-lot</li> <li>• Gravity Sewers               <ul style="list-style-type: none"> <li>-Conventional</li> <li>-Small Diameter</li> </ul> </li> <li>• Pressure Sewers               <ul style="list-style-type: none"> <li>-Grinder Pump</li> <li>-STEP (Septic Tank Effluent Pump)</li> </ul> </li> <li>• Vacuum Sewers</li> </ul>	<p><i>Initial Treatment</i></p> <ul style="list-style-type: none"> <li>• Septic Tank</li> <li>• Package Treatment Plant               <ul style="list-style-type: none"> <li>-Extended Aeration</li> <li>-Aerobic Tanks</li> <li>-SBR (Sequencing Batch Reactor)</li> </ul> </li> <li>Biological Contactors</li> <li>Physical/Chemical</li> <li>• Lagoon/Pond</li> <li>• Marsh - Pond – Meadow</li> </ul> <p><i>Advanced Treatment</i></p> <ul style="list-style-type: none"> <li>• Sand Filtration</li> <li>• Constructed Wetlands</li> </ul>	<ul style="list-style-type: none"> <li>• Subsurface Disposal               <ul style="list-style-type: none"> <li>-Standard Trench</li> <li>-Seepage Bed</li> <li>-Elevated Sand Mound</li> <li>-Drip Irrigation</li> </ul> </li> <li>• Land Application</li> <li>• Discharge to Groundwater</li> <li>• Small Flow Stream Discharge</li> <li>• Small Flow Spray Irrigation</li> <li>• Evapotranspiration</li> <li>• Pump &amp; Haul</li> </ul>

As described below, only a few of these components are considered appropriate and desirable to meet the wastewater needs of Franklin Township. To reach those determinations, however, it is important to understand and evaluate the implications of each of these components. The following is a general description of each of the components listed in Table V-1.

1. Collection and Conveyance

a. Individual On-Lot System

With the exception of individual on-lot disposal systems (OLDS), the alternatives described here involve the collection and conveyance of sewage from two or more dwellings or other structures to a treatment site. The OLDS represents the "non-sewered" option, where each lot has its own self-contained sewage system. The only piping is that which connects the house or other structure being served to the treatment unit.

Collection systems serving two or more structures can be classified as gravity sewers, pressure sewers, or vacuum sewers.

b. Gravity Sewers

*Conventional*

The conventional gravity sewer, today most commonly constructed of PVC pipe, has historically been the most popular method used for the collection and conveyance of wastewater. The pipe is installed on a slope to enable the wastewater to flow from the house site to the treatment facility. Pipes are usually 8" in diameter and must be installed below the frost line. Manholes are located a maximum of 400' apart or at changes of direction or significant changes in elevation. In areas of excessively hilly or flat terrain, sewage flow is assisted by pump stations.

*Small Diameter Effluent Sewers*

A small diameter effluent sewer (SDES) collects effluent from septic tanks at each service connection and transports it by gravity to a treatment plant or a conventional sewer. Synonyms include small diameter gravity sewers, septic tank effluent drains, and small bore sewers. The volume of septic tanks is often 1,000 gallons, but varies widely. Septic tanks remove grit, settleable solids, and grease, and they attenuate peak flows. Both the horizontal and vertical alignments of the pipes can be curvilinear. The pipe network contains no closed loops. Uphill sections can be used, provided that there is enough elevation head upstream to maintain flow in the desired direction, and that there is no backflow into any service connection. Minimum diameters can be approximately two inches. Plastic pipe is typically used since it is economical in small sizes, and it resists corrosion by the septic wastewater. Cleanouts are used to provide access for flushing.

Manholes are used infrequently, usually at major junctions of main lines. Air release risers are required at summits in the sewer profile. Because of the small diameters, flexible slope, and alignment of the SDES, excavation depths and volumes are typically much smaller than with conventional sewers, sometimes requiring only a chain trencher.

Two varieties of SDES systems have been used: the variable grade effluent sewer (VGES) and the minimum grade effluent sewer (MGES). The VGES allows flexibility of horizontal and vertical alignment, provided that there is enough elevation head to maintain flow in the desired direction and that there is no backflow into any service connection at design flow. In the MGES, minimum downward slopes are imposed. In some cases, horizontal alignments have been required to be straight and larger minimum diameter constraints have been imposed. Therefore, the MGES is more conservative and more costly than VGES.

In both the MGES and the VGES, individual service connections can be equipped with a septic tank effluent pump unit, creating a hybrid with the septic tank effluent pump (STEP) pressure sewer. The use of STEP connections is advantageous when excavation costs can be reduced enough to offset pumping costs. Hybrid designs are common in current practice. In-line lift stations can also be used if required by the terrain or for cost-effectiveness.

Two-compartment septic tanks may be more efficient at retaining solids, but single-compartment tanks have performed well. Screens with outlet orifices have also shown reduced solids discharge.

Several dwelling units or other service locations can be clustered to a single septic tank, which should have an increased volume depending on the total population equivalent it serves.

SDES systems may not be as cost effective as pressure sewers if the treatment location is at a higher elevation than the service area or if there is topographic undulation between the service area and treatment location. Both instances would require lift stations.

c. Pressure Sewers

*Grinder Pump Pressure Sewers*

A grinder pump (GP) pressure sewer has a pump at each service connection. The pumps are one horsepower (0.75 kilowatt) or more, typically require 220 volts, and are equipped with a grinding mechanism that macerates the solids. The head and flow rate provided by the pumps are usually about 50 to 100 feet and 10 to 15 gallons per minute (gpm) but vary widely. The pumps discharge into a completely pressurized pipe system terminating at a treatment plant or conventional sewer.

Because the mains are pressurized, there will be no infiltration into them, but infiltration and inflow into the house sewers and the pump wells can occur. In areas where the GP sewer system has replaced septic tank and leaching field systems, the abandoned systems may be retained for emergency overflow, but they should be separated from the pump well by a valve that is opened only when emergency overflow is needed. Otherwise, the septic tank and leaching field system can become sources of large volumes of infiltration.

The discharge line from the pump is equipped with at least one check valve and one manual valve. Electrical service is required at each service connection. The sewer profile usually parallels the ground surface profile. Horizontal alignment can be curvilinear. Plastic pipe is typically used since it is economical in small sizes, and it resists corrosion. The minimum diameter is 1-1/4 inches for service connections and the smallest mains. Cleanouts are used to provide access for flushing. Automatic air release valves are required at summits in the sewer profile.

Because of the small diameters, curvilinear horizontal alignment, and profile paralleling the ground surface, excavation depths and volumes are typically much smaller for a GP pressure sewer than for conventional sewers. The pipes are installed slightly below the frost line.

Several dwelling units or other service locations have been clustered to a single pump well, which would have an increased working volume depending on the total population equivalent it services. However, clustered service connections have often led to disputes over billing and responsibility for nuisance conditions and service calls. Duplex pump wells are often used on clustered, commercial, institutional, or other larger services.

Because GP systems do not have the large excess capacity typical of conventional gravity sewers, they must be designed with an adequate allowance for desired future growth.

#### *Septic Tank Effluent Pump Pressure Sewer*

A septic tank effluent pump (STEP) pressure sewer has a septic tank and a pump at each service connection. The pumps discharge septic tank effluent into a completely pressurized pipe system terminating at a treatment plant or a gravity sewer. Because the mains are pressurized, there will be no infiltration into them, but infiltration and inflow into the house sewers and the septic tanks can occur. The volume of the septic tanks is often 1,000 gallons but varies widely. Septic tanks remove grit, settleable solids and grease.

The pumps, which can be part of the septic tank or in a separate well, typically are smaller than GP's. They are designed to pump septic tank effluent and have larger clearances but will not pump raw sewage solids. The head and flow rate provided by the pumps are generally about 50 feet and 15 gallons per minute (gpm) but vary widely. The working volume of the pump well is usually about 40 gallons but this also can vary widely. The discharge line from the pump is equipped with at least one check valve and one manual valve. Electrical service is required at each service connection.

The pipe network can contain closed loops but usually does not. The sewer profile normally parallels the ground surface profile, and the horizontal alignment can be curvilinear. Plastic pipe is generally used since it is economical in small sizes, and it resists corrosion by the septic wastewater. The minimum diameter is typically 1-1/4 inch for service connections and the smallest mains; although 2 to 3 inches is generally recommended. Cleanouts are used to provide access for flushing, and automatic air release valves are required at or slightly downstream of summits in the sewer profile. Air release points should have odor control facilities.

Because of the small diameters, curvilinear horizontal alignment, and profile paralleling the ground surface, excavation depths and volumes are usually much smaller for a STEP pressure sewer than for conventional sewers, sometimes requiring only a chain trencher. The frost line normally determines the depth of the sewer.

Two-compartment septic tanks may be more efficient at retaining solids, but single-compartment tanks have performed well. Septic tanks with integral pump vaults are available and reduce excavation on-lot.

Several dwelling units or other service locations can be clustered through a small diameter effluent sewer to a single septic tank, which should have an increased volume depending on the total population equivalent it serves. Clustered service connections have led to disputes over billing and responsibility for nuisance conditions and service calls.

STEP systems do not have the large built-in excess capacity typical of conventional gravity sewers. Therefore, they must be designed with an adequate allowance for future growth if that is desired.

Where pressure sewers are indicated, the choice between STEP and GP (grinder pump) systems depends on two main factors. First, the costs of on-lot facilities will generally be over 75% - perhaps well over 90% - of the total system cost. Therefore, the system with the lower average on-lot cost will ordinarily have the lower total cost. In some cases, STEP systems have the advantage of allowing some service connections to be gravity connections, thus lowering on-lot costs. GP systems usually have the pumps (and grinders) at all service connections. The second factor is the relevance of design velocities. GP systems require a higher velocity because they carry

macerated sewage solids and grease. STEP systems will better tolerate the low-flow conditions that occur in locations with a highly fluctuating seasonal occupancy and in locations with slow buildout from a relatively small initial population to the ultimate design population. Finally, a collection system totally created by STEP's decreases preliminary treatment needs at the wastewater facility, but the septic tanks at each dwelling must be pumped regularly.

d. Vacuum Sewers

A vacuum sewer system has three major subsystems: the central collection station, the collection network, and the on-site facilities. Vacuum is generated at the central collection station and is transmitted by the collection network throughout the area being served. Sewage from conventional plumbing fixtures flows by gravity to an on-site holding tank. When about 10 gallons of sewage has been collected, the "vacuum interface" valve, which operates automatically using pneumatic controls, opens for a few seconds allowing the sewage and a volume of air to be sucked through the service pipe and into the main. The difference between the atmospheric pressure behind the sewage and the vacuum ahead provides the primary propulsive force. The fact that both air and sewage flow simultaneously produces high velocities and prevents blockages. Following the valve closure, the system returns to equilibrium and the sewage comes to rest at the low points of the collection network. After several valve cycles, the sewage reaches the central collection tank, which is under vacuum. When the sewage in the central collection tanks reaches a certain level, a conventional non-clog sewage pump discharges it through a force main to a treatment plant or gravity interceptor.

2. Treatment Options

a. Septic Tank

Septic tanks are buried, water-tight containers designed to receive raw wastewater, to separate solids from the liquid, to provide limited digestion of organic matter, to store solids, and to allow the clarified liquid to discharge for disposal. The disposal method usually is subsurface. Septic tanks can be of various sizes with single-family on-lot tanks about 1,000 gallons (depending on house size) and communal tanks as large as needed.

b. Package Treatment Plant

The term "package treatment plant" refers to commercially available prefabricated treatment plants. Package treatment plants are often used to treat wastewater from individual properties and small communities. Common types of package treatment plants include: aerobic tanks, extended aeration, contact stabilization, sequencing batch reactors, rotating biological contactors, and physical/chemical treatment. When properly sized, operated

and maintained, package treatment plants can provide satisfactory treatment for small flows.

c. Lagoon (Pond)

A lagoon (pond) is a body of wastewater contained in an earthen basin. Lagoons are popular in small communities because their low construction and operating costs offer significant financial advantages over other treatment methods. Lagoons can utilize anaerobic processes, aerobic processes or both (facultative lagoons). The aerobic ponds can be aerated with mechanical devices or aerated by natural processes such as wind turbulence and photosynthetic activity. DEP requires lagoons in a series to make up a lagoon system. The type of lagoon system chosen as an alternative depends on land availability and flow characteristics.

d. Marsh - Pond - Meadow

A marsh/pond/meadow wastewater treatment system utilizes three natural ecological components to achieve a high level of treatment and, especially during the warmer months, a high degree of evapotranspiration. Some form of biological treatment, e.g., an aerated lagoon, precedes a man-made (usually clay-lined) marsh area which has been planted with appropriate species of vegetation (cattails, reeds, marsh grass, etc.) which provides further natural treatment. The marsh effluent then enters a pond (again, usually man-made and clay-lined) where the natural ecosystem of plants and animals further treat the effluent. Following the pond, water is diverted through a meadow area which has been planted with species of grass which provide a high degree of nutrient uptake and evapotranspiration. Any effluent which leaves the meadow may be chlorinated and discharged to a stream or land applied.

e. Sand Filtration

There are several types of sand filtration: high rate, intermittent (ISF), and recirculating intermittent (RISF). The intermittent sand filter and recirculating intermittent sand filter are gravity filtration systems that are capable of producing a high quality effluent. They are both a biological and a physical wastewater treatment technology while the high rate filters are not. High rate filters are not discussed here because they usually are add-on's to package plants. ISF's and RISF's consist of an underdrained bed of granular material, usually sand. The filter surface is flooded intermittently with effluent from an aerobic unit, septic tank, package treatment unit or lagoon. The surface is allowed to drain between wastewater applications. Surface accumulations of solids are periodically removed from filters that are accessible and additional sand is added as necessary to ensure adequate filtration. Subsurface, nonaccessible types are bigger in surface area and are not cleaned without excavation of the filter. RISF's return a portion of the drainage back onto the filter surface.

f. **Constructed Wetlands**

There are free surface (FSW) and subsurface wetlands (SSW). FSW show water at the surface amid the vegetation. SSW are created with water passing beneath the surface in a gravel bed. Wastewater enters a constructed wetland distributed evenly across the width. A waterproof liner is used on the sides and bottom of the cell to conserve water and provide more effective treatment. Cattails, bulrushes, or other plants are usually planted in the cells. The roots of these marsh plants form a dense mat among the gravel in SSF wetlands. Here chemical, biological and physical processes take place which purify the water. Water usually passes through several cells.

3. **Disposal Options**

a. **Holding Tank**

As defined by DEP regulations, a holding tank is a water-tight receptacle which receives and retains sewage and is designed and constructed to facilitate ultimate disposal of the sewage at another site. Holding tanks are used only on a temporary basis. The term "retaining tank," as defined by DEP, includes chemical toilets, privies, incinerating toilets, composting toilets, and recycling toilets; this term embodies treatment methodologies, as well.

b. **Subsurface Discharge**

Septic tank or aerobic unit effluent usually flows to a distribution box. From this box, the liquid follows perforated distribution piping that has been laid in gravel-filled trenches (i.e., standard trench system). The gravel is covered with soil to the original ground level. From the piping, the liquid drains through the gravel and into the undisturbed soil beneath the trenches. Finally, the liquid reaches the groundwater. These systems are usually built on level ground or ground with moderate slopes.

Modifications of the standard trench system are implemented when particular soils and slopes cause constraints. These modified systems are seepage beds; subsurface sand filters; elevated sand mounds; and drip irrigation systems.

Seepage beds are similar to standard trenches, but the entire piped area is excavated. Seepage beds are a helpful alternative where space is somewhat limited. They require nearly level ground.

Subsurface sand filters are similar to seepage beds except that sand is placed over the entire bed area to a minimum depth of 12 inches to bypass unsuitable soils.

In an elevated sand mound system, effluent is pumped from a dosing tank (pressurized system required by DEP) to perforated pipe in a fabricated sand mound which covers plowed soil. Liquid flows through gravel, through sand and into the soil. The mound's vegetation enhances evapotranspiration. Although some natural soil permeability is required, an elevated sand mound may be placed in areas with a relatively shallow limiting zone, such as rocky or tight, clayey soils or soils with a high water table.

Drip irrigation systems have long been used for agricultural purposes but have only recently been adapted for wastewater treatment. Typically, wastewater effluent from a treatment system flows into a chlorine dosing tank, then into a distribution unit, which consists of a pump, filters, valves, and meters. Finally, it flows into the drain field which consists of very small-diameter flexible drip irrigation tubing and emitters that are installed in narrow trenches within the root zone of vegetation either growing or proposed for the waste receiver site. The emitters discharge filtered wastewater to the soil. It should be noted that, although drip irrigation systems are currently being considered in many areas of Chester County, there are no community systems in place from which to obtain historical data on effluent quality and operations and maintenance. A community system utilizing SBR treatment and drip irrigation disposal has recently been installed in Thornbury Township. Prior to consideration of a drip irrigation disposal system, consideration should be given to groundwater mounding and nitrogen pluming. Any consideration of drip irrigation should also entail documentation being provided by the manufacturer concerning non-freezing during cold weather.

Other modifications to the preceding five subsurface soil absorption systems include dosing systems, alternating absorption areas, serial distribution systems, evapotranspiration beds and oversized beds.

Dosing systems are trenches or beds which receive effluents from a pump or a siphon. This provides an even release of effluents from all points in the pipes. Distribution boxes are not needed in these systems.

Alternating absorption areas are actually two systems in one. One field is dosed and then rested, then the other is dosed and then rested. They require two distribution boxes and fields are usually switched every 6 to 12 months.

Serial distribution systems apply effluent by pump through absorption trenches which follow topographic contours. The trenches are in tiers-one above another. Drop boxes regulate liquid flow so the highest trench fills first, the second trench fills next, etc. These systems are conducive to severely sloped land.

Evapotranspiration beds are mounds of sand that are lined with an impervious liner into which the effluent is pumped. There is no percolation to groundwater with this type of system. All of the effluent is evapotranspired through the soil surface and cover vegetation.

Oversized beds are absorption beds that are sized larger than normal due to low soil percolation rates. Otherwise, the oversized bed is designed as an absorption bed.

c. Land Application

Treated, chlorinated wastewater effluent is applied by sprinkling to vegetated soils that are moderate in permeability (clay loams to sandy loams). It is treated as it travels through the soil matrix by filtration, absorption, ion exchange, precipitation, and microbial action and also by plant uptake. Sprinklers can be categorized as hand moved, mechanically moved and permanent set, the selection of which includes the following considerations: field conditions (shape, slope, vegetation and soil type), climate, operating conditions, and economics. Vegetation is a vital part of the process and serves to extract nutrients, reduce erosion and maintain soil permeability.

d. Stream Discharge

The discharge of treated and chlorinated effluent to a surface stream is an alternative on-site disposal method that can be used when a conventional soil absorption system would be inadequate as a treatment and disposal medium. If an appropriate receiving water is available, the level of treatment required may vary depending on local regulations, stream water quality requirements and other site-specific conditions.

e. Discharge to Groundwater

Where groundwater pollution would result from the use of traditional sub-surface disposal systems, the State allows for the use of a high level of treatment prior to sub-surface disposal. Thus, the system is more dependent upon the treatment plant than the soil matrix for groundwater protection.

f. Small Flow Stream Discharge

In floodplain soils, areas of seasonal high water table, or areas where the soils will not support effluent disposal methods, stream discharge may be installed as an individual on-lot system.

Since these systems discharge to surface waters, they require a National Pollution Discharge Elimination System (NPDES) permit and must provide improved effluent quality to meet the standards set for discharges to surface waters. These systems cannot discharge into a stream designated as

Exceptional Value under Chapter 93 and may only discharge into a high quality stream when used to repair a malfunctioning system.

g. **Small Flow Spray Irrigation System**

Individual spray irrigation systems utilize a stationary sprinkler irrigation system, similar to those used on golf courses, to spray treated effluent over the surface of the land. These systems require a PA DEP, Bureau of Water Quality Management Permit (established under the PA Clean Streams Law). The same treatment processes that occur during land application described in Section C above also occur during small flow spray irrigation. In addition, a holding facility with a storage capacity for approximately three days' flow (minimum of one thousand gallons) must be included to avoid spraying during adverse conditions such as heavy rainfall, extreme cold, high winds, or deep snow.

The sprinkler system is generally designed to spray for a short period of time (ten minutes) each day. This is usually done at night to avoid contact with people and domestic animals.

**B. Applicability of Wastewater Alternatives**

The general applicability of the various wastewater technology alternatives as they apply to the study areas in Franklin Township are presented in Table V-2. This preliminary evaluation is based upon the local site conditions and the known success or limitations of each technology. This provides a more narrowed set of alternatives to be evaluated for each study area. The selection of the appropriate wastewater system must be done carefully on a case-by-case basis. The next section outlines a wastewater system selection strategy.

**C. Wastewater System Selection Strategy**

The U.S. Environmental Protection Agency estimates that approximately 25% of all housing units in the United States dispose of their wastewater through on-lot disposal system. While these systems include a variety of components and configurations, the most common is the septic tank/soil absorption system. Traditionally, subsurface systems have been used because of the large natural capacity of the soil to assimilate pollutants in wastewater.

In areas of the Township where subsurface disposal cannot be utilized, either because of housing density, poor soil conditions, or where existing systems are failing and cannot be repaired cost-effectively, treated wastewater effluent can be safely discharged into surface water or onto the land via slow rate application (i.e. spray irrigation).

Wastewater system alternatives can be divided into two general categories, briefly defined as follows:

**TABLE V-2**

**GENERAL APPLICABILITY OF WASTEWATER ALTERNATIVES  
FOR FRANKLIN TOWNSHIP**

ALTERNATIVE	APPLICABILITY YES/NO	COMMENTS
<b><u>COLLECTION SYSTEM ALTERNATIVES</u></b>		
Individual On-Lot	Yes	
Conventional Gravity Sewer	Yes	In designated areas only
Small Diameter Gravity Sewers	No	Not feasible in steep topography
Pressure Sewers	Yes	Adaptable to flat or rolling terrain
Vacuum Sewers	No	Less proven and more site specific than pressure sewers
<b><u>TREATMENT ALTERNATIVES</u></b>		
<b><u>Individual</u></b>		
Septic Tanks	Yes	Educate homeowners concerning need for OLDS maintenance
Aerobic Units	Yes	More expensive more maintenance than septic tank
Lagoons	No	Basic cost prohibitive
Physical-Chemical Systems	Yes	
Intermittent Sand Filter	Yes	
Constructed Wetlands	Yes	Requires "greenhouse" for year-round use
<b><u>Community</u></b>		
Septic Tanks	Yes	
Aerobic Units (Biological Treatment)	Yes	
Lagoons (Biological Treatment)	Yes	
Physical-Chemical Systems	Yes	
Intermittent Sand Filter	Yes	
Constructed Wetlands	Yes	
<b><u>DISPOSAL ALTERNATIVES</u></b>		
<b><u>Individual</u></b>		
Holding Tanks	No	Usually very costly to maintain and generally not in conformance with DEP regulations as a permanent system
<b><u>Land Disposal</u></b>		
<b><u>Subsurface</u></b>		
Conventional	Yes	Preferred alternative
Drip	Yes	Requires Soils & Hydrogeologic Investigations
Surface Application	Yes	Slow rate land application per DEP Guidelines
Stream Discharge	Yes	Depends on effluent criteria set by DEP
<b><u>Community</u></b>		
Holding Tanks	Yes	When in conformance with DEP regulations
<b><u>Land Disposal</u></b>		
<b><u>Subsurface</u></b>		
Conventional	Yes	Dependent upon available soils
Drip	Yes	Requires Soils & Hydrogeologic Investigations
<b><u>Surface Application</u></b>		
Discharge to Groundwater	Yes	Per DEP regulations
Small Flow Stream Discharge	Yes	Based on groundwater protection measures
Small Flow Spray Irrigation	Yes	Contingent upon stream designation

1. Individual On-lot Disposal Systems (OLDS)

The utilization of on-site treatment and disposal alternatives on individual parcels independent of other parcels or systems. See Table V-3 for selection progression.

Table V-3 lists the available technologies for on-lot disposal systems in descending order of preference. For example, a septic tank/subsurface disposal system would be preferable to an aerobic tank/slow rate land application system which would, in turn, be preferable to an individual holding tank.

2. Community On-Lot Disposal System (COLDS)

Wastewater is collected within a designated service area. Treatment and disposal are accomplished at a central treatment facility.

The type of treatment and disposal technologies for new community systems will be considered by the Township on a case-by-case basis. This consideration will take place during the Township's review of the alternatives analysis within sewage planning modules. The Township will consider site constraints and other site planning issues when deciding upon treatment and disposal technologies. The range of systems that the Township will consider are as follows (in no particular order):

- Lagoon/pond system/slow rate land application (i.e., spray irrigation).
- Community septic tank/intermittent sand filter/sub-surface disposal.
- Lagoon/pond system/10 days storage/rapid sand filtration/drip irrigation.
- Community septic tank/intermittent sand filter/drip irrigation.
- Community aerobic unit/intermittent sand filter/sub-surface disposal.
- Community aerobic unit/slow rate land application.
- Community septic tank/alternate system.
- Community aerobic unit/alternate systems.
- Community aerobic unit/stream discharge.
- Central holding tank (temporary)

NOTES:

1. Sand filters shall be intermittent sand filters, recirculating intermittent sand filters, or rapid sand filters. Rapid sand filters shall have flow equalization and sufficient storage capacity for treatment upsets.

The use of the Individual OLDS or COLDS will be driven by the development type (i.e., cluster vs. conventional) required by the Township.

**TABLE V-3**

<b>INDIVIDUAL ON-LOT DISPOSAL SYSTEM (OLDS) SELECTION</b>
<p><b><u>POLICY</u></b></p> <p>Encourage individual on-site treatment and disposal wherever feasible (depending on soil and site characteristics and density requirements). Repair existing OLDS where conditions require.</p>
<p><b><u>METHODOLOGY</u></b></p> <p>Evaluate the following wastewater technologies in sequence, beginning with Technology A. This technology evaluation sequence establishes a hierarchy of system preference. This hierarchy is intended to direct applicants proposing wastewater systems in the Township to utilize the technology most desired by the municipality.</p> <p>The intent of this hierarchy is to place the responsibility of demonstrating the feasibility of a particular technology upon the applicant. If the applicant can prove, to the satisfaction of the Township, that a more preferred technology cannot be utilized then the next technology on the list is evaluated. The Township shall consider physical limitations, but not costs, in its evaluation of the feasibility of a preferred technology. This evaluation of technologies will be conducted under close scrutiny of the Township and its consultants and must fully comply with the DEP wastewater regulations.</p>
<p><b><u>TECHNOLOGY EVALUATION</u></b></p> <ul style="list-style-type: none"><li>A. Septic tank/subsurface disposal system.<ul style="list-style-type: none"><li>1. Standard trench</li><li>2. Seepage bed</li><li>3. Drip irrigation</li><li>4. Elevated sand mound</li></ul></li><li>B. Septic tank/intermittent sand filter with subsurface disposal or slow rate land application.</li><li>C. Aerobic tank/intermittent sand filter with subsurface disposal.</li><li>D. Aerobic tank/slow rate land application (i.e. spray irrigation).</li><li>E. Septic tank intermittent sand filter with stream discharge.</li><li>F. Aerobic tank/intermittent sand filter with stream discharge.</li><li>G. Septic tank or aerobic tank with sand filter treatment with alternative disposal area (e.g., oversized bed or evapotranspiration system).</li><li>H. Individual holding tank.</li></ul>

**D. Alternative Wastewater Facilities for Study Areas**

For purposes of analysis and consideration of appropriate alternatives, Franklin Township's land area is divided into five study areas, as shown above in Map II-1. The basis for delineation of these study areas includes existing concentrations of development, existing on-site problem areas, proposed growth and the existing and proposed Zoning Ordinance.

The study areas are:

1. Kemblesville Study Area
2. Chesterville Study Area
3. Parsons Road Study Area
4. Low Density Study Area
5. Rural Study Area

Common to all of the study areas is the Township's desire to compliment the design standards contained in the Zoning Ordinance. Due to the lot sizes and the potential densities permitted under clustering options in the Zoning Ordinance, the Township recognizes the potential need for community systems. For both existing and future individual systems, the Township will place emphasis on a program of on-lot system management, as described in this chapter.

Each study area, or group of areas, also has particular wastewater facility needs related to natural characteristics and existing and proposed land use. The wastewater facility alternatives for the various study areas are as follows:

1. Kemblesville Study Area
  - a. Connection to the Proposed Echo Hill Farms Community System

Under this alternative, sewage from individual homes in the Village would be conveyed to the treatment plant at the proposed development. The type of treatment and disposal system will be selected by Township during the sewage planning module review and approval process. The developer has agreed with the Township to allocate 20,000 gpd to the Township to address the needs of the Village of Kemblesville. Refer to Table VIII-1 for existing and future wastewater flows within the Village. Individual septic tanks or cess pools would be disconnected and backfilled. The Township has considered two alternatives to collect and convey the wastewater from the Village to Echo Hill Farms.

The Grafton Association's Draft Act 537 Plan for the Township, found in Appendix A, did not consider the Echo Hill Farms alternative; therefore, new alternatives need to be considered due to the developer's agreement to construct a wastewater treatment facility with additional capacity to serve the Village of Kemblesville. The new alternatives are:

1) Gravity

Under this alternative, 8" gravity collection lines would be installed to serve individual homes and uses in the Village. For portions of the Village, these gravity lines would convey the sewage to pump stations located at the northern end of the Village along New London Road adjacent to Kemblesville Elementary School, and at the southern end of the Village along Walker Road. From these pump stations, the sewage would be conveyed by 1.5" force main to a high point near the center of the Village, and then flow by gravity along New London Road to a proposed manhole to be located in the Echo Hill Farms development. The location of this manhole in the proposed development has been shown on utility plans submitted by the developer to the Township. From this proposed manhole, the sewage from the Village, along with sewage from approximately 30 of the proposed 60 lots within the development, will flow by gravity to a pump station located in the northwest corner of the development. From this pump station, the sewage will be conveyed by force main directly to the treatment and disposal system. This alternative is shown in Map V-1.

2) Low Pressure Force Main

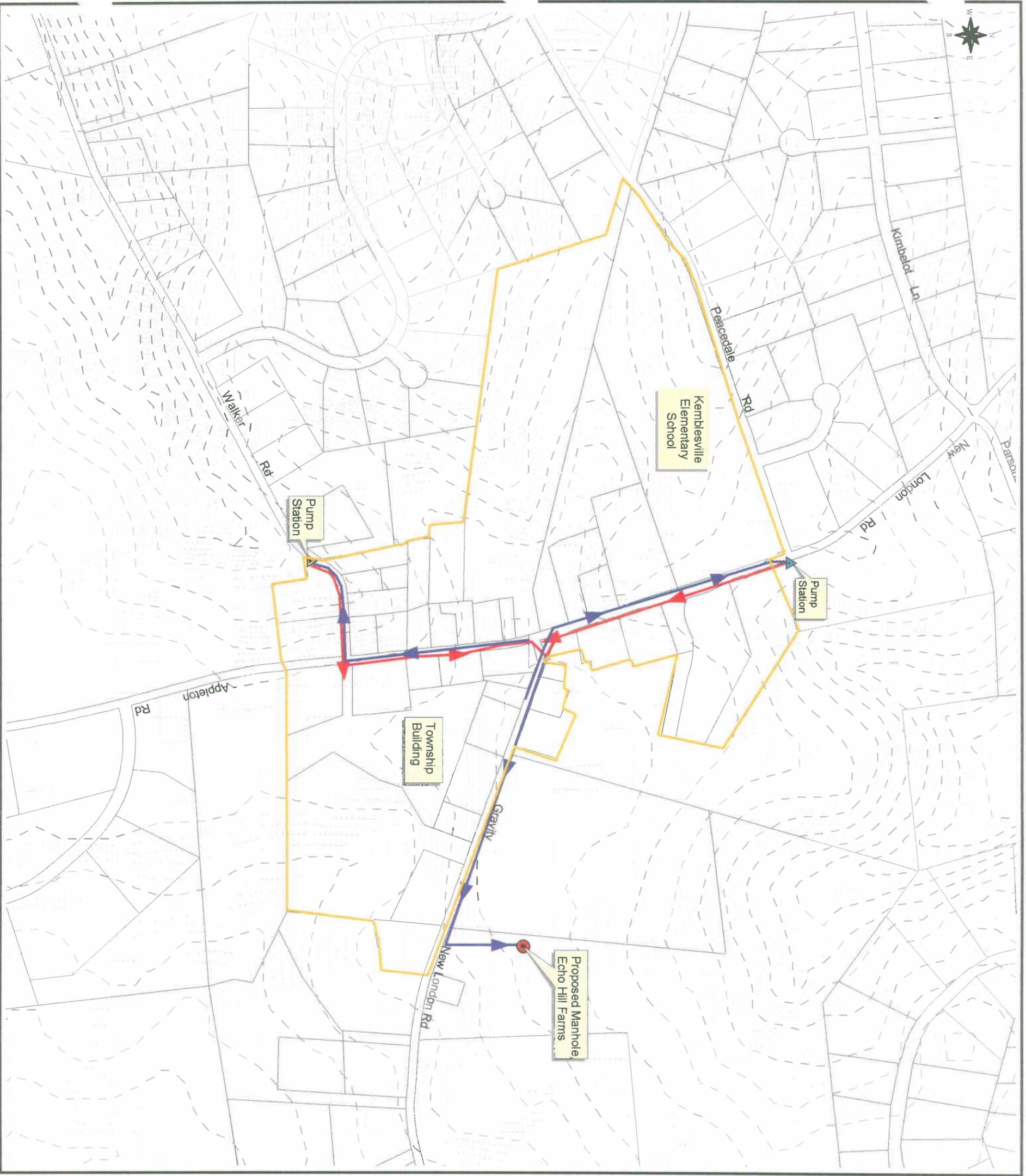
Under this alternative, each individual home or use in the Village would be retrofitted with a grinder pump which would convey the sewage by various size force mains to a proposed manhole to be located in the Echo Hill Farms development. From this proposed manhole, the sewage from the Village, along with sewage from approximately 30 of the proposed 60 lots within the development, will flow by gravity to a pump station located in the northwest corner of the development. From this pump station, the sewage will be conveyed by force main directly to the treatment and disposal systems. This alternative is shown in Map V-2.

b. Continued Use of Individual On-Lot Disposal Systems (No Action)

The no action alternative for the study area would allow continued use of the individual on-lot sewage treatment and disposal systems. Malfunctioning systems would be repaired if possible, in accordance with the OLDS Selection Strategy.

c. Retaining Tank

Sewage retaining tanks may be used on an interim basis until an appropriate permanent sewage disposal method can be implemented.



# Franklin Township Act 537 Plan

**Legend**

- Service Area
- Sewer Point Features
- Proposed Manhole
- Pump Station
- Sewer Line Features**
- Force Main
- Gravity Line
- 2 ft. Contours

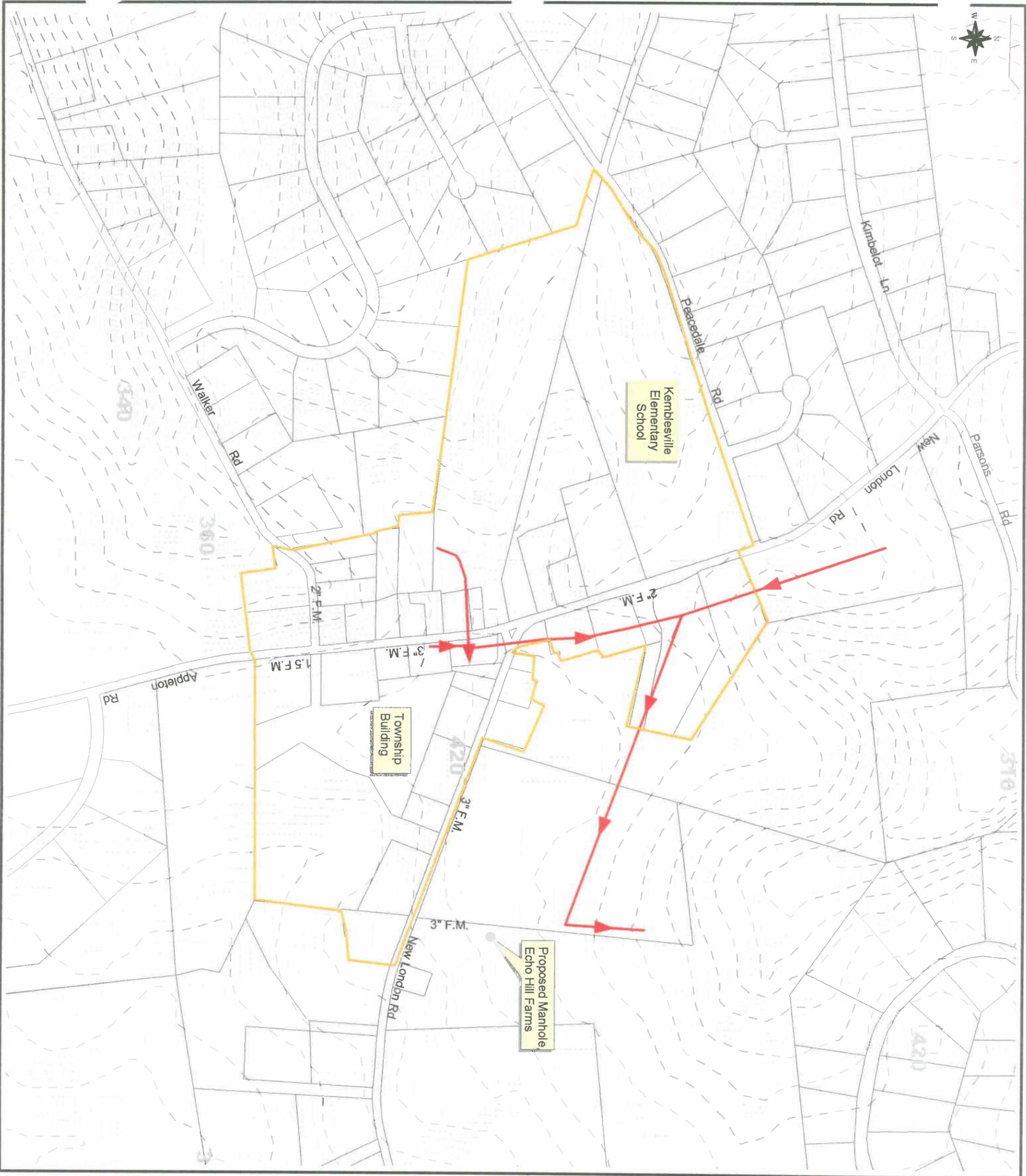
Sources:  
Chester County Bureau of Land Records,  
7.5 minute West Grove and Newark West USGS DEMs.



1200 Philadelphia Pike  
Wilmington, DE 19809  
Tel: 302.791.0700  
Fax: 302.791.0708

Map V-1

Gravity/Force Main Option



**Franklin Township  
Act 537 Plan**

**Legend**

-  Service Area
-  Force Main
-  2 ft. Contours

Sources:  
Chester County Bureau of Land Records,  
7.5 minute West Grove and Newark West USGS DEMs.



1200 Philadelphia Pike  
Wilmington, DE 19809  
Tel: 302.791.0700  
Fax: 302.791.0708

Map V-2

Grinder Pump Option

Services of a licensed sewage hauler must be arranged to empty retaining tanks.

2. Chesterville Study Area

a. Community Systems

Under this alternative, new development in the study area would utilize a community system in accordance with the COLDS selection process described earlier in this Chapter. The Township would encourage the developer to provide additional capacity within the community system to accommodate the ultimate wastewater needs of the study area.

b. Individual OLDS

Under this alternative, new development in the study area or the consideration of replacement systems for existing lots in the study area, would utilize the OLDS Selection Strategy found in Table V-3.

c. Retaining Tanks

Sewage retaining tanks may be used on an interim basis until an appropriate permanent sewage disposal method can be implemented. Services of a licensed sewage hauler must be arranged to empty a retaining tank.

3. Parsons Road Study Area

a. Community Systems

Under this alternative, new development in the study area would utilize a community system in accordance with the COLDS selection process described earlier in this Chapter. The Township would encourage the developer to provide additional capacity within the community system to accommodate the ultimate wastewater needs of the study area.

b. Individual OLDS

Under this alternative, new development in the study area or the consideration of replacement systems for existing lots in the study area, would utilize the OLDS Selection Strategy found in Table V-3.

c. Retaining Tanks

Sewage retaining tanks may be used on an interim basis until an appropriate permanent sewage disposal method can be implemented. Services of a licensed sewage hauler must be arranged to empty a retaining tank.

4. Low Density Residential Study Area

a. Community Systems

Under this alternative, new development in the study area would utilize a community system in accordance with the COLDS selection process described earlier in this Chapter. The Township would encourage the developer to provide additional capacity within the community system to accommodate the ultimate wastewater needs of the study area.

b. Individual OLDS

Under this alternative, new development in the study area or the consideration of replacement systems for existing lots in the study area, would utilize the OLDS Selection Strategy found in Table V-3.

c. Retaining Tanks

Sewage retaining tanks may be used on an interim basis until an appropriate permanent sewage disposal method can be implemented. Services of a licensed sewage hauler must be arranged to empty a retaining tank.

5. Rural Study Area

a. Community Systems

Under this alternative, new development in the study area would utilize a community system in accordance with the COLDS selection process described earlier in this Chapter. The Township would encourage the developer to provide additional capacity within the community system to accommodate the wastewater needs of the surrounding area.

b. Individual OLDS

Under this alternative, new development in the study area or the consideration of replacement systems for existing lots in the study area, would utilize the OLDS Selection Strategy found in Table V-3.

c. Retaining Tanks

Sewage retaining tanks may be used on an interim basis until an appropriate permanent sewage disposal method can be implemented. Services of a licensed sewage hauler must be arranged to empty a retaining tank.

## **E. Management System for Individual OLDS**

In the management of individual on-lot systems, the Township proposes to become a more involved party than it has been to this point. Primary responsibility for the continued functioning of these systems will remain with the individual property owner. The Township anticipates a supplemental role. Its focus will be education and monitoring to assure the necessary maintenance of individual systems; direct action by the Township, e.g., pumping out a system, would be limited to relatively last-resort cases.

Table V-4 outlines five options for Township involvement in the management of individual wastewater systems. In each option, the Township administers a public education program for property owners, advising them of the need for system maintenance and water conservation. Beyond that, the options move from 1 to 5 in the direction of increasingly active participation by the Township in system ownership and maintenance.

For Franklin Township, Option 2 is selected. This calls for continued ownership and operation of individual OLDS by the property owner and proof being provided by the property owner to the Township, that the property owner has pumped out the system at least once every three years. This management option will be implemented with a Township Ordinance. A sample ordinance has been provided in Appendix D.

The intent of an expanded Township role, including the public education program, is to prevent system failures caused by a lack of adequate maintenance. Several factors contribute to inadequate maintenance, including:

**Uninformed property owner.** This can occur when residents accustomed to public sewers relocate to a more rural area, such as Franklin Township, that relies on individual OLDS. Frequently, they lack information on the necessity of regular maintenance of their system.

**Poor record-keeping.** The property owner may realize the system should be serviced regularly, but fails to keep a record of maintenance. Also, when a homeowner buys a used home, he may not be aware of when the last maintenance was performed.

**Negligence.** Some property owners simply neglect their systems and fail to live up to their responsibilities of proper OLDS maintenance.

The Township's policies toward individual wastewater system maintenance can be categorized according to three types of systems: 1) functioning individual OLDS; 2) failing individual OLDS; and 3) alternative individual systems, including land application and stream discharge disposal methods.

### 1. Functioning Individual OLDS

Consistent with Option 2 in Table V-4, the Township's policies toward currently functioning and all future individual OLDS on parcels subject to the existing Ordinance are proposed to be:

**TABLE V-4**

**INDIVIDUAL OLDS MANAGEMENT PROGRAM OPTIONS**

<p><b>1. <u>PRIVATE OWNERSHIP/PRIVATE OPERATION AND MAINTENANCE</u></b></p> <p>A. OLDS ownership by property owner; B. Property owner has sole responsibility for OLDS operation and maintenance; and C. Township administers Public Education Program to inform residents of need for OLDS maintenance and water conservation.</p>
<p><b>2. <u>PRIVATE OWNERSHIP/PRIVATE OPERATION AND MAINTENANCE WITH PROOF-OF-PUMP OUT</u></b></p> <p>A. OLDS ownership by property owner; B. Property owner responsible for OLDS operation and maintenance; C. Township requires proof-of-pump out of septage once every three years from all parcels (or other specified period); and D. Township administers Public Education Program (as in 1C above).</p>
<p><b>3. <u>PRIVATE OWNERSHIP/PRIVATE OPERATION AND MAINTENANCE WITH PUBLIC ASSURANCE PROGRAM</u></b></p> <p>A. OLDS ownership by property owner; B. Property owner responsible for OLDS operations and maintenance; C. Township monitors OLDS operation and inspects system annually (or other specified period); D. Township requires proof-of-pump out of septage at least once every three years or at the direction of the inspector; and E. Township administers Public Education Program (as in 1C above).</p>
<p><b>4. <u>PRIVATE OWNERSHIP/PUBLIC OPERATION AND MAINTENANCE</u></b></p> <p>A. OLDS ownership by property owner; B. Township responsible for OLDS operation and maintenance through structured program; C. Property owner becomes a customer and pays a user fee; and D. Township administers Public Education Program (as in 1C above).</p>
<p><b>5. <u>PUBLIC OWNERSHIP/PUBLIC OPERATION AND MAINTENANCE</u></b></p> <p>A. Township owns all OLDS; B. Township responsible for OLDS operation and maintenance as in #4 above. C. Property owner becomes a customer and pays a user fee; and D. Township administers Public Education Program (as in 1C above).</p>

- a. Require regular (once every three years) maintenance, consistent with standards established by the Township, and proof that this maintenance was performed;
- b. Develop and disseminate a public education program for all property owners, stressing the need and means of OLDS maintenance. The program would include:
  - 1) Direct contact with individuals experiencing problems.
  - 2) Provision of literature to all Township residents, describing all types of on-lot systems.
  - 3) Encouragement for the installation of water conservation devices.
  - 4) Demonstration projects to show effective ways to correct typical on-site failures.

2. Failing Individual Systems

Any community that relies heavily on individual OLDS will experience some number of failing systems; in Franklin Township, the situation is somewhat heightened by the unfavorable topographic characteristics. Where such failures occur or are imminent, the choices may include repair, connection to a community system, or replacement with an alternative individual system. In dealing with failed or failing systems, the Township's policies will include:

- a. Providing owners of failing on-lot systems with educational material to assist them in devising the best solution for their system (this may be an extension of the material described in 1-b, above).
- b. Working with the Chester County Health Dept. to evaluate clusters of individual systems to determine if a community system may be a feasible solution.

3. Alternative Individual Systems

For new or replacement individual systems using land application or stream discharge technology, the Township's policies will be the same as those it applies to conventional systems, i.e., required routine maintenance and a public education program. Because such systems tend to require more maintenance than conventional individual OLDS, the Township will implement additional policies enabling it to:

- a. Review the system design and supervise construction activities.

- b. Require financial assurances satisfactory to the Township, to be held for 18 months after the date of initial operation, for all new or repaired systems that require a DEP permit.
- c. Require a maintenance agreement with the property owner that provides for regular Township inspection of the system and the payment of a fee by the property owner to cover inspection costs.

**F. Management of Community Systems**

The Township intends to own and operate any privately-constructed community systems, either by requiring a continuing offer of dedication or stipulating the transfer of ownership at a prescribed level of build-out or occupancy of the development being served. On this basis, the Township will be the responsible party for the management of community systems. The roles of the Chester County Health Department and the Pennsylvania Department of Environmental Protection will be in the areas of design approval, permitting, monitoring, and enforcement.

The Township will demand a high level of quality in the design and construction of the community systems built in Franklin, perhaps exceeding those of DEP. For example, intermittent sand filtration may be required for all systems. The choice of community systems shall be done in accordance with the COLDS selection strategy.

Specific Township policies concerning the management of community systems will include:

1. The Township shall review and approve the system design and shall review construction of all community systems.
2. There shall be financial assurances satisfactory to the Township to be held for 18 months following the date of occupancy of the last house.
3. Prior to the transfer of ownership, routine maintenance shall be required and the Township will perform routine inspections of the community system on a regular basis.
4. All new community systems will be covered by the management program.

**G. Management Program Summary**

Through the Act 537 Plan and its attendant policies, the Township has made a commitment to prevent pollution and protect public health by planning for and regulating wastewater treatment and disposal. Cooperation, assistance, and regulatory support on the part of the DEP, the Chester County Health Department, individual property owners, and developers are essential to the success of that effort. Therefore, to minimize or eliminate potential health and/or environmental hazards, the Township shall institute a Wastewater Systems Management Program.

The intent of the Wastewater Systems Management Program is to provide for improved design, installation, operation, and maintenance of wastewater systems through municipal administration and ordinances. To make such a program effective, it is imperative that the Township take on the following functional responsibilities:

- Review of plans and system designs by the Township Engineer for conformance with the official wastewater facilities plan and applicable ordinances.
- Enact and implement ordinances to assure the long-term viability of the following: land disposal through spray irrigation (individual and community); drip irrigation; community subsurface disposal; stream discharge (individual and community); and connection to centralized sewerage systems.
- Develop and implement an inspection program for the construction, operation and maintenance of all community wastewater systems in conjunction with the Chester County Health Department and the DEP.
- Develop and implement a public education program.

## CHAPTER VI

### ALTERNATIVES EVALUATION

#### A. Consistency Evaluation

Under the Act 537 planning process, technically feasible alternatives as selected in Chapter V, must be further evaluated for consistency with other environmental planning and regulatory programs, its financial feasibility, and its administrative requirements. The consistency of these alternatives relative to applicable planning and regulatory programs is discussed in the following sections.

##### 1. COWAMP/208 Water Quality Management Plan

Comprehensive Water Quality Plans (COWAMP) have been developed under Sections 4 and 5 of the Clean Streams Law and 208 of the Clean Water Act. For purposes of identification with the COWAMP/208 Water Quality Management Plan for southeastern Pennsylvania prepared in 1978, Franklin Township falls within the Christina and Octoraro Sub-Basin.

According to the COWAMP, surface water quality varies with the stream reach within this sub-basin. Water quality of the East Branch of the White Clay was marginal below the Avondale Wastewater Treatment Plant. The West Branch of the White Clay Creek, which courses predominantly through agricultural areas, did not exhibit any severe degradation. Water quality of the Middle Branch of the White Clay Creek above the confluence of the West Branch was generally good. Water quality in the Big Elk Creek demonstrates consistently elevated nitrate-nitrogen in levels throughout the basin; however, fecal coliform and chloride levels were low. The range of recommended alternatives in this plan in no way conflict with the basic water quality goals of the COWAMP.

##### 2. Chapter 94 Municipal Wasteload Management Plan

Municipalities which have sewage facilities must submit a Chapter 94 Report annually to DEP which identifies the present hydraulic flows and organic loading versus the design hydraulic flow and design organic loading of the facility. The Chapter 94 Report must also identify any future hydraulic or organic overloads for the next five years. Currently, Franklin Township does not own or operate any sewage facilities; however, the Township is expected to own and operate the wastewater treatment facility in the Echo Hill subdivision located on New London Road west of Kemblesville.

##### 3. Title II and VI of the Water Quality Act of 1987

The Water Pollution Control Revolving Loan Fund Component of the PennVest Program provides for capitalization under the Federal Water Quality Act of 1987. The Township will seek to utilize other funding sources prior to utilizing PennVest funding.

4. Comprehensive Plan

As discussed in Chapter I, the Township relies on private on-site disposal for the management of wastewater. Current growth trends within certain areas of the Township prove the feasibility of community wastewater facilities over individual systems. An example of such a system is the Echo Hill development, which will provide wastewater service to the Kemblesville area. The use of such a system to serve the wastewater needs of Kemblesville is consistent with the Comprehensive Plan. As indicated in correspondence from the Chester County Planning Commission, the alternatives being considered in this Plan are consistent with the County Comprehensive Plan *Landscapes*.

5. Anti-degradation Requirements of Chapters 93, 95, and 102

Chapters 93 and 95 address water quality criteria of receiving streams and wastewater treatment requirements, respectively. Stream discharge possibilities provided as alternatives in this plan are provided as part of the community and individual on-lot facility Selection Strategies. The use of a stream discharge facility is one of the last options in both Selection Strategies. Various options for land application and subsurface disposal must first be exhausted before stream discharge can be considered. The implementation of any wastewater facility contained in this plan will be consistent with the sediment and erosion control requirements of Chapter 102.

6. State Water Plan

The possible alternatives contained in this plan are consistent with the basic water quality goals of the State Water Plan which is to prevent further pollution of the water of the Commonwealth and to restore polluted water so that future uses can be protected.

7. Pennsylvania Prime Agricultural Land Policy

It is the policy of the Commonwealth to conserve, protect, and encourage the development and improvement of its agricultural lands for the production of food and other agricultural products. It is also the policy of the Commonwealth to protect and conserve agricultural lands as valued natural and ecological resources, which provide needed open spaces for clean air as well as for aesthetic purposes. The use of land application disposal of effluent as the first option to be considered in the Community System Selection Strategy is consistent with the goal to preserve agriculture.

8. County Stormwater Management Plan

Chester County does not currently have a Stormwater Management Plan.

9. Wetland Protection Standards

Any potentially impacted wetland will be identified prior to the implementation of the selected alternatives.

10. Pennsylvania Natural Diversity Inventory (PNDI)

Potential impacts on the natural resources contained in this database will be identified.

11. Pennsylvania Historic Preservation Act

Potential impact on historic resources from the proposed alternatives will be identified.

**B. Resolution of Inconsistencies**

It does not appear that any of the alternatives are inconsistent with the programs and policies discussed above.

**C. Water Quality Standards and Effluent Limitations**

Any wastewater facility constructed in Franklin Township must meet all applicable water quality standards and effluent limitations. For stream discharge facilities, said standards and limitations are established in the Part I/NPDES permit issued by DEP. It should be noted that stream discharge facilities shall only be considered in accordance with the Community and On-Lot System Selection Strategies. In accordance with those Strategies, various wastewater system types must be considered first and proven to be unfeasible, prior to consideration of a stream discharge facility. In addition, if a stream discharge facility is considered by the Township, the Township shall require tertiary treatment.

**D. Costs**

The Township has estimated present worth costs for the two alternatives to convey sewage from the Kemblesville Village to the Echo Hill Farms development. Present worth costs were not prepared for community system alternatives in the other study areas since those alternatives involve the construction of new community facilities by developers for new development. The location of the new community facility, cannot be determined at this time. The size and cost of the community facility will be based on, among other things, the number of lots in the new development, and the extent of the study area served.

The cost estimates for the alternative collection systems to convey wastewater from the Village of Kemblesville to the Echo Hill Farms development are as follows:

<b>Alternative</b>	<b>Capital Costs</b>	<b>Annual Costs</b>	<b>Present Worth Costs</b>
Gravity	\$1,009,252	\$4,000	\$1,063,613
Grinder Pump	\$ 777,319	\$3,700	\$ 827,603

More detailed cost estimates can be found in Appendix E.

For both the gravity and grinder pump alternative, the cost estimates include the total cost of conveying the sewage from each use to the treatment plant, including the cost of the house connection to the grinder pump, the grinder pump and the force main lateral. The cost of the gravity alternative includes the cost of the on-lot gravity lateral as well.

## **E. Funding**

### **1. General Fund Sources**

Because large federal grants are no longer available for the construction of wastewater treatment facilities, the capital cost of such facilities are generally paid by bond issues with the costs of amortization being added into user fees. However, there are several programs which may be available to Franklin Township to assist in the financing of needed facilities within the Township.

#### **a. Community Development Block Grants**

Community Development Block Grants are federal funds distributed by counties to provide for housing rehabilitation, infrastructure improvements, and economic development. In order to be eligible for funding, 50% of the households in the project area must meet income guidelines.

#### **b. PennVest**

The Pennsylvania Infrastructure Investment Authority Act, known as PennVest, was adopted on February 24, 1988. The Act provides for low interest loans and a limited number of grants for sewer and water facilities in the Commonwealth. The Pennsylvania Infrastructure Investment Authority, a 13 member board, has the power to prioritize projects and set interest rates.

Interest rates on loans are to be set on a project-by-project basis. The minimum interest rate will be 1%. The maximum rate will be 75% of the interest rate on the tax-exempt bonds issued by the Commonwealth to finance the program (about 5-1/2% if interest rates on Pennsylvania bonds are assumed to be 7-1/2%).

#### **c. Delaware Valley Regional Finance Authority**

Bucks, Chester, Delaware, and Montgomery Counties formed the Delaware Valley Regional Finance Authority (DVRFA) in 1985 in order to provide financing to local governments within the four county regions. The

Authority is governed by a five member board appointed by the commission of each of the counties.

This source of funding should be considered should funding through PennVest not be possible.

d. Farmer's Home Administration Loans

The Farmer's Home Administration (FmHA) is an agency of the United States Department of Agriculture which is authorized to provide financial assistance for public infrastructure projects in rural areas. Sewer projects in Franklin Township would be considered eligible.

e. Privatization

A potential financing mechanism for implementing needed wastewater facilities projects is known as "privatization". Privatization generally involves a contractual arrangement between a private sector entrepreneur or group, and a public sector entity such as a municipality. The following table illustrates the various privatization options that are available.

**TABLE VI-1**

**PRIVATIZATION OPTIONS**

<b>Ownership of Infrastructure Facilities</b>	<b>Operation of Infrastructure Facilities</b>	<b>Transaction Type</b>
Public Sector	Private Sector	Operations and Maintenance (O&M) Contract
Private Sector	Public Sector	Lease Contract
Private Sector	Private Sector	Service Contract

Private sector ownership and/or operation of infrastructure facilities via privatization will usually result in a reduction in the annual cost of providing wastewater facility services. Reduced user fees can be realized because of two main reasons. First, private sector ownership enables a private profit-making entity to generate certain tax benefits through depreciation and allowable deductions. Second, private sector operation may enable a private, profit-motivated entity to utilize certain labor and cost savings practices. Furthermore, private sector firms may take advantage of the following methods to keep user fees to a minimum:

- Modular Design - lower construction costs;
- "Fast-Track" Construction - reduces the cost of interest during construction;
- Creative Financing - (e.g. variable rate instruments which can minimize interest cost of the long term; and

- Minimize Administrative and Support Costs - by spreading such costs over a number of facilities.

Combining the above factors can often result in user fees which are 5 to 15 percent less than those realized under traditional public financing methods.

In recent years, there has been a reluctance on the part of both municipalities and private investors to pursue privatization. The main reason for this reluctance appears to be the Federal Tax Reform Act of 1986 which may significantly effect the economics of privatization, depending upon the specific situation. However, privatization should still be considered as a potential financing mechanism for wastewater facilities in Franklin Township since private sector involvement should generally result in long-term cost savings to the Township and to the users of the facilities.

f. **Growing Greener**

Growing Greener Legislation, signed into law on December 15, 1999, will provide \$646 million over the next 5 years for open space, farmland preservation, mine reclamation, watershed restoration and water and sewage system upgrade projects. PennVest has been authorized to administer grants for water and sewer system upgrades in addition to their low interest loan financing.

The DEP will also eventually administer grants for new or innovative wastewater technologies. The grants to be administered by DEP will be funded from savings in the Act 339 program as equipment is retired. These grants will be tied to the cost of the environmental improvement and not to demographic factors such as per capita income.

**F. Phasing**

Given the history and extent of the problem with individual OLDS within the Village of Kemblesville, the Township has identified this area as being in immediate need of a public or community wastewater system. As such, the Township has been working diligently with the developer of Echo Hill Farms to accommodate the sewage needs of Kemblesville into that proposed development's community system. The accommodation of the wastewater needs of the Village is contingent upon the proposed development meeting all of the applicable land use regulations of the Township as well as applicable regulations of DEP and the CCHD.

**CHAPTER VII**  
**INSTITUTIONAL EVALUATION**

**A. Existing Authorities**

There are no existing wastewater treatment authorities in Franklin Township; however, it is the intent of the Township to create a wastewater authority by the guidelines set forth in the Municipal Authorities Act of 1945.

**B. Institutional Alternatives**

**1. On-lot Systems**

As mentioned in Chapter V, an ordinance requiring proof-of-pump out every three (3) years shall be enacted. The Township envisions using existing personnel to enforce this Ordinance, but will continue to monitor the administration of the Ordinance to assure cost-effectiveness.

**2. Community Systems**

As mentioned in Chapter V, the Township will require dedication, or a continued offer of dedication, of all community systems constructed in the Township. The Township is currently considering its options regarding staffing requirements to administer the management of community systems. That is, the Township may utilize an outside licensed operator to monitor any new community systems or may provide training to existing personnel. A combination of the above-scenarios is most likely, with the Township initially using an outside operator to monitor a community system. As the Township's knowledge and understanding of the community system(s) increases, the Township may wish to utilize its own personnel for operation of the system.

The cost of operation and maintenance of the community system(s) will be recouped by the Township through annual user fees. The user fees will also include a capital reserve charge which will be used to fund the replacement of system components. The Township will need to promulgate a resolution to establish tap fees and user fees.

**C. New Administrative Activities**

1. The Township will form an Authority to own and operate any community facility constructed within the Township. The Municipal Authority, which will be incorporated pursuant to the Municipality Authorities Act of 1945, as amended, will be formed prior to dedication of any community facility.

2. At this time, no other ordinances or inter-municipal agreements need to be adopted to implement the selected alternatives in this plan. For the Kemblesville Study Area, a sewer agreement will need to be executed between the Township and the developer of Echo Hill Farms. This agreement will establish the legal, administrative and financial responsibilities between the two parties.
3. Since selected alternatives for all of the Study Areas are predicated on new development, activities to provide rights-of-way, easements or land transfers will be accomplished at the time of the new development. For new off-site facilities, such as any collection and conveyance system constructed to convey sewage from the Village of Kemblesville to the Echo Hill Farms development, the Township is willing to exercise its condemnation authority available to second class Townships, to secure any needed easements of right-of-ways.

## CHAPTER VIII

### SELECTED ALTERNATIVES

For each of the Study Areas identified in Chapter II, a wastewater disposal alternative has been selected which best meets the needs of the Township.

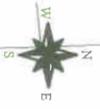
#### A. KEMBLESVILLE STUDY AREA

The selected alternative for the Kemblesville Study Area is the use of a low pressure force main system for the uses within the Village, and treatment and disposal at the Echo Hill Farms development. As will be discussed below, this alternative is more cost effective and less disruptive than the gravity alternative. Due to the designation of Kemblesville as a problem area by the Chester County Health Department, the Township does not wish to continue to rely on OLDS to meet the long term wastewater needs of the Study Area.

Under the low pressure force main alternative, each lot within the Village will be retrofitted with a grinder pump, which will convey the sewage by force main to a proposed manhole located in the Echo Hill Farms development. From this manhole, the sewage from the Village, along with the sewage from a portion of the Echo Hill Farms development, will flow to a pump station located in the development. The pump station will convey the sewage by force main to a treatment and disposal system constructed by the developer. At this time, the Township has not selected the type of treatment and disposal system. The treatment and disposal system selected by the Township will be identified in the sewage planning modules for the development. As mentioned earlier, the developer of Echo Hill Farms has agreed to accommodate the needs of the Village of Kemblesville within the proposed development's collection, conveyance, treatment and disposal system. It will be the Township's responsibility to convey the sewage from the Village to the proposed development. It will be the developer's responsibility to assure that the sewage planning modules for the on-site collection and conveyance, treatment and disposal systems are approved, and that the on-site facilities are constructed, in accordance with DEP regulations. Since the Township will take dedication of the wastewater treatment and disposal system in Echo Hill Farms, the Township will assure that the facilities are constructed in accordance with plans approved by the Township.

#### 1. Existing and Future Wastewater Disposal Needs

Map VIII-1, along with Table VIII-1, provides the existing and projected wastewater needs of the Kemblesville Study Area. The total design flow for the treatment and disposal system is 40,000 gpd. The majority of the Kemblesville Study Area is designated as a Village District within the Township's Zoning Ordinance. As such, a mix of uses may be permitted by the Township in accordance with the Zoning Ordinance which are compatible with the Village setting. To promote redevelopment of this kind, the Township has set aside 8,000



**Franklin Township  
Act 537 Plan**

**Legend**

-  Streams
-  Roads
-  Kemblesville

Sources:  
Chester County Bureau of Land Records.



1200 Philadelphia Pike  
Wilmington, DE 19809  
Tel: 302.791.0700  
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Map VIII-1

Kemblesville Study Area

**TABLE VIII-1**  
**EXISTING AND FUTURE WASTEWATER FLOWS**  
**KEMBLESVILLE STUDY AREA**

<b>TAX PARCEL</b>	<b>USE</b>	<b>EXISTING EDU</b>	<b>EXISTING FLOW (GPD)</b>	<b>FUTURE EDU</b>	<b>FUTURE FLOW (GPD)</b>
72-5- 40.00	School	22	5,600	30	7,600
41.00		1	250	1	250
42.00		1	250	1	250
43.00		1	250	1	250
43.10		1	250	1	250
39.12		1	250	1	250
39.13		1	250	1	250
39.14		1	250	1	250
44.00		1	250	1	250
45.00		1	250	1	250
46.00		1	250	1	250
46.10		1	250	1	250
46.20		1	250	1	250
47.00		1	250	1	250
48.00		1	250	1	250
49.00		1	250	1	250
50.00		1	250	1	250
51.00		1	250	1	250
52.00		1	250	1	250
53.00		1	250	1	250
54.00		1	250	1	250
55.00		1	250	1	250
56.20		1	250	1	250
56.30		1	250	1	250
56.40		1	250	1	250
63.00	EchoHill	0	0	58	14,500
65.00		1	250	1	250
66.00		1	250	1	250
67.00		1	250	1	250
69.00	Store	2	400	2	400
70.00		1	250	1	250
70.40		1	250	1	250
71.00		1	250	1	250
72.00		1	250	1	250
73.00		1	250	1	250
75.00		1	250	1	250
76.10		1	250	1	250
77.00		1	250	1	250
78.00		1	250	1	250
79.00		1	250	1	250
80.00		1	250	1	250
Unallocated		0	0	32	8,000
<b>Total</b>		<b>62</b>	<b>15,500</b>	<b>160</b>	<b>40,000</b>

gpd (32 EDU's) of unallocated flow. This flow may also be used by the Township to serve new or existing development within, or within the immediate vicinity of, the Study Area.

At the time of adoption of this plan by the Township, the original proposed development of Echo Hill Farms was no longer being considered by the Township. A new Echo Hill Farms proposal was being considered which combined wastewater flows from other nearby proposed developments. The Selected Alternative remains unchanged – flows from the Kemblesville Study Area will be conveyed via grinder pumps and low pressure force main to the treatment system for the proposed developments. The Township will decide the type of treatment and disposal for the above-mentioned developments during the review of the Sewage Planning Module for the same. In addition, the Township will assure that additional capacity is provided in the proposed treatment and disposal system serving the proposed developments to accommodate the wastewater needs of the Village of Kemblesville.

2. Cost Effectiveness

As indicated in Chapter VI, the low pressure force main alternative provides a lower present worth cost than the gravity alternative. Since the developer has agreed to provide the additional treatment and disposal capacity to the Township for the wastewater needs of the Village of Kemblesville, tapping fees for the Village residents will be based on the cost of the collection and conveyance system only.

3. Operation and Maintenance

The use of grinder pumps and force mains eliminates the need for maintenance of central pump stations. Under the gravity alternative, two (2) pump stations are required to convey sewage from the Village of Kemblesville to Echo Hill Farms. Residents will be given educational material on the proper operation and maintenance of grinder pumps. The Township will also assure that all grinder pumps are installed in accordance with their standards and specifications.

4. Management and Administration

As mentioned earlier, the developer of the Echo Hill Farms development will construct a 40,000 gpd treatment and disposal system and dedicate said system to the Township. The Township will only take ownership once it is assured that the system has been constructed in accordance with the approved plans and if there are no problems with the operation of the facilities. Prior to approval of the development, a sewer agreement will be executed between the developer and the Township which will establish the legal, administrative and financial responsibilities between the two parties.

The Township will also be responsible for the operation and maintenance of the individual grinder pumps as well as the on-lot force main lateral and the primary force mains within the public right-of-ways and public easements. An ordinance will be enacted by the Township that allows Township personnel or contract employees to access the individual grinder pumps for inspection and maintenance.

The Township is currently considering its options regarding staffing requirements to administer the management of a community system and grinder pumps. That is, the Township may utilize an outside licensed operator to monitor the community system and grinder pumps or may provide training to existing personnel. A combination of the above-scenarios is most likely, with the Township initially using an outside operator. As the Township's knowledge and understanding of the community system and grinder pumps increases, the Township may wish to utilize its own personnel for operation of the system.

#### 5. Financing Methods

As mentioned throughout this plan, the developer of Echo Hill Farms has agreed to accommodate the wastewater needs of the Village of Kemblesville in the treatment and disposal system for the proposed development. No reimbursement from the Township to the developer will occur for the additional capacity.

The Township will be responsible for the cost of the force mains and gravity lines within the public right-of-way and public easements. (The only gravity lines under this alternative occur within Echo Hill Farms.)

#### 6. Environmental Soundness

The use of grinder pumps and a low pressure force main system have the following environmental benefits over the use of a conventional gravity and central pump station system:

- Lack of infiltration and inflow
- Minimal earth-moving disturbance
- Less disruption to traffic flow
- More ability to avoid important natural and cultural/historical features

### **B. CHESTERVILLE STUDY AREA**

The selected alternative for the Chesterville Study Area is use of either the OLDS or COLDS Selection Strategy as described in Chapter V, depending on the development type chosen by the developer and/or required by the Township. This flexibility in the provision of wastewater facilities is intended to compliment the clustering design standards found in the Township Zoning Ordinance as well as the mix of residential dwelling types permitted in the Village District.

The Chesterville Study Area includes areas designated as Village, Medium Density Residential and Low Density Residential Zoning Districts. In the Medium Density and the Low Density Districts, residential developments on twenty (20) acres or more are required to be clustered with 35% open space, necessitating the need for community wastewater facilities. A range of dwelling types is also permitted in the Village District with lot sizes that could not accommodate on-lot disposal systems. The Township also wishes to permit the use of individual on-lot wastewater systems where conventional subdivisions are permitted by the Zoning Ordinance.

As stated earlier in Chapter V, the Township will require that all new community systems be constructed to Township standards and be dedicated to the Township. For this reason, the Township wishes to minimize the number of community systems serving any one Study Area. The Township will encourage developers of community systems to provide additional capacity in the system to serve the wastewater needs of the entire Study Area. The wastewater needs of all the Study Areas except Kemblesville can be found in Table VIII-2. The number of lots and wastewater flows in Table VIII-2 are based on Section 2403, Determination of Gross Density for Parcels Containing Protected Areas, within the Township Zoning Ordinance. Table VIII-2 also includes wastewater flows for existing lots less than 20 acres to possibly serve existing homes with problematic on-lot systems. Table VIII-2 is based on the best available information at this time. When a community facility is proposed, the Township will refine the total wastewater flows for the appropriate Study Area based on any new information.

### **C. PARSONS ROAD STUDY AREA**

The Parsons Road Study Area contains a mix of Zoning Districts with the highest potential wastewater flow coming from the High Density Residential District. The Study Area also contains areas designated as Limited Industrial and Commercial Districts. Residential uses are permitted in the Limited Industrial District as a conditional use in accordance with the same density standards as in the Agricultural Residential District. The range of minimum lot sizes within the various Zoning Districts within the Study Area recognizes the potential use on individual on-lot systems as well as community systems.

The selected alternative for the Parsons Road Study Area is use of either the OLDS or COLDS Selection Strategy as described in Chapter V depending on the use and development type chosen by the developer and/or required by the Township. This flexibility should compliment the range of uses and development types permitted in the various Zoning Districts within the Study Area.

As in the Chesterville Study Area, the Township wishes to minimize the proliferation of community wastewater systems serving individual developments. As the ultimate owner and operator, the Township and wastewater customers will realize savings if more than one development is served by a community system. For this reason, the Township will encourage the developers of community systems to provide additional capacity within the system to serve the wastewater needs of the entire Study Area. The total wastewater needs of the Parsons Road Study Area can be found in Table VIII-2. When a community facility

**TABLE VIII-2**

**EXISTING AND FUTURE WASTEWATER FLOWS**

**FUTURE WASTEWATER FLOWS FOR PARCELS ≥ 20 ACRES**

Study Area	Gross	Base Site	Protected Land	Developable Area	Allowed Density	A	Protected Area as Percentage of Lot Area	Development Factor	B	Number of Lots	Potential Wastewater Flow (gpd)
Agricultural Residential	3,133	2,948	725	2,223	0.87	1,934.18	24.59	0.16	100.89	2,035.07	508,768
<b>Total</b>											<b>508,768</b>
Chesterville											
LDR	124	117	58	59	1.45	85.49	49.62	0.12	10.11	95.60	23,899
MDR	31	30	3	27	1.74	47.28	8.61	0.20	0.89	48.17	12,042
<b>Total</b>	<b>155</b>	<b>147</b>	<b>61</b>	<b>86</b>		<b>132.77</b>	<b>41.32</b>	<b>0.12</b>			<b>35,941</b>
Parson's Road											
C	23	22	3	19	1.45	27.01	14.34	0.18		27.83	6,957
HDR	337	319	64	255	3.48	886.38	20.05	0.16	35.57	921.92	230,481
LI	95	90	14	76	0.87	66.18	15.14	0.18	2.13	68.31	17,076
<b>Total</b>	<b>455</b>	<b>430</b>	<b>81</b>	<b>349</b>		<b>979.55</b>	<b>18.74</b>	<b>0.18</b>			<b>254,515</b>
Low Density Area											
LDR	445	420	51	369	1.45	594.96	12.18	0.18	13.35	548.32	137,079
V	147	139	6	133	4.36	579.84	4.18	0.20	5.06	584.89	146,224
<b>Total</b>	<b>591</b>	<b>559</b>	<b>57</b>	<b>502</b>		<b>1,114.80</b>	<b>10.19</b>	<b>0.18</b>			<b>283,302</b>
<b>Sum</b>	<b>4,335</b>	<b>4,084</b>	<b>923</b>	<b>3,161</b>		<b>4,161.30</b>	<b>22.60</b>	<b>0.16</b>	<b>168.80</b>	<b>4,330.10</b>	<b>1,082,526</b>

Base Site = Gross - 5% (Assumed ROW's)  
 Protected Land = Floodplains + wetlands + steep slopes  
 Developable Area = Base Site - Protected Lands  
 Allowed Density (43,560/(minimum lot size))  
 A = Developable Density x Allowed Density  
 Protected Area as Percentage of Lot Area (Protected Land / Base Site x 100)  
 B = Protected Areas x Allowed Density x Development Factor  
 Number of Lots (A+B)  
 Potential Wastewater Flow (250 gpd x Number of Lots)

**TOTAL FLOWS BY STUDY AREA**

Study Area	Wastewater Flow (gpd)
Agricultural Residential	730,768
Chesterville	72,191
Parson's Road	275,515
Kemblesville	10,750
Low Density Area	376,802
<b>Total</b>	<b>1,466,026</b>

**EXISTING WASTEWATER FLOWS FOR REMAINING PARCELS**

Study Area	EDUs	Wastewater Flow (gpd)
Agricultural Residential	888	222,000
Chesterville	145	36,250
Parson's Road	84	21,000
Kemblesville	43	10,750
Low Density Area	374	93,500
<b>Sum</b>	<b>1,534</b>	<b>383,500</b>

is proposed, the Township will refine the total wastewater flows for the appropriate Study Area based on any new information.

**D. LOW DENSITY RESIDENTIAL STUDY AREA**

The Low Density Residential Study Area contains primarily areas designated as Low Density Residential District, but also contains a large undeveloped parcel southeast of the Village of Kemblesville designated as Village District. The Township Zoning Ordinance contemplates the use of both individual on-lot systems and community systems within the Low Density Residential and Village Zoning Districts.

The Selected Alternative for the Low Density Residential Study Area is use of either the OLDS or COLDS Selection Strategy as described in Chapter V. Again this flexibility is intended to compliment the range of development types permitted in the Low Density Residential District and the range of uses permitted in the Village District.

The Township will encourage the developers of community systems in the Low Density Residential Study Area to provide additional capacity in the wastewater system to serve the needs of the entire Study Area. The wastewater needs for the entire Study Area can be found in Table VIII-2. When a community facility is proposed, the Township will refine the total wastewater flows for the appropriate Study Area based on any new information.

**E. RURAL STUDY AREA**

This Study Area contains the majority of the Township and coincides with the Agricultural-Residential Zoning District. Although there is no provision in the Township Zoning Ordinance for smaller lot sizes with the use of community wastewater facilities, clustering is permitted on parcels 10 to 20 acres in size, and required on parcels over 20 acres or developments over 20 lots. Given the open space requirement of 25% for cluster subdivisions, community facilities may be required.

The selected alternative for the Rural Study Area is use of either the OLDS or COLDS Selection Strategy as described in Chapter V, depending on the development type chosen by the developer and/or required by the Township. This flexibility in the provision of wastewater facilities is intended to compliment the clustering design standards found in the Township Zoning Ordinance as well as to permit individual on-lot systems appropriate in conventional subdivisions.

The size and extent of the Study Area does not facilitate the construction of one community facility to serve the entire Study Area, but could lend itself to portions or regions of the Study Area being served by one facility. The Township will encourage developers of new community wastewater systems in this Study Area to provide for additional capacity to serve the needs of the surrounding portion of the Study Area. The wastewater needs of the entire Study Area can be found in Table VIII-2.

**F. IMPLEMENTATION SCHEDULE**

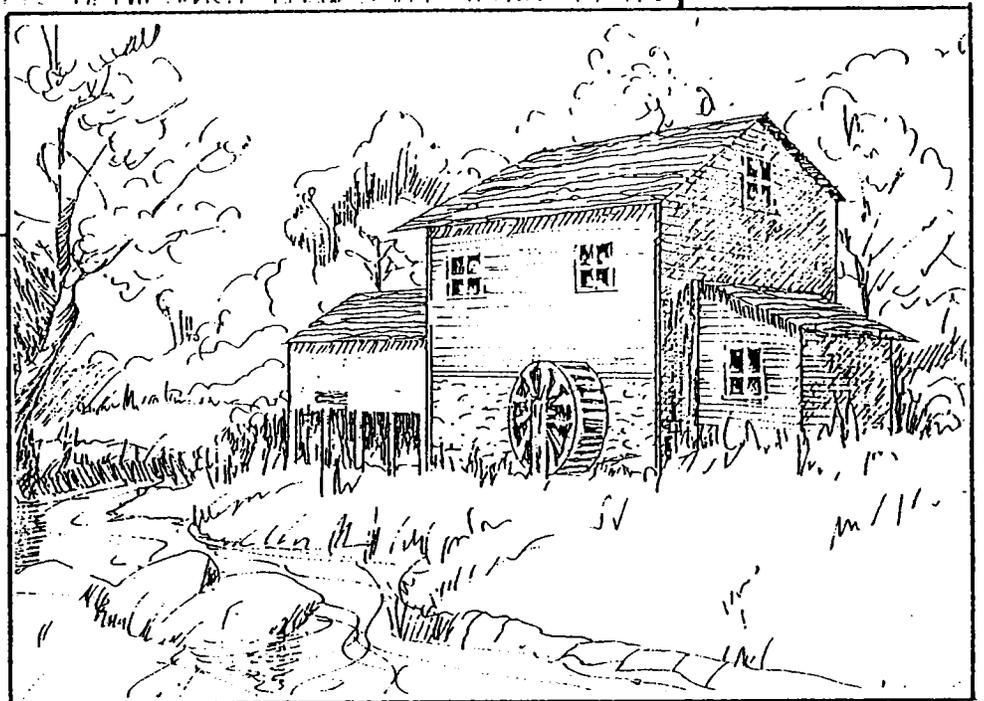
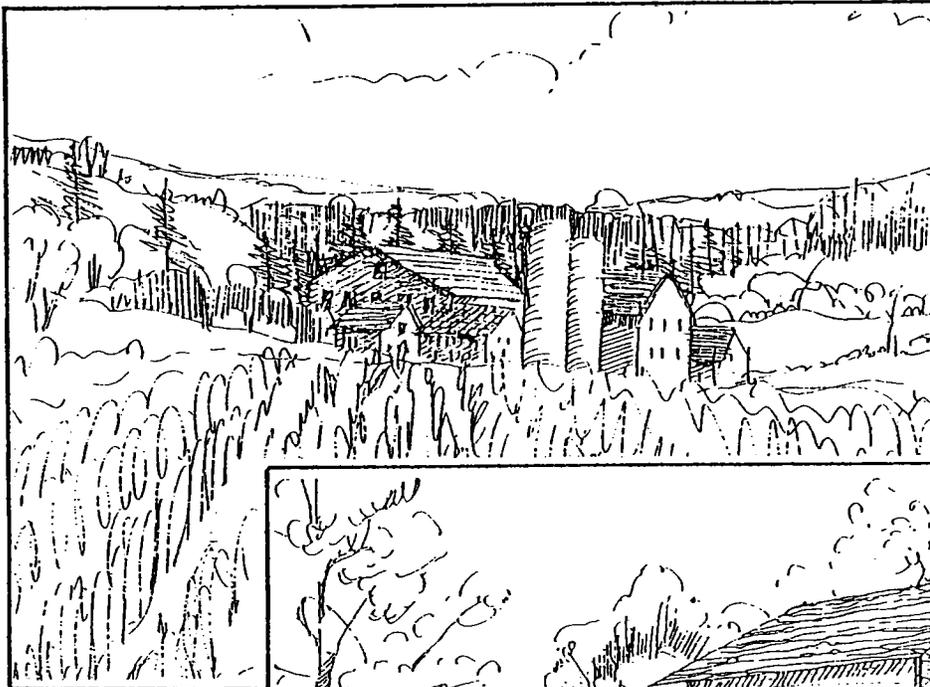
As stated earlier in this Chapter, the implementation of the selected alternative for the Kemblesville Study Area is completely contingent upon the proposed development of Echo Hill providing additional capacity in the COLDS for the Study Area. Although there has been considerable land development submittal activity in the area, no Sewage Planning Module has been officially submitted that would accommodate the wastewater needs of the Study Area. For this reason, no implementation schedule is provided herein. The Township fully intends and commits to actively pursuing additional capacity in the COLDS being proposed in the area. Once a development plan and sewage planning module have been approved, the Township will pursue design and permitting of the collection and conveyance system serving the Kemblesville Study Area.

**APPENDIX A**

**GRAFTON ASSOCIATION  
1999 DRAFT ACT 537  
MASTER SEWAGE  
FACILITY PLAN**

# FRANKLIN TOWNSHIP

CHESTER COUNTY, PENNSYLVANIA



Act 537

## Master Sewage Facility Plan

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## **EXECUTIVE SUMMARY**

Franklin Township has completed and adopted a Parks, Recreation and Open Space Plan, a Comprehensive Plan, and a Zoning Ordinance. In these planning documents, the Township stated its planning and land use fundamentals. The intent of these planning documents to guide the Township in a direction, which will help it to remain a rural municipality, preserving the agricultural, environmental and woodland areas to the best of its ability. To accommodate growth, The Township has provided for its highest density development to occur in that area southwest of the intersection of Appleton Road and Walker Road.

Acknowledging that the main purpose of the municipality is to protect the health, safety and welfare of the citizens within the Township, the Franklin Township Board of Supervisors authorized the preparation of a Sewage Facility Plan in the fall of 1997.

The Chester County Health Department (CCHD) has provided the sewage enforcement officer for Franklin Township. In adopting this Act 537 Plan, Franklin Township intends to continue utilizing the Chester County Health Department for sewage enforcement. As the Sewage Enforcement Officer for the Township, the Chester County Health Department, is an authorized agent of the Township as defined in this text.

Franklin Township historically has been serviced by on-lot sewage disposal systems. The degree of sophistication of design and level of inspections has improved as technology and regulations have developed. The older systems in use throughout the Township are difficult to locate and not much is known of their size or condition. With this in mind, the Committee performed an examination of the Chester County Health Department records and conducted a cursory inspection of systems within the Township. The findings of these investigations were that very few malfunctions appear to be occurring within the Township, except in the Village of Kemblesville. The highest source of data leading to the identification of failing systems was a direct result of property transfers.

The findings of this study revealed major malfunctions in the Village of Kemblesville along Appleton Road. The lot sizes are generally too small to perform the necessary repairs. Currently, the only viable alternative to correct these failures is a Township owned low-pressure community system. The initial cost of this low-pressure system is estimated to be \$11,925.00 per EDU for connection with an estimated \$303.00 per EDU annual operating cost. When compared to a holding tank alternative with initial cost of \$11,125.00 and annual pumping cost of \$1,925, the low-pressure system is a viable option. These alternatives are discussed in greater detail in Chapter VI.

The Township is committed to correcting the problems within the Village in the time frame outlined in the Implementation Schedule. The Township is also aware of the development potential around the village and does not want to rule out other alternatives that may arise from this development. This awareness is intended to show the Township's willingness to evaluate other better alternatives that new developments could potentially offer.

After many months of discussion, it is strongly believed that education of the general populace on proper maintenance and care of their on-lot sewage disposal systems is crucial in order to maintain the apparent low failure rate of the systems within the Township. To promote this citizen awareness and to create a greater database within the Township on existing facilities, several recommendations have been developed by the Committee. These items include the development and adoption of a Maintenance District Ordinance and incorporation of educational articles in the Township's newsletter.

The Maintenance District Ordinance creates three districts. The three districts are the low-pressure district, the remaining portions of the Township and lots over ten acres. Lots within the low-pressure district will require pumping every year. The remaining portions of the Township will be required to pump every three years. Lots in excess of ten acres will not be required to pump. A copy of the proposed ordinance is contained in Appendix B.

The present personnel structure and budget of the Township prohibits the Township's ability to physically inspect all of the on-lot sewage disposal systems within the Township. However, the Committee believes it is important to establish a database of the on-lot systems within the Township.

To develop this database, a form has been prepared which will request the property owner to provide the needed information. By having the Township residents complete this form, no additional taxes will be required to pay for the collection of this initial data. This will not only provide the desired information, but will educate those residents not familiar with their individual systems. The information requested would be similar to that requested in the Chester County Health Department's on-lot sewage disposal permitting application. (A sample of the Township form is contained in Appendix A). The database will include the location, size and facilities being serviced by each system. The files in this database will be filed according to the Tax Parcel Number of the property, not the owner or resident's name, to minimize confusion with property transfer of ownership. The files will be kept and maintained at the Township building.

Collecting the information in this fashion will also minimize the economic burden to the Township's residents. The provisions for the submission of this information by

the residents and maintenance schedule for on lot systems is contained in the Maintenance District Ordinance.

In general, the wastewater facilities within the Township appear to be functioning properly. Mandating inspection of sewer connections and on-lot systems by an agent of the Township could result in an unnecessary financial hardship to the present residents. An authorized agent of the Township on an as needed basis will perform inspections of on-lot systems and the cost of said inspection would be the responsibility of the property owner. These inspections will verify that the property conforms to Department of Environmental Protection (DEP) current wastewater treatment practices and that the information contained in the Township file regarding the property is accurate. As the current SEO for the Township, the CCHD should perform the inspection of the sewer-related items. In the event the Health Department is unable to perform this activity, another authorized agent of the Township will have to be appointed.

Holding tanks are intended for utilization as a corrective measure for existing malfunctioning sewage facilities and, on a permanent basis, when no other replacement alternatives exist. However, it is not intended for holding tanks to be utilized as a permanent means of sewage disposal for new construction. Holding tanks can be utilized, as a temporary means of sewage handling in new construction when public or community sewer is inevitable (within 12 - 24 months) and financially secured. Prior to obtaining a Holding Tank Permit, a Holding Tank Agreement must be entered into with the property owner and the Township. This Holding Tank Agreement will not alleviate the permitting requirements of the CCHD but establishes minimum standards by which the holding tank shall be maintained and financially secured.

Acceptance of the recommendations is dependent on education of the residents of the need for such ordinances and regulations. In an attempt to begin this educational process, the Township will begin to include in its quarterly newsletter a section on on-lot sewage disposal. With the quarterly newsletter, special publications and mailings, the Township intends to disseminate material to the residents.

The Township has been in the process of collecting educational materials relating to the use and maintenance of on-lot sewage disposal systems. This information along with the phone numbers and contact people for various governmental organizations and financial institutions will be kept at the Township building. This will permit the Township residents to research their questions conveniently.

The educational material will inform the residents on what they should and should not put down their drains. The material will also present information regarding the impact of appliances (water softeners and garbage disposals) on the on-lot system

and what to do should the system fail.

The majority of the Township will remain rural in character. Standard on-lot sewage disposal systems will continue to be utilized with development of traditional one-acre lots or larger. This is in concurrence with the other planning documents recently adopted within the Township.

With the adoption of the zoning ordinance and with no major development proposals before the Township, it is extremely difficult to outline when the high-density area will be developed. Recognizing the inability to accurately project this growth with this new concept, cost projections were not performed nor specific sites evaluated. The Township has, however, decided that any high-density development that results in the creation of a community sewer system will meet the following criteria:

1. The system will have to be permitted and ultimately managed by an entity of the Township.
2. The method of sewage disposal will be a land application system, unless, in the opinion of the Township Board of Supervisors, another comparable alternative is developed.
3. Facilities common to a drainage area will be consolidated where, in the opinion of the Township, it is feasible.

It is the intent of the Township not to incur any additional expense or burden to the Township or its residents through the creation of a community sewage system for new development in the Township. Any financial burden for connecting existing facilities to new facilities or the creation of proposed facilities shall be the burden of the developer.

Franklin Township, recognizing the need to provide for development potential within the Township, also has recognized its rural and agricultural heritage. Therefore, it is the intent of this and the other Township documents to protect this heritage, however legally permissible, while providing for fair housing within the Township. Any proposals for community sewage facilities must be designed and sited not only to meet technical and regulatory standards but also to protect the rural and agricultural character of the Township.

## **IMPLEMENTATION SCHEDULE**

To successfully complete the recommendations and suggestions made by the Planning Commission, the following implementation schedule has been prepared to monitor the progress of the plan:

- 1. Education of Residents on the Proper Maintenance and Use of On-Lot Sewage Disposal Systems.** *Immediately*
- 2. Review and Approval of Sewage Facility Plan by Chester County Planning Commission and Chester County Health Department.**  
*Submission to be made: December 1998*
- 3. Public Hearing and Adoption of Plan by Township**  
Upon receipt of comments from CCPC and CCHD: *March 1999*
- 4. Submission to DEP for Review and Approval**  
*May 1999*
- 5. Adoption of the Holding Tank Ordinance, The Use and Occupancy Ordinance and The Maintenance District Ordinance**  
*October 1999*
- 6. Distribution of Survey Questionnaires**  
*October 1999*
- 7. Engineering and Design of Low Pressure Sewer District**  
*October 2000*
- 8. Receipt of On Lot System Information and Creation of Database**  
*April 2000*
- 9. First Pumping as Required by the Maintenance District**  
*May 2000*
- 10. Establish Sewer Authority or Other Municipal Entity**  
*May 2001*
- 11. Construction of Low Pressure System**  
*May 2005*
- 12. Review of Entire Sewage Facility Plan**  
*Year 2008*

## CHAPTER I INTRODUCTION

The main purpose of a municipality is to protect the health, safety and welfare of the citizens who reside within the municipality. A portion of this responsibility is the proper planning and management of a sewage facility plan for the municipality. Sewage facility plans show anticipated growth and development within the municipality and provide guarantees that existing facilities are functioning properly.

Since the mid-sixties, growth patterns within Pennsylvania have been constantly changing. Many of the municipalities within Chester County have relied on the County to plan for the growth and sewage facility needs within their municipality. Since Chester County is in one of the largest growing urbanized regions in the world, each municipality within the County must be responsible for its own planning needs.

Act 537, originally enacted by the Pennsylvania Legislature on January 24, 1966, requires that all municipalities in the state develop and maintain an up to date sewage facility plan. Act 537 was recently amended by the General Assembly of Pennsylvania in their 1993 session. This amendment was needed to incorporate technology developed over the last three decades and to clarify responsibilities and liabilities regarding wastewater management within the Commonwealth.

As required by the Act, during the initial phase of the planning for the Franklin Township 537 Plan, an evaluation and identification of existing and previous wastewater planning was performed. This evaluation found that the only planning document prepared for the Township to deal with sewage facilities planning was the "*Comprehensive Area-wide Sewage Plan of Chester County, Pennsylvania*" prepared by Roy F. Weston of West Chester, PA. This plan was originally dated June 24, 1968, and was revised in 1970.

This plan notes that at the time of the preparation of this county wide sewage plan, Franklin Township had not adopted an official comprehensive plan or official zoning plan. The 1970 plan notes that there were no sewer problem areas within the Township. Furthermore, the plan revealed that all areas within the Township were serviced by on-lot sewage disposal systems.

## REGIONAL SETTING

Relationships between communities play an important role in determining the function of a municipality. Joint community services, such as school districts and emergency services affect residents of several municipalities, creating common

social and economic ties. It is the purpose of this section to highlight the relationships Franklin Township has with nearby communities on a regional level. Periodic review of these regional relationships is essential for maintaining an effective comprehensive planning program.

Franklin Township is located along the southern border of Chester County, abutting London Britain, New London, London Grove, Elk, New Garden Townships and Cecil County, Maryland. Franklin Township is included within the Philadelphia MSA (Metropolitan Statistical Area) by the U.S. Bureau of the Census. The Philadelphia MSA includes municipalities within the Pennsylvania counties of Bucks, Philadelphia, Montgomery, Delaware and Chester, and the New Jersey counties of Burlington, Camden and Gloucester. Chester County is the most rural of the counties within the Philadelphia MSA. The 1990 official population of Chester County was 376,393. Of the seventy-three (73) municipalities within Chester County, Franklin Township ranks 42 in terms of total population.

While the Township is included in the Philadelphia MSA by the U.S. Bureau of the Census, the State of Delaware strongly impacts the Township. Direct access to Delaware is provided via SR 896 through London Britain Township as well as other secondary roads. This highway has brought shopping and employment opportunities within a fifteen-minute reach of most residents of the Township.

The 1970 U.S. Census indicated that approximately fifty-nine percent (59%) of Township residents were employed within the State of Delaware. Consequently, SR 896 served as a commuting corridor for residents of the Township, along with 28% of the residents of New London Township and 62% of London Britain Township residents.

Figures from the 1980 U.S. Census also reflect this breakdown of employment location. In 1980, approximately forty-five percent (44.7%) of the Township's work force was employed outside the Philadelphia MSA with ninety percent of this group working in the City of Wilmington, Delaware, New Jersey or Maryland. Of the approximately fifty-six percent (55.3%) of the work force that worked within the Philadelphia MSA, approximately eighty-five percent (85.3%) worked in Chester County with the remainder working in Philadelphia or Delaware.

The 1990 Franklin Township Public Questionnaire identified employment trends similar to those in 1970 and 1980. Of the respondents to the survey, approximately forty-nine percent (49.4%) were employed in Delaware. Similarly, approximately thirty-six percent (36.7%) of Franklin Township and adjacent municipalities are not serviced by any mass transportation system. The automobile is the only form of public transportation available within the region. Because a majority of goods and services are located outside of the Township, Township residents have been dependent upon the existing road network for commuting. Pennsylvania State



Routes 896 and 841 are the most significant roads in the Township. SR 896 directs traffic southeast to Delaware, and northwest to U.S. Route 1, and a federal highway. SR 841 directs traffic north to U.S. Route 1 and south to Maryland. Many local roads provide secondary access between communities.

Although the isolation of Franklin Township from urban centers has contributed to the preservation of rural characteristics of the Township, residential development pressures are changing the characteristics of the Township and isolation is a less important factor today than in 1980. This process will continue to affect the nature of the landscape in Franklin Township as well as in surrounding municipalities.

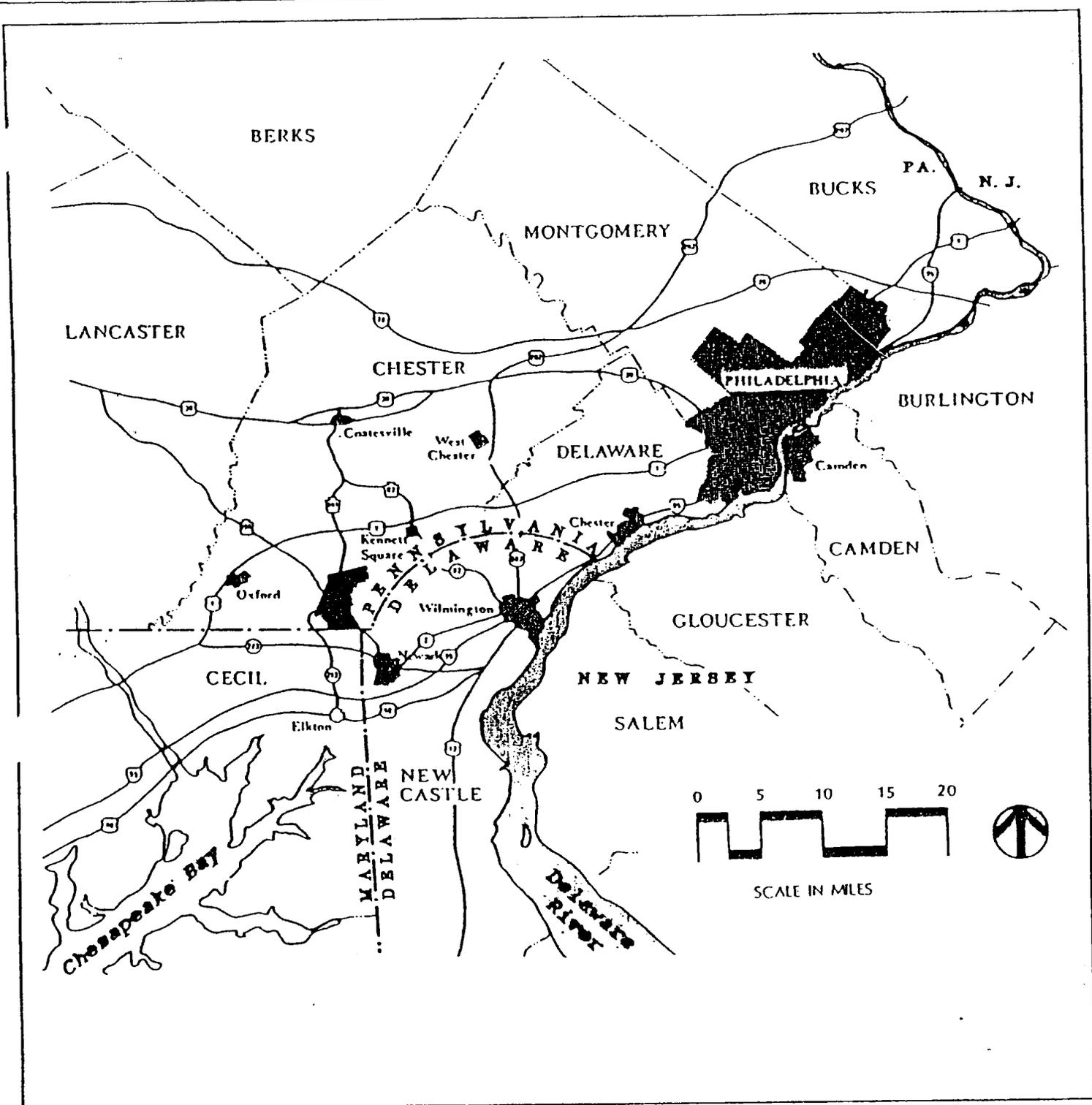
According to the Chester County Planning Commission report, *Chester County Census '90*, approximately thirty five percent (34.4%) of Franklin Township residents worked in Chester County in 1990 while almost seven percent (6.8%) of the residents worked in the Township. The same report also reveals that in 1990 approximately fifty five percent (54.8%) of Township residents worked outside of the State. As a result of these employment patterns, development pressure within the Township has been almost exclusively residential over the past 20 years.

Despite an increase of approximately eighty-three percent (82.9%) in total population from 1970 to 1980, Franklin Township still retains a relatively rural appearance despite a significant increase in residential land use and population density. With a population increase of approximately forty-five (44.7%) from 1980 to 1990, population density is now 211 persons per square mile in the Township. With a population density of 200 persons per square mile or less being considered rural, it is apparent Franklin township is no longer in the rural classification.

Franklin Township is surrounded by municipalities that are, primarily, rural and suburban in character. These communities, like Franklin Township, have experienced continuing development pressures during the last ten years. This has resulted in a process of change from rural/farm communities to lower density residential neighborhoods. Because lower density residential housing ends to consume significant amounts of agricultural farmland in the process of development, the conversion of farmland to residential land will continue to reduce the amount of active agricultural land in the Township.

The following Regional Map indicates the physical relationships between Franklin Township and the nearby region. The Location Map indicates the nearby communities, which share a highway network that links them with Newark, Delaware and other areas in southeast Pennsylvania. These communities consist of London Grove, New Garden, London Britain, Elk and New London Townships in Pennsylvania, and Cecil County in Maryland.

Franklin Township is approximately 1.5 miles from West Grove Borough, 6 miles



SOURCE:  
1991 FRANKLIN TOWNSHIP COMPREHENSIVE PLAN

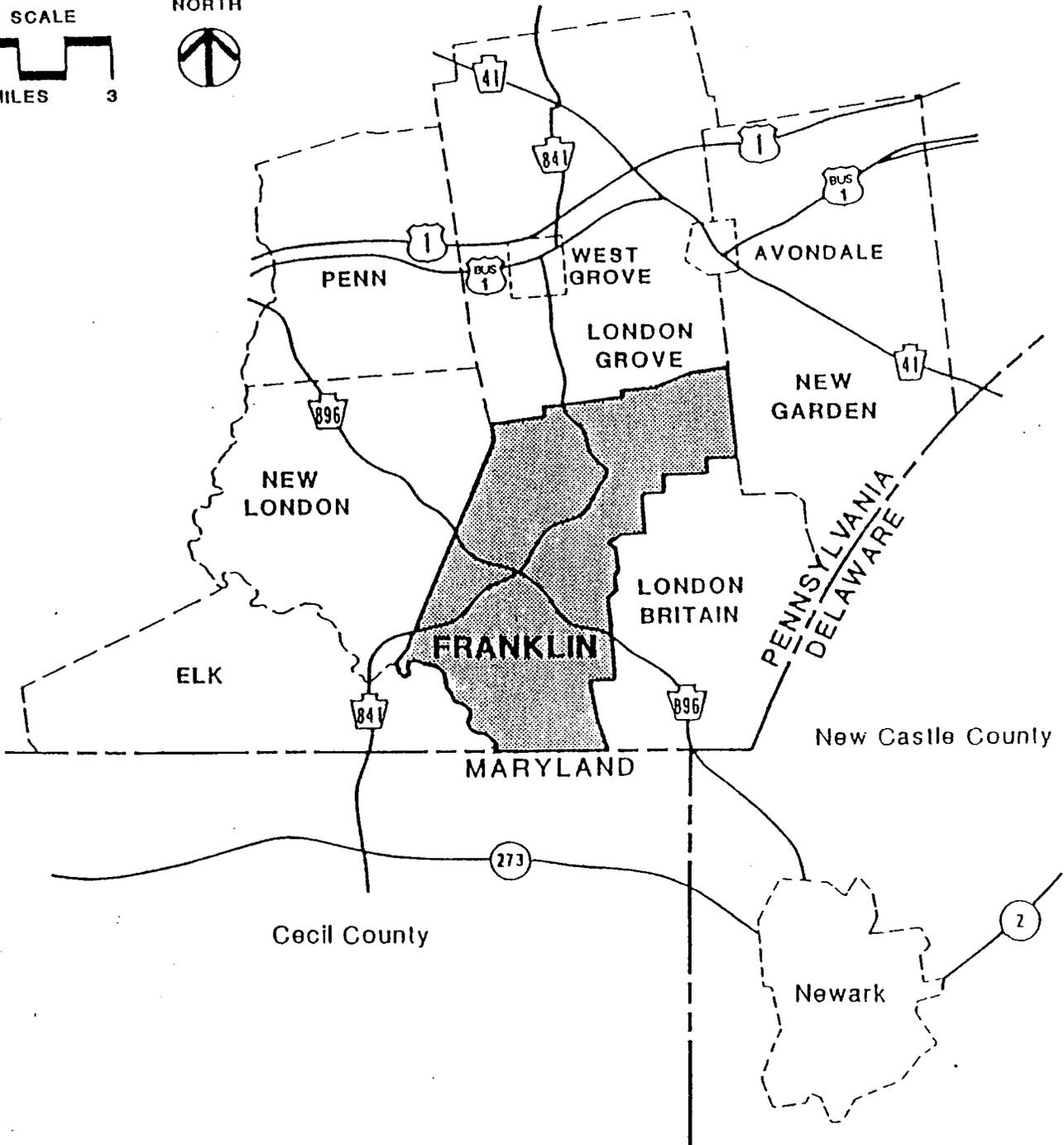
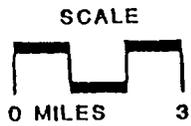
## Regional Map

LAND USE PLANNING:



P.O. Box 511, Chester, Pa., 19311  
Phone: (610) 336-3100

**FRANKLIN  
TOWNSHIP**  
CHESTER COUNTY  
PENNSYLVANIA



SOURCE:  
1991 FRANKLIN TOWNSHIP COMPREHENSIVE PLAN

## Location Map

LAND USE PLANNING:



P.O. BOX 412, CHESTER TOWNSHIP, PENNSYLVANIA 19381  
PHONE: 301-393-8100

**FRANKLIN  
TOWNSHIP**  
CHESTER COUNTY  
PENNSYLVANIA

from Oxford Borough, and 4.5 miles from Newark, Delaware. Major urban centers are a considerable distance from Franklin Township. Wilmington is approximately 20 miles away, while Philadelphia lies approximately 35 miles from the borders of Franklin Township. The City of Baltimore is approximately 47 miles from the Township. The "Regional Settings Map," identifies the location of the Township with respect to surrounding population centers and regional traffic corridors. As can be seen from the Map, Franklin Township is situated between the U.S. Route 1 and Interstate 95 corridors and reasonably direct access is afforded the Township to both routes.

## CHAPTER II NATURAL RESOURCES ANALYSIS

In this chapter an inventory and analysis of the natural resources of Franklin Township is performed. It describes the extent and nature of the geology, soils, topography and hydrology in the Township and it shows the relationships between these fundamental characteristics.

### GEOLOGY

Age, chemical composition and physical hardness are fundamental characteristics of geological formations. These characteristics greatly influence ground water yields, surface topography and the extent of weathering that form the associated soils.

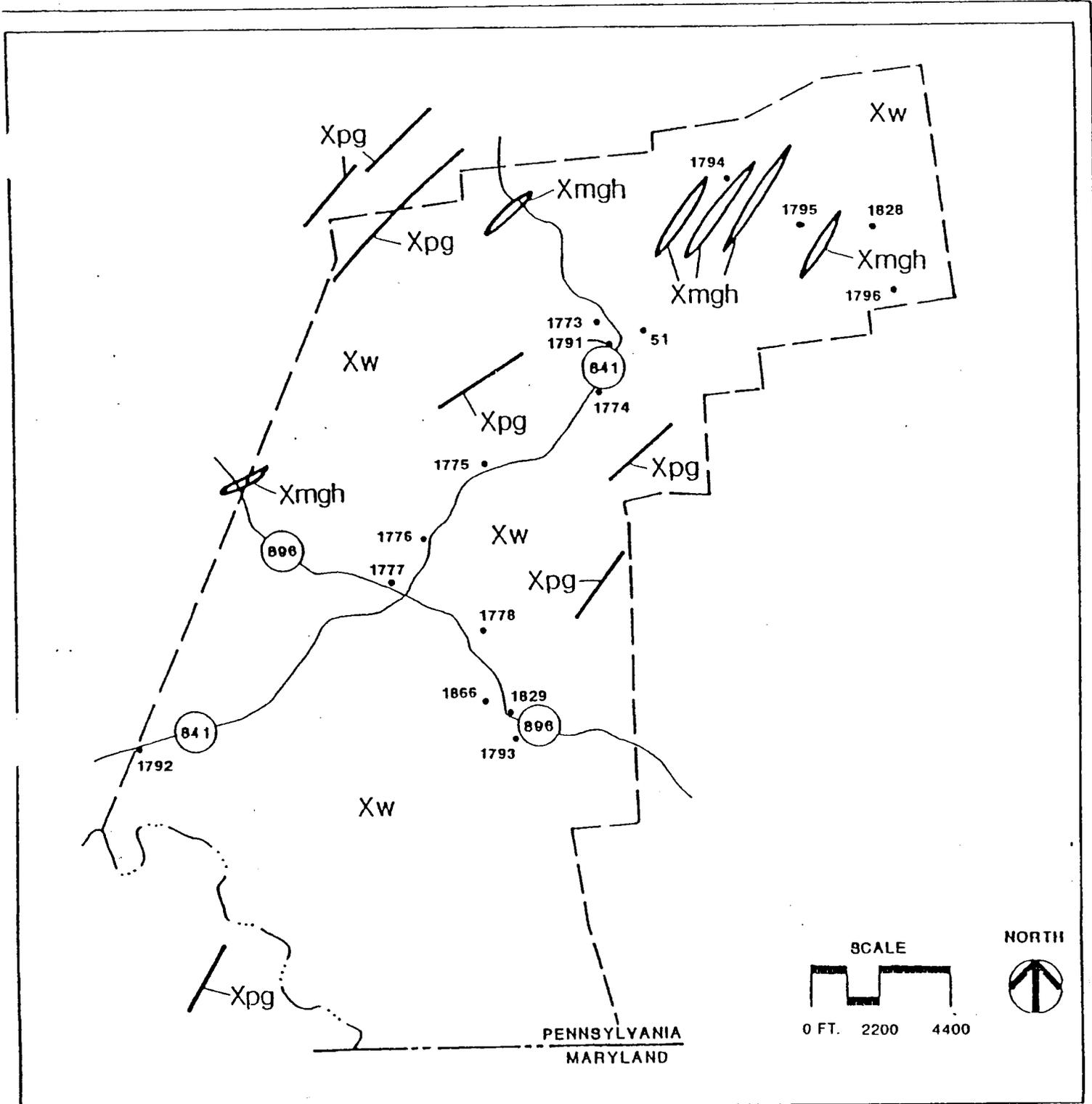
The geology of Chester County is comprised of a highly complex area of folded and altered rocks of many ages. Rocks of all three origins occur within the County: igneous, metamorphic, and sedimentary, with most major rock types of each being present.

Franklin Township is located in that part of the Piedmont region that is characterized by igneous and metamorphic formations. These rocks were originally ancient sedimentary or igneous rocks. Intense heat and pressure then re-crystallized this material into metamorphic rocks. The degree of metamorphism depends on the original type of rock, intensity of heat and amount of pressure to which the rock was subjected. There are many degrees of metamorphism found in rocks.

The rock most abundant underlying most of Chester County and Franklin Township is schist. The schist is a metamorphism of soft clay and shale. The landscape of these schist tend to generally be less rolling, except where the Clay Creek and Elk River have steeply cut down in their course to the Coastal Plain.

The following Base Geology and Well Locations Map displays the formations of metamorphic rock, typical of most of the Township. "Chester County Geology", published by the Chester County Planning Commission in 1973, provides a full description of geological formations. There are only three basic formations referenced in Franklin Township. These formations are the Wissahickon, Pegmatite, and Gabbroic Gneiss.

*WISSAHICKON FORMATION (Xw)* is under the majority of Franklin Township. This formation is comprised of Wissahickon oligoclase mica schists that form rolling uplands. This formation is deeply weathered, with weathered zones averaging 30-50 feet to bedrock. Occasionally, fresh bedrock can be as deep as



SOURCE:  
 SELECTED GROUND-WATER DATA, CHESTER COUNTY, PENNSYLVANIA,  
 U.S.G.S OPEN FILE REPORT 87-217

## Base Geology and Well Locations

### LEGEND

- Xw - Wissahickon Formation,  
 oligoclase-mica schist
- Xmgh - Mafic gneiss, hornblende-bearing
- Xpg - Pegmatite
- 1100 ● - Well Locations

LAND USE PLANNING:



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100 feet. Average well yields tend to be high, 60 gpm and over.

**PEGMATITE (Xpg)** is a Precambrian igneous rock found in isolated locations throughout the Township. It is a very hard material, formed from the magma involved in crystallizing the adjacent metamorphic rocks. Soil cover is highly variable, dependent on adjacent formations and topography. Resulting from its great age, the micaceous fraction has weathered to form kaolin, with beds mined as deep as fifty (50) feet. The unweathered bedrock is of very low primary porosity from its crystalline composition but secondary porosity resulting from fissures and weathering permits ground water flow between adjacent formations.

**GABBRO (g)** is a Precambrian igneous rock of probable sedimentary origins. The topography of this rock is generally of medium relief and undulating surface, however the natural slopes are fairly steep and stable. The well yield of this rock averages between 15-35 gpm when properly situated and developed. This rock is highly resistant to weathering and is of extremely low porosity.

## GROUNDWATER

In the past, the Township has had the fortune to have a high quality and sufficient quantity of potable water. It must be remembered that Franklin Township has been very rural in nature with wells spaced at large distances and generally drawing down levels of less than 500 gallons per day. With a sufficient annual rainfall of 36+ inches, water has not presented a problem. In the future it will be necessary to limit unnecessary impervious coverage and monitor for pollution so that water quantity and quality are maintained as the population and resulting density increase with new development.

## SOILS

The physical characteristics of soils, such as depth to bedrock, depth to the water table, permeability and propensity for erosion, significantly influence the selection of appropriate land uses. This is especially true when on-lot septic fields are used. These same characteristics also affect the potential construction of roads and foundations. Certain soil types correlate with wetlands and should be left undisturbed as much as possible.

This section summarizes the information on soils presented in the "Soil Survey of Chester and Delaware Counties," published by the USDA in 1963. Most of the soils in Franklin Township are from a single association. The Glenelg-Manor-Chester soils association is formed from the gneiss's that underlie most of the Township. This association is unusual in its formation characteristics. The resulting sedentary soils are directly derived from the ancient parent rock and have no overburden of other deposited material.

The Chester soils association contains some of the most productive agricultural soils in Chester County. The Chester together with the Hagerstown and Conestoga soils associations are among the most productive on the East Coast. The Prime Soils and Woodlands Map displays the best agricultural soils in the Township. They are classified in the survey as Soil Capability Groups from I-1 to IIe-5. These are deep, well-drained soils on level-to-gently sloping lands, suitable for tilling and row crops.

The inventory of soils presented below focuses on classifying the soils, according to the limitations that various soils present to surface activities and subsurface sewage disposal. The extent of these limitations relates directly to environmental sensitivity, particularly when wetlands are involved. Slopes were not considered in this analysis, as they form a separate heading discussed in detail later. Four separate groupings emerged from analysis of these soils. They are discussed below and shown on the Soils Map.

**SUITABLE** - These soils have no characteristics that limit development. They are deep, well drained, and permeable enough to support subsurface drain fields. Chester and Glenelg soils fall into this category.

**CONDITIONAL** - These soils are well drained and permeable, but depth to bedrock is shallow enough that detailed analysis is necessary to decide suitability for on-lot sewage disposal. Typically, elevated sand mounds are required.

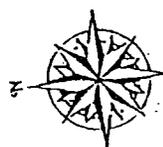
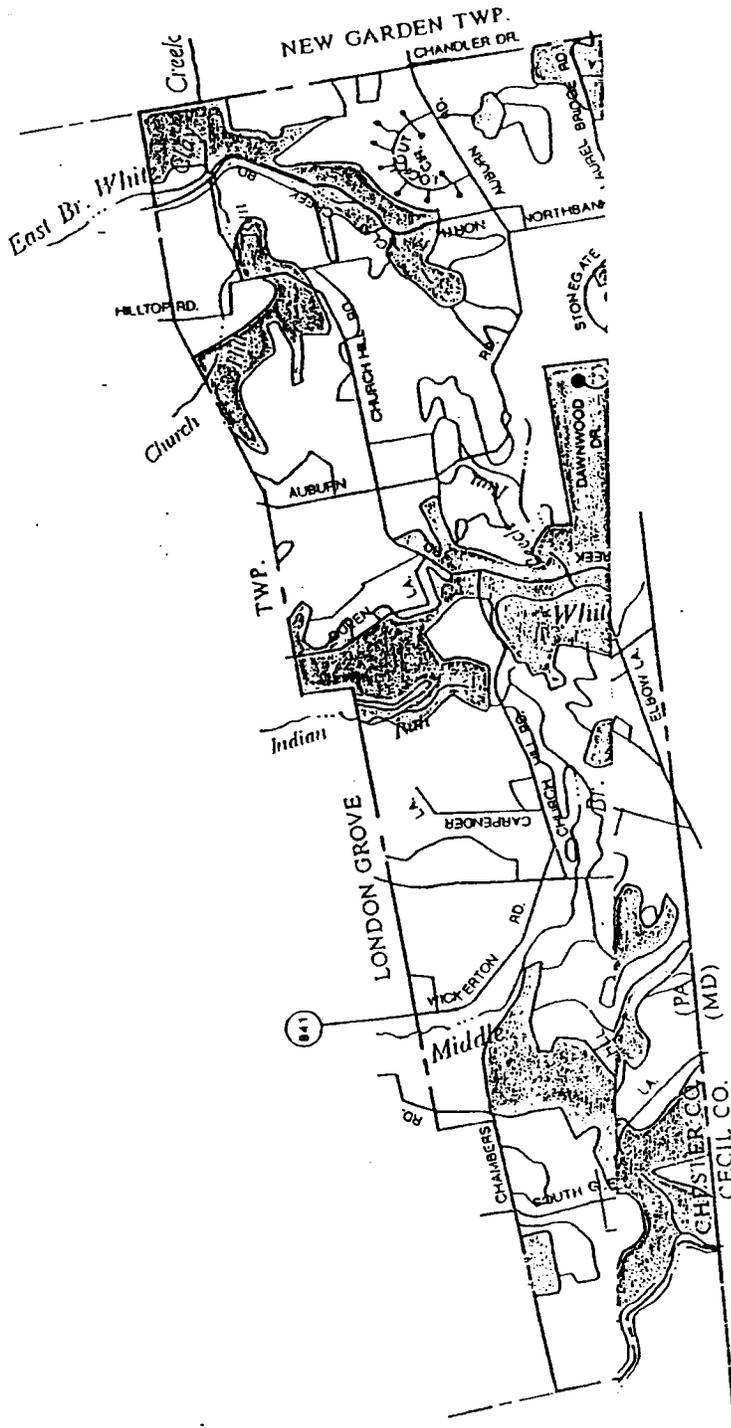
**VARIABLE** - These soils are generally deep, but either poor drainage or slow permeability precludes on-lot sewage disposal. The lower valley bottoms frequently contain wetlands. Central sewer collection and treatment facilities are necessary for development. Glenville and Congaree soils are considered variable. Congaree soils may be suitable in certain instances where they are not prone to flooding.

**UNSUITABLE** - Soils in this category are subject to elevated water tables and seasonal flooding. Often the ground water table is less than one foot below the surface. These soils are always associated with wetlands and detailed boundaries are required to ensure that development activity minimally affects the wetlands. Chewalca, Worsham and Wehadkee soils are considered unsuitable.

The information given on the soils series is intended to be a general guideline of soil characteristics. Each site considered for development will require field verification of soil types and characteristics to determine suitability of sites for use.

### CHESTER SERIES

The Chester Series is made up of deep, well-drained productive soils. The surface layer of these soils is dark brown. The subsoil is a strong brown to yellowish red and is friable. The Chester Soils, for the most part, are well-drained silt loams and



**LEGEND**

-  PRIME AGRICULTURAL SOILS  
(Classes I & II - Undeveloped Areas)
-  WOODLAND AREAS
-  OTHER SOILS

**Prime Soils and  
Woodlands**

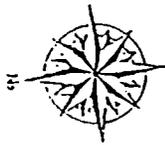
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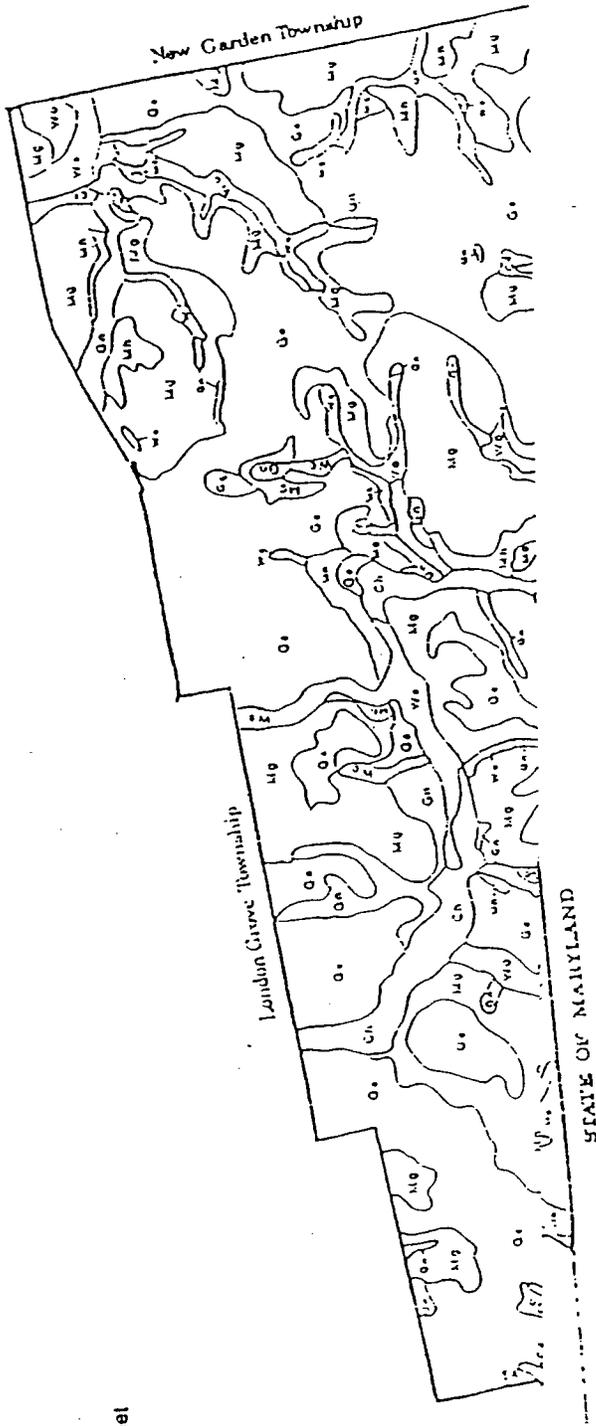
SOURCE:  
1991 FRANKLIN TOWNSHIP COMPREHENSIVE PLAN



1000 0 1300 2600 Feet



Scale: 1" = 2600'



## Soils Map

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### LEGEND

- Cd CHESTER SILT LOAM
- Ch CHEWACLA SILT LOAM
- Cn CONGAREE SILT LOAM
- Ge GLENELG CHANNERY SILT LOAM
- Gn GLENVILLE SILT LOAM
- Gs GLENVILLE VERY STONY SILT LOAM
- Mg MANOR LOAM
- Mk MANOR SOILS
- Mh MANOR LOAM & CHANNERY LOAM
- Mm MANOR VERY STONY LOAM
- Wb WEHADKEE SILT LOAM
- Wo WORSHAM SILT LOAM

SOURCE:  
1991 FRANKLIN TOWNSHIP COMPREHENSIVE PLAN

silty clay loams with a depth of a seasonally high water table in excess of 5 feet. The soils range in depth of 3 to 5 feet and are underlain by mica loam and micaceous loam which have been developed over schist and gneiss of the Piedmont Plateau. The very stony Chester Soils have boulders ranging from 1 to 2 feet in diameter on the surface and throughout the profile.

#### **GLENELG SERIES**

The Glenelg Series consists of moderately deep, well-drained soils of uplands. These soils have been developed from materials weathered from granite, gneiss and mica schist. The Glenelg Channery Loam Soils are generally 3 to 5 feet deep, well drained soils with a depth of a seasonally high water table in excess of 5 feet. The soils are underlain by schist, gneiss, gabbro and granite uplands of the Piedmont Plateau. The stony soils have cobbles and stones from 6 inches to 2 feet in diameter on the surface and throughout the profile.

#### **MANOR SERIES**

The Manor Series consists of shallow, well-drained soils of the uplands. They have a dark brown surface layer. The subsoil is yellowish red or yellowish-brown and is micaceous. In many places this soil has a slippery or greasy feel caused mainly by the abundance of mica that it contains. The Manner Series is a well-drained loam with a depth to seasonally high water table in excess of 5 feet. The soils generally have a depth to bedrock of 2 to 7 feet. This well drained loam is a very fine, sandy loam and saporolite, underlain by schist, gneiss and granite of the uplands of the Piedmont Plateau.

#### **BRANDYWINE SERIES**

The Brandywine Series consists of well-drained soils that have a very thin B horizon. These soils have a very dark grayish-brown surface layer and a yellowish-brown subsoil. These well drained loams and silt loams have a depth to bedrock of 3 to 4 feet and a seasonally high water table of a depth of approximately 10 feet. These soils are underlain by igneous and metamorphic rocks of the Piedmont Plateau. The stony soils of this series have boulders of 1 to 2 feet in diameter on the surface and throughout the profile.

#### **GLENVILLE SERIES**

The Glenville Series consists of deep, moderately well drained soils of the uplands. The surface layer is very dark brown or dark grayish-brown. The subsoil is yellowish-brown or strong-brown, mottled silty clay loam or heavy silt loam. The depth to the seasonal high water table is 1 to 1½ feet deep. The depth to bedrock is generally 3 to 6 feet. The stony soils have cobbles and stones 3 inches to 3 feet in diameter on the surface and throughout the profile.

#### **CONGAREE SERIES**

The Congaree Series consists of deep, well-drained soils of the flood plains. These soils are located along streams that drain uplands in which the soils are formed mainly from materials weathered by schist, gneiss, anorthosite and quartz monzonite. The Congaree Soils have a thick, light brown, silty surface layer

underlain by a stratified silty or loamy material. Most of these soils are flooded regularly. The depth to the seasonally high water table is approximately 3 feet with a depth to bedrock of 3 to 6 feet. The Congaree Soils are included on the hydric soils list because of hydric components and are, therefore, suspected wetland areas.

#### **CHEWACLA SERIES**

The Chewacla Series consists of deep, moderately well drained soils. The alluvial sediments were washed from the soils developed from materials weathered from gneiss, schist, quartzite, anorthosite, and quartz monzonite. The surface layer of these soils is dark brown and the subsoil is yellowish-brown or dark brown. The depth to the seasonally high water table is 0 to 1 foot with a depth to bedrock of 3 to 6 feet. These soils are included on the of hydric soils list because of hydric components and are, therefore, suspected wetland areas.

#### **WORSHAM SERIES**

The Worsham series consists of deep, poorly drained soils of the uplands. Their surface layer is dark grayish-brown or black silt loam. The subsoil is brownish-yellow or strong-brown clay loam that is mottled with light grayish-brown or pale yellow. The seasonal depth to the high water table is 0 to 1 foot and the depth to bedrock is 3 to 5 feet. These soils are included on the of hydric soils list because of hydric components and are, therefore, suspected wetland areas.

#### **WEHADKEE SERIES**

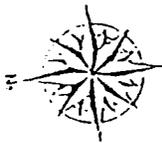
The Wehadkee Series consists of deep, poorly drained soils on flood plains. The soils are formed from general alluvium washed by streams from uplands underlain by schist, gneiss, quartzite, anorthosite, quartz, monzonite and granite. The surface layer is a dark grayish-brown silt loam. The subsoil is yellowish-brown silt loam that is mottled with various shades of gray. In most places stratified layers of sand and silt occur in these soils. The seasonal depth to the high water table is 0 to 1 foot and the depth to bedrock is 5 to 8 feet. The soil is included on the list of hydric soils with major components and is therefore suspected of being wetlands.

#### **TOPOGRAPHY**

The topography of Franklin Township is predominantly a rolling upland terrain with average slopes of greater than 8%. It is also interspersed with the headwaters and feeder streams of the White Clay and Elk Creeks.

The lowland valleys are typically the result of stream weathering and depending on the underlying geologic formation may have varying slopes. Softer formations tend to have gentler slopes and a broader valley floor. Harder formations generally have steeper slopes and a narrower valley floor, occasionally only the width of the stream.

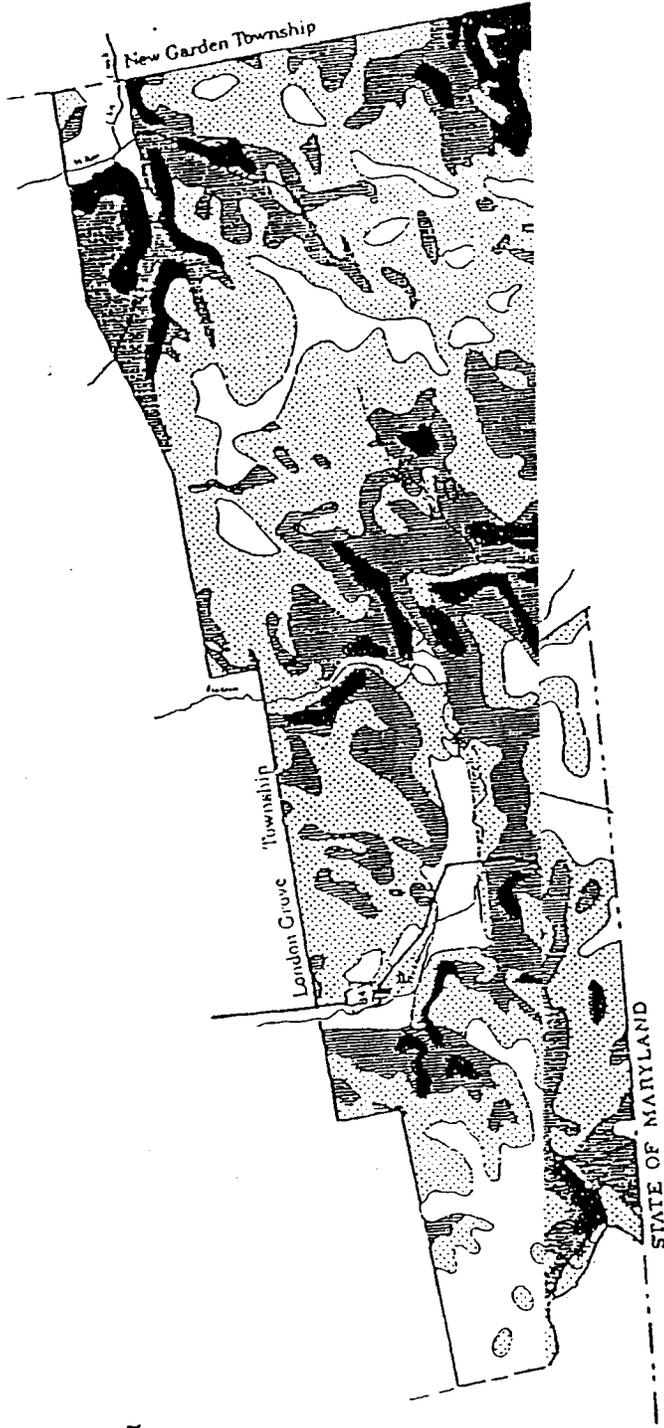
The peak elevation within Franklin Township is approximately 451 feet towards the



1000 0 1300 2600 Feet



Scale: 1" = 2600'



# Topography Map

## LEGEND

-  0 - 7.99% SLOPE
-  8 - 14.99% SLOPE
-  15 - 24.99% SLOPE
-  25%+ SLOPE

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western part of the Township and the lowest point is approximately 210 feet in the eastern part where the White Clay Creek exits the Township. Therefore, the overall change in elevation is 241 feet with many of the ridges having elevations in excess of 400 feet and the valley floors being less than 300 feet.

The Topography Map displays the extent and gradient of the sloping terrain. Four classifications of slopes are discussed: less than 8%, 8% to 15%, 15% to 25%, and over 25%. On slopes of less than 8% grade there are minimal gradient-related obstacles to development. These slopes comprise 20.02% of the township.

As the uplands descend toward the streams, the slopes increase to between 8% and 15%. Comprising 45.67% of the township, these slopes require sensitive site design to minimize erosion and runoff. Care must be exercised in the placement of subsurface drain fields.

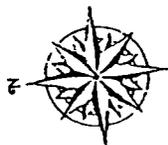
Transitional slopes between 15% and 25% occur along the streams over approximately 27.91% of the township. These slopes are primarily in the northeastern portion of the Township with two fingers extending west along the northern border and southwest through the center of the Township. Being more sensitive to disturbance, innovative grading techniques must be combined with thorough sediment and erosion control measures to allow limited development. Individual drain fields are very difficult to install.

6.39% of the Township slopes are steeper than 25%. These slopes are found as isolated areas within the transitional slopes. Other than limited infrastructure installation, they should be completely restricted from disturbance.

## HYDROLOGY

The Township contains many low order watersheds and stream corridors. Within these watersheds are wetlands and floodplains that are limited from development. The two major watersheds in the area are the Elk Basin Watershed and the White Clay Basin Watershed. The Drainage and Flood Plains Map displays the streams, their basins and drainage divides. Knowledge of these watersheds is essential in evaluating off-site effects of development on stream flow parameters and aquifer recharge. The U.S. Department of the Interior, in the National Wetlands Inventory, has published a preliminary aerial detail of the wetlands within the Township. The Drainage and Flood Plains Map displays areas of the wetland vegetation and open water. There are many additional wetlands not shown in this very broad survey. They are associated with the poorly drained variable and unsuitable soils discussed above, particularly along valley bottoms. The Drainage and Flood Plains Map also shows locations identified by the Federal Emergency Management Agency (FEMA) as subject to 100-year floods. As with wetlands, these areas should be completely restricted from extensive development.

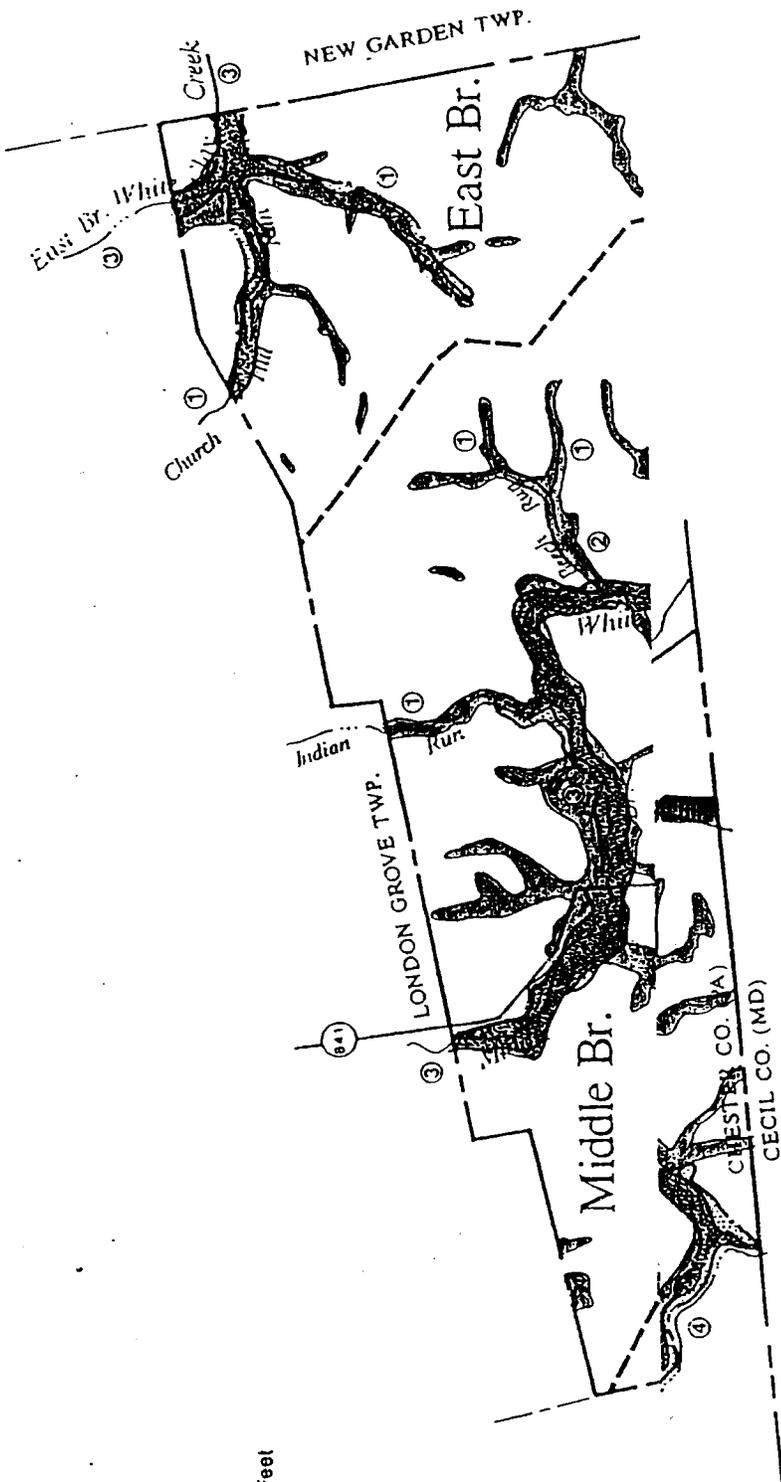
The White Clay Creek watershed has been noted for its outstanding resource



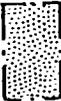
1000 0 1300 2600 Feet



Scale: 1" = 2600'



**LEGEND**

-  HYDRIC AND FLOOD PLAIN SOILS
-  FEMA 100-YR. FLOOD PLAIN
-  MAJOR DRAINAGE BASIN DIVIDE
-  MINOR DRAINAGE BASIN DIVIDE
-  STREAM AND STREAM ORDER

SOURCE:  
1991 FRANKLIN TOWNSHIP COMPREHENSIVE PLAN AND 1992 OPEN SPACE  
AND RECREATION PLAN

Drainage and Flood Plains

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values. A study of the watershed is in process to evaluate the White Clay Creek for inclusion in the National Wild and Scenic River System. The plan describes the watershed's resources and the major challenges that threatened them.

## ENVIRONMENTAL SENSITIVITY AND DEVELOPMENT CONSTRAINTS

The preceding discussion has examined the constraints that the variations in geology, hydrogeology, soils, topography and hydrology have on potential land uses. Understanding all these natural features and their interrelationships will contribute to the beneficial and proper utilization of the land within the limitations of the natural constraints. These constraints correlate highly with environmental sensitivity, particularly in carbonate formations, very steep slopes and wetland soils. The Environmentally Sensitive Areas Map displays these restrictions on development. They are classified into four separate categories:

**"SLIGHT"** - Approximately 65.08% of the Township has no significant limitations and is classified as suitable. Slopes are less than 15%, soils are suitable, and there are no carbonate formations. Soils in these areas are non-hydric or non-alluvial (floodplain).

**"MODERATE"** - More than 13.74% of the Township is classified as conditional. The slopes in these areas are between 15% and 24.9% and have a moderate to high erosion potential. They contain conditional soils. Development will require careful site analysis and appropriate development procedures. This will help ensure that there will be minimal adverse consequences to the natural environment.

**"SIGNIFICANT"** - Approximately 5.17% of the Township is classified as constrained. These areas have slope range greater than or equal to 25% and the soils are variable. These conditions do not necessarily preclude development. They do require very detailed site analysis and sensitive development techniques to minimize adverse environmental consequences. Thorough review of potential affects must be undertaken and the extent of disturbance minimized. They probably will require central sewer collection and treatment.

**"SEVERE"** - This classification covers more than 16% of the Township. This classification represents those areas of the Township that have the most severe limitations or constraints on development potential. These constraints include such areas as slopes of over 25% and flood plains or wet soils found along the stream corridors. These are critical environmental features that should be completely restricted from development, except essential public utilities.

Natural features and their constraints discussed above are fundamental parameters in evaluating potential land uses. Also, it is emphasized that consideration be given to environmental features not classified as physical



constraints. Characteristics affected by human activities such as agricultural uses, scenic features, woodlands and wildlife habitats also should be protected.

Woodlands and prime soils are worthy of conservation measures and are delineated on the Prime Soils and Woodlands map. Scenic views also are important, although difficult to evaluate. Essentially, the most scenic areas of the township are those areas where woodlands and agricultural uses predominate. Thus, measures to conserve these uses will preserve visual resources. It is imperative that proper agricultural techniques be used, particularly as they pertain to soil conservation and ground water quality.

## PLANNING IMPLICATIONS

Physical constraints and sensitive natural features are among the components that determine the type and extent of potential development activity that can be accommodated with the least adverse impact to the environment. This inventory and discussion of constraints and critical features presents several planning implications that need to be addressed by the township. The foremost issue is the fact that areas slight or moderate for development include nearly all the prime agricultural soils. While still largely undeveloped now, Franklin will continue to face increasing pressure from the demand for suburban housing. This absence of physical constraints on prime agricultural lands (steep slopes, wetland soils, flood plains, etc.) will require coherent measures to conserve portions of this agricultural and scenic resource. Ground water and stream water quality is also an extremely significant issue. Conversion from agricultural uses can adversely affect water quality if appropriate measures are not taken to ensure aquifer protection.

The presence of Exceptional Value Streams, High Quality Streams and their recharge areas are fundamental in deciding future land uses in the critical watersheds.

It should be noted that many areas classified as conditional are not within the prime soils. The prime soils are less extensive and the potential aquifer impacts are much less in these areas. The Natural Features analysis suggests that these regions of the township are more appropriate for higher intensity land uses.

Many townships have restricted lands by easements and covenants because of endangered plants and animals. These, easements and covenants may restrict or protect the immediate property but do not protect the existing adjacent ecosystems which do not act as a buffer. With proper planning and impact studies, appropriate evaluations can be made to establish adequate buffers to protect these endangered resources.

## CHAPTER III LAND USE PLANNING

### 1991-TOWNSHIP COMPREHENSIVE PLAN EXISTING LAND USE

An inventory of the existing land use patterns within Franklin Township was undertaken in February and March of 1991, during the preparation of the Township's Comprehensive Plan. The methodology employed to determine existing land uses across the Township included: a windshield survey of the Township, review of the 1990 Tax Maps, analysis of 1990 large-scale aerial photographs of the Township, and interviews with Township officials. An existing land-use map was prepared from the above sources to show the location and extent to which each land use occurs within the Township. This analysis, including the identification of existing and potential land-use conflicts, forms the basis for developing a strategy for future land use patterns. The findings of this information is as follows:

#### Woodland - 2,332.01 Acres, 28.16% of Township

This category accounted for densely wooded areas covering more than one contiguous acre. Wooded portions of residential and agricultural lots are included in this category provided they meet the one contiguous acre criteria.

As the second largest land-use category, woodlands comprise approximately 28% of the Township. Woodlands in the Township are located along the stream valleys and on steeper slope areas where cultivation or development has not occurred to date.

Approximately 32.0% of all woodlands in the Township occur on residential lands. These woodlands play an important role as an environmental and aesthetic resource for the Township. Woodlands help to prevent erosion in steep slope areas and act as wind breaks while providing significant wildlife habitat. Woodlands also serve as a visual buffers between different land uses and contribute to the rural character of the landscape. Large tree stands exist along White Clay Creek and its tributaries, as well as along the Big Elk Creek and its tributaries. The following Table identifies the amount of woodland in each land-use category.

Land Use Type	Area (Acres)	% of Woodlands
Agriculture		
Cultivated	791.52	33.94
Uncultivated	740.19	31.75
Residential		
Rural Density	746.79	32.02
Low Density	3.56	0.15
Medium Density	2.31	0.10
Transportation/Utilities	43.92	1.88
Village Center	0.27	0.01
Commercial	1.54	0.07
Public/Institutional	1.91	0.08
<b>Total</b>	<b>2,332.01</b>	<b>100.00</b>

**Agriculture - 3652.15 Acres, 44.11% of Township**

Agricultural activity is divided into two categories: cultivated and uncultivated farmland. Cultivated farmland includes croplands that are actively tilled. Uncultivated farmland includes pastures for livestock, no-till planting areas and hayfields. Uncultivated farmland also includes open, undeveloped lands that are not a part of an existing residential subdivision. Farmland often alternates between cultivated and uncultivated with crop rotation practices. If a wooded area, covering at least one contiguous acre, is located within the boundaries of an agricultural activity, the wooded area is classified as woodland, not agriculture.

The 1980 Comprehensive Plan identified approximately 50% of the Township area having been devoted to agricultural uses. Approximately 34% of the Township area was cultivated and 16% uncultivated farmland. As of March 1991, approximately 44% of the Township area was devoted to agriculture uses. Approximately 26% of the Township was cultivated farmland with the rest being uncultivated farmland. It is interesting to note that the 1980 Comprehensive Plan, a Future Land-Use projection for the year 2010 identified 43.56% of Township lands being devoted to agricultural activities.

The reduction in farmland in the Township over the past eleven years can be attributed to several factors. As is the case in many parts of the country, farmland in the Township is vulnerable to development. Many of the attributes of prime farmland also make it favorable for development. In Franklin Township this development has taken the form of rural density, residential subdivisions. Because

a farmer can realize greater profit from land sale than planting, and because the Township is a desirable bedroom community, this trend is likely to continue.

As was the case in 1980, a majority of the farmland is leased as opposed to being owner occupied. This continued trend away from the family-operated farmsteads, which were once prevalent in the Township, indicates the vulnerability of agricultural lands to development. Absentee owners are less likely to have strong commitments to the land and more likely to favor development over farming.

To a lesser degree, a decrease in farmland is attributable to the increase in woodland related to the natural succession of abandoned farmlands. As small-scale farming becomes less profitable, more and more of the remaining agricultural lands are reverting to woodlands.

### Residential - 1762.49 Acres, 21.29% of Township

Residential land use is divided into three categories based on density: rural density, low density and medium density. The rural density residential category relates to those tracts of land or portions of tracts that have a density of less than or equal to one dwelling unit per acre. The low-density residential category relates to those tracts or portions of tracts that have a density of greater than one and less than or equal to 2.41 dwelling units per acre. Medium density residential refers to those tracts or portions of tracts having a density of greater than 2.41 dwelling units per acre. Vacant, recorded lots within existing subdivisions are included in each of the three categories.

The residential land use category has experienced the largest increase in land area of all the land-use types. The 1980 Comprehensive Plan identified approximately 11.34% of Township as being in the residential land use category. The 1991 Existing Land Use Inventory identifies approximately 21.29% of the Township being devoted to residential land-use category. Although a different methodology was used to derive this land-use category, it is reasonable to conclude that this category has almost doubled in the past 11 years. Future land use projections contained in the 1980 Comprehensive Plan identified this category to incur the most growth. This projection has been realized and the trend can be expected to continue so long as the employment centers in southern Chester County and northern Delaware continue to expand.

The largest portion of the existing housing stock within the Township is single family detached residence. This includes the mobile homes that occupy separate deeded lots. Although these mobile homes are in no way typical of the housing stock within the Township (only three building permits issued in the past 10 years),

they do exist and are scattered throughout the Township.

Construction activity over the past 19 years has continued to exhibit the trend for single family detached housing. Building permit data indicated the continued demand for this type of residential construction from 1980 through 1998. The following table also reflects the demand by a list of the approved residential subdivision plans, all of which were comprised of single family detached housing.

**Building Permits Issued 1980-1998**

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Year	Permits by Type	
	Single Family Detached	Mobile Home Commercial
1980	12	2 1(renovation)
1981	18	1
1982	15	0
1983	15	0
1984	22	0
1985	26	0
1986	41	0
1987	38	0
1988	44	0
1989	57	1
1990	27	0
1991	23	0
1992	31	0
1993	24	0
1994	25	0
1995	11	0
1996	37	0
1997	55	0
1998	64	1

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Source: Franklin Township Building Permit Records, December 1998

**Village Center - 48.09 Acres, 0.58% of the Township**

The Kemblesville area is evolving into a defined Village Center. A Village Center provides the opportunity for mixing the older residential uses with municipal

facilities, schools, post office, medical facilities, banking facilities, auto services and other limited commercial and industrial uses. The commercial and institutional uses in Kemblesville are appropriately oriented toward local community needs, not regional needs. When the 1991 Existing Land Use Survey was completed, the non-residential uses in the Village Center included the following: 1. The Franklin Township Municipal Building, 2. The Kemblesville Elementary School, 3. A Church and Cemetery, 4. An Office Building, 5. A Convenience Store, 6. An Automobile Repair Shop, 7. A Telephone Exchange Building, 8. A Light Industrial Assembly Plant, 9. A Medical Building.

It is anticipated that the number and diversity of services available within the Village Center will increase as the population to support these services increases. Presently, Township residents travel to surrounding areas including the Newark, Kennett Square and West Grove areas to fulfill other commercial and personal needs. The integrity of the existing and possible future residential uses within the Village Center should continue to be protected by way of architectural controls and site design standards and buffer requirements.

#### Commercial - 1.68 Acres, 0.02% of the Township

The commercial land use category consists of those lands located outside the current Village Center which are devoted to providing retail, personal and business services to area residents. These services are presently limited to non-conforming, grandfathered uses such as the Happy Acres Restaurant, the Shop at Forge Farm (picture framing) and the Elmer Paisley Garage.

In addition to these establishments, several other businesses operate out of private residences. These are considered home occupation uses and are not included in the commercial land use category.

#### Public and Institutional - 14 Acres, 0.17% of the Township

The Public and Institutional category is for public or quasi-public lands which are owned by governmental or other public organizations. These lands are tax exempt and not included on the Township tax records. Public and institutional properties in the Township include: the Kemblesville Elementary School, Baptist Church and Cemetery of Auburn, Church Hill Cemetery, Church of the Vineyard, Cornerstone Presbyterian Church, Franklin Township Municipal Building and other properties owned by Franklin Township. A parcel owned by The Natural Lands Trust was not included in this category because, by definition, it is woodlands.

Utilities and Transportation - 469.79 Acres, 5.74% of the Township

This category is established for all public roads and right-of-ways, as well as utilities on parcels that are owned by a utility company. For the purposes of this inventory, all roads were considered to have a right-of-way 50 feet in width. Of the total acreage of land in this category, 90.43 acres is attributable to the Colonial and the Eastern Shore Pipelines right-of-ways.

Light Industrial - 0.22 Acres, .01% of the Township

This category is limited to light manufacturing or assembly uses. Presently the only Light Industrial use in the Township is Eastern Machine. Due to the relatively isolated location of the Township, the rural highway system, and the lack of public water and sewer facilities in the Light Industrial Zone, Franklin Township's industrial activities should remain limited in nature and should be concentrated in one area of the Township.

The table on the following page shows the acreage and percentage of the total land area in the Township for each land use as it existed in 1991.

In general, rural density residential areas have expanded into many of the areas identified in the Future Land-use projections contained in the 1980 and 1991 Comprehensive Plans. However, there are also areas that were identified to develop as rural residential that have remained in agriculture. These areas include the western side of SR 896 between Walker Road and Stricklersville-Lewisville Road as well as lands along the north side of Parsons Road east of SR 896. In numerous other instances, areas projected by the Plans to remain in agriculture have been developed as residential subdivisions. Examples of this situation include: Hess Mill Run, Quail Hill, Wingate Farms, Hunters Crossing and South View Estates.

**Existing Land Use in Franklin Township, 1991**

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Land Use Type	Area (Acres)	Percent of Total
Woodlands	2,322.01	28.16
Agriculture		
Cultivated Farmland	2,124.31	25.65
Uncultivated Farmland	1,527.84	18.45
Residential		
Rural Density	1,726.53	20.85
Low Density	26.08	0.31
Medium Density	9.88	0.12
Village Center	48.09	0.58
Public/Institutional	14.00	0.17
Commercial	1.68	0.02
Utilities/Transportation	469.79	5.67
Light Industrial	0.22	0.01
<b>Total</b>	<b>8,280.43</b>	<b>100.00<sup>1</sup></b>

<sup>1</sup>Total may not equal 100% due to rounding

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Source: Franklin Township Comprehensive Plan, 1991

In terms of area, the rural density residential classification is the most significant, comprising approximately 98% of the residential land-use area in the Township. The rural density residential land use category comprises approximately 21% of the Township. Although computed slightly differ in the 1991 Comprehensive Plan than in the 1980 Comprehensive Plan, it is still clear that this residential land use category has doubled in size during this period. This is the residential land use category where the vast majority of the residential growth has occurred up until 1991. The rural density residential category has already exceeded the growth expectations projected in the 1980 comprehensive plan for the year 2010 by approximately 4 percent.

The low density and medium density residential land-use categories have not witnessed any appreciable growth since the 1980 Comprehensive Plan was completed. In fact, the medium density category, which includes multiple family dwellings such as Heritage Village, has not experienced any growth. The low-density category accounts for 0.31% of the Township area while the medium density category accounts for 0.12%. In some cases, areas projected for low and medium density growth, growth occurred at rural residential densities or did not occur at all. This fact further demonstrates a marked preference for rural density housing in the Township.

The population of the Township continues to increase at a steady rate with most of the increase attributed to the in-migration of new residents. The Township's function as a bedroom community for people working in nearby Delaware and suburban Philadelphia continues to be a principle reason for in-migration.

**APPROVED RESIDENTIAL SUBDIVISION PLANS 1980 – 1990**

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Major Subdivision	Number of Lots Approved	Year
Glen Wilkinson	4	1981
Hidden Valley	17	1985
Boxier, John	5	1986
William Wingate	5	1985
Franklin Hill	8	1985
Meadow Woods	17	1987
Southview Estates	26	1988
Willow Ponds	10	1988
Quail Hill	41	1988
Wingate Farms	43	1988
Hunters Crossing	19	1988
Hess Mill Run	27	1988
Kemblesville West	33	1989
Crossan Estates	41	1990
 Minor Subdivisions		
Galen Mccoy	2	1981
Richard Powell	2	1983
Diesel D. Hampton	2	1983
Eari Swain	2	1983
Volk, Richard & Nellie	2	1984
Carlson, Patricia & George	2	1986
Paisley, J. Herschell	3	1986
Marvel, Eunice	3	1988
Lon Thomas Estate	2	1986
Miller, Marjorie	2	1987
Mary Vasant	3	1987
Crossan/Turpin	2	1987
Swain & Smith	2	1987
Volk, Joseph, Howard & Calvin	3	1988
Walker, Albert	2	1988
Walden	2	1988
Auerback	2	1988
Richardson, Monte and Margaret	2	1988
Newell/Fields	2	1988
Paisley/Schroeder	3	1988
Friedman/Lamborn	3	1989
Farmer & Waltz	2	1989

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## LAND USE UNDER THE 1995 ZONING DISTRICTS

Since the preparation of the Township's Comprehensive Plan adjustments have been made to the Township's Zoning Ordinance. The effects of these changes have resulted in the following land uses.

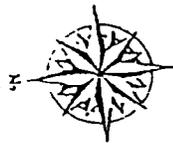
### Land Uses Under Current Zoning

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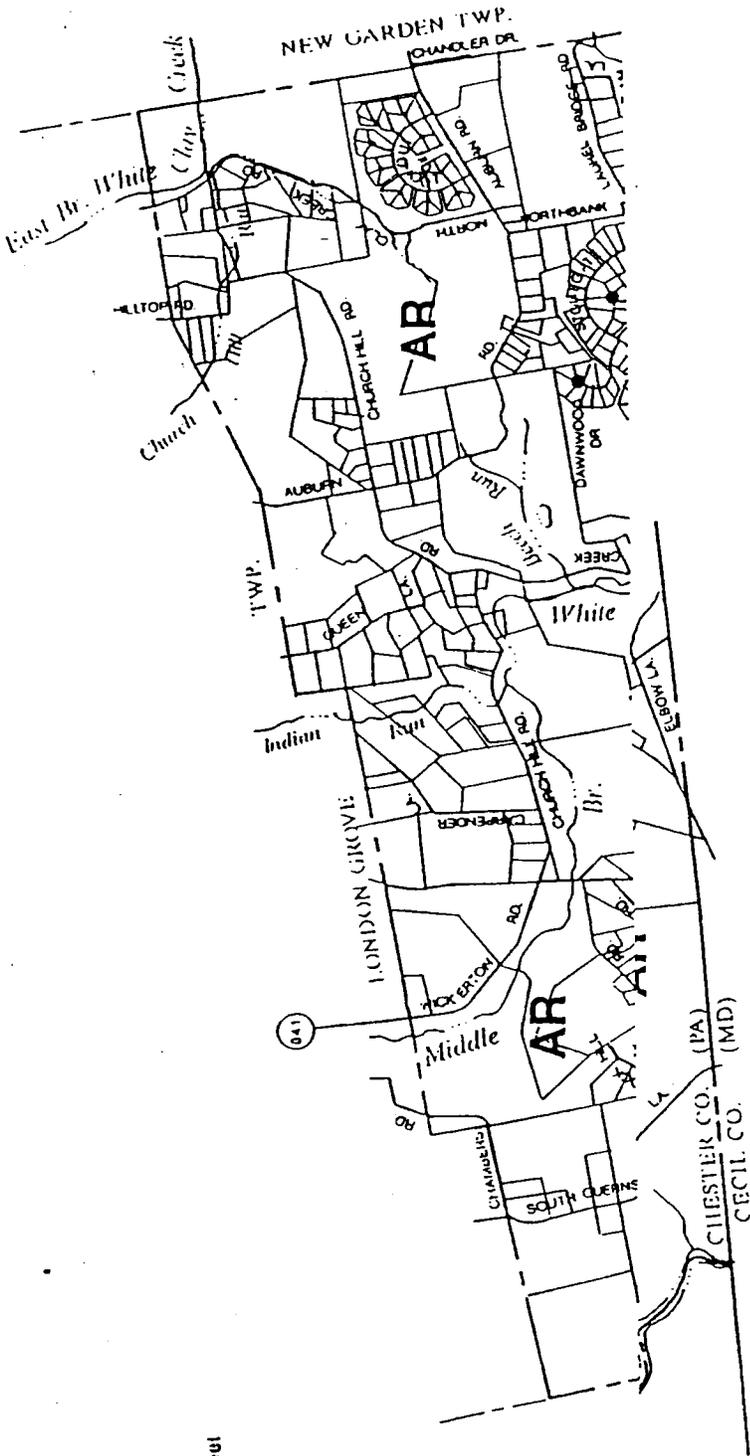
Zoning District	Area (Acres)	Percent of Total
Agricultural Residential	5,446.2	66.03
Low Density Residential	1,645.4	19.87
Medium Density Residential	58.8	0.71
High Density Residential	462.4	5.58
Village District	213.7	2.58
Commercial District	92.7	1.12
Limited Industrial District	154.4	1.86
Special Use District	185.9	2.25
Total	8,280.4	100.00

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Therefore, based on the Township's past development history and the current zoning, the Township is working towards maintaining its rural character and allowing for controlled development in suitable areas.



1000 0 1300 2600 Feet  
 Scale: 1" = 2600'



**LEGEND**

- AR AGRICULTURAL RESIDENTIAL AREA
- LDR LOW DENSITY RESIDENTIAL AREA
- MDR MEDIUM RESIDENTIAL AREA
- HDR HIGH RESIDENTIAL AREA
- V VILLAGE DISTRICT
- C COMMERCIAL DISTRICT
- LI LIMITED INDUSTRIAL DISTRICT
- SU SPECIAL USE DISTRICT

Zoning Map

(11/30/97)

LAND USE PLANNING & DESIGN:



P.O. BOX 817, CHESTER TOWNSHIP, PENNSYLVANIA 19317  
 PHONE: (610) 344-4388

**FRANKLIN TOWNSHIP**  
 CHESTER COUNTY  
 PENNSYLVANIA

## **CHAPTER IV FUTURE LAND USE**

Franklin Township relies on the surrounding communities to satisfy many of the principle employment and service needs that the Township cannot realistically provide without considering relationships with these communities. The Franklin Township 1991 Comprehensive Plan developed a "Future Land Use Plan" to show land use patterns within the Township. From this Plan the Township developed its 1996 Zoning Ordinance. The Franklin Township Zoning Map shows the following Districts:

- Agricultural Residential District
- Low Density Residential District
- Medium Density Residential District
- High Density Residential District
- Village District
- Commercial District
- Limited Industrial District
- Special Use District

The purpose of the Zoning Ordinance is to promote, protect and facilitate the public health, safety, morals, and general welfare of the Township residents, including the coordination of community development and the prevention of overcrowding of land.

The 1991 Comprehensive Plan stated that 38% of the Township was severely and significantly restricted from development. In addition, 44% of the lands in 1991 were agricultural. It is projected that in the year 2000, agricultural lands will decrease to 34%. As of the 1991 Plan, 28% of the Township was woodlands and it is projected that these lands will be restricted from development and this percentage will not change by the year 2000.

Therefore, of the 11,464 acres in the Township, 8,280 acres are not restricted for development. The projected land use states that 62% will remain as woodlands or agriculture leaving approximately 2,300 acres of developable land within the Township.

These 2,300 acres are and will be used for existing and future residential, commercial, and industrial development.

The 1996 Zoning Map shows the western, northern, and eastern portions of the Township as the Agricultural Residential District. This District is intended to encourage the use of prime agricultural soils by maintaining a low density. The District has been located along roads that cannot accommodate high traffic volumes. The use of on-site domestic wastewater disposal systems will be used in this area.

The Low Density Residential District is located along Route 841 and Route 896. This District has been developed to accommodate housing that is rural residential in character. Much of this area has already been developed and uses on-site or community sewer systems.

The Medium Density Residential District is designed to accommodate a variety of housing types. This District is not provided with public sewer or water service and will require the use of on-site or community systems.

The High Density Residential District is adjacent to the Village of Kemblesville and is intended to provide direct access to commercial facilities. This District is designed to provide a variety of housing at higher densities than permitted elsewhere in the Township. Densities permitted in this District will require community systems for sewage and water.

The Village District is intended to maintain the certain attributes and characteristics of a traditional village. Kemblesville and Chesterville are examples of the Village District within Franklin Township. The sewer and water needs of these areas are discussed later in this text.

The Commercial District provides for commercial and retail activities that may not be established within the Village District but are needed by the residents. Based on the proposed use, individual or community sewers may be required.

The Limited Industrial District is designed to accommodate a variety of uses that may not be able to compete with more extensive uses within the Commercial District. The District is designed to reduce the impact of industrial related traffic and activities on community services and facilities as well as residential neighborhoods. Based on the proposed use, individual or community sewers may be required.

The Special Use District is designed to accommodate uses that, because of their nature, may not be compatible with most other uses provided in other districts. Special Uses, due to their intensity or community impact are best centrally located in areas where incompatibilities are limited. Based on the proposed use, individual or community sewers may be required.

Through these Districts the Township feels that it has adequately addressed the future requirements of development pressure. For specifics on area and bulk requirements, reference should be made to the 1996 Franklin Township Zoning Ordinance as amended and the 1991 Comprehensive Plan.

## ESTIMATED FLOW PROJECTION FOR COMMUNITY / PUBLIC SEWAGE FACILITIES

### Assumptions Contained in Table 4-1

To fairly evaluate the need for public sewer and to develop a magnitude of flows for the entire Township, the flowing table has been prepared. The lot sizes are based on the smallest lot size for the various applicable zoning districts. Specific drainage areas have not been delineated at this time.

In this evaluation, the Agricultural Residential District is not contained in the flow calculation table below. The AR district is to remain in restricted lands, open spaces and farmland (low-density development). Any potential development in these areas will utilize on lot disposal systems. The higher density development contemplated under the other zoning concepts will require community or public sewage facilities for the smaller lot sizes.

Historically, with the development of a parcel 12% to 16% of the developable land is dedicated to right-of-ways, easements, storm water management facilities, etc. In addition to these facilities, the geometry of the parcel does not generally permit nor are municipalities willing to accept a "cookie cutter" approach.

The current ordinance excludes rights-of-ways, easements, spray fields, slopes of over twenty five percent and flood plain areas out of net density calculations. Land lost to steep slopes, wetlands, flood plains, conservation easements and other restrictions that prohibit development average 8-10 % of the tract. Therefore, for the purpose of this study we have estimated that 75% of the tract being developed and therefore the basis for the density calculations.

Under the new zoning, the Limited Industrial District and the Special Use Districts require a minimum lot size of 43,560 square feet and contemplates the use of individual on-lot sewer systems. These areas have also been omitted from the table.

In the residential portions of the planning area, flows for community systems have been based on 275 GPD/EDU, where an EDU equals one dwelling unit.

To assist in evaluating the future land use plan and future wastewater flows generated, we have prepared Table 4-1. This table provides estimates of potentially restricted areas for the entire Township within each future land use area. Based on these estimates, we have projected the impact on facility needs if percentages of these restricted areas were to be included in density calculations. Later, these flows will be broken into specific drainage areas for more detailed evaluation. The extent to which lands will be developed will definitely impact actual sewage needs. The estimated flows assume maximum development of all lands in the zoning classification.

Explanation of Table 4-1

Column I	The sectors (corresponding to the zoning districts)
Column II	Zoning district
Column III	Empty
Column IV	The estimated total area (planimetered)
Column V	Future allowable densities, in EDU's/acre
Column VI	Estimated developable land, exclusive of future rights-of-way, easements, storm water facilities and land loss due to site geometry
Column VII	Estimated wastewater flows generated by development of the sectors with the future allowable densities based on 275 GPD
Column VIII – XI	Wastewater flows with the inclusion of restricted lands at 25% and 75%

TABLE 4-1  
ESTIMATED WASTEWATER FLOWS BASED UPON CURRENT ZONING WITH COMMUNITY SEWERS

I SECTOR	II ZONING DISTRICT	III LOCATION	V			VI		VII		VIII			IX		X		XI	
			IV TOTAL AREA (ACRES)	FUTURE ALLOWABLE DENSITIES	NET AREA 75% OF TOTAL	FLOW (GPD)	INCLUSION OF 25% OF POTENTIALLY RESTRICTED LAND (ACRES)	INCLUSION OF 75% OF POTENTIALLY RESTRICTED LAND (ACRES)	INCLUSION OF 25% OF POTENTIALLY RESTRICTED LAND (ACRES)	INCLUSION OF 75% OF POTENTIALLY RESTRICTED LAND (ACRES)	FLOW (GPD)	INCLUSION OF 25% OF POTENTIALLY RESTRICTED LAND (ACRES)	INCLUSION OF 75% OF POTENTIALLY RESTRICTED LAND (ACRES)	FLOW (GPD)	INCLUSION OF 25% OF POTENTIALLY RESTRICTED LAND (ACRES)	INCLUSION OF 75% OF POTENTIALLY RESTRICTED LAND (ACRES)	FLOW (GPD)	
1	LDR		1645.4	1.45 EDU'S/ACRE	1,234	492,000	1,244.03	496,100	1,274.88	496,100	508,400	1,244.03	496,100	1,274.88	508,400			
2	MDR		58.8	1.74 EDU'S/ACRE	44	21,100	44.47	21,300	45.57	21,300	21,800	44.47	21,300	45.57	21,800			
3	HDR		482.4	3.48 EDU'S/ACRE	347	331,900	349.89	334,700	358.36	334,700	343,000	349.89	334,700	358.36	343,000			
4	VD		213.7	4.38 EDU'S/ACRE	160	182,200	161.61	193,800	185.62	193,800	198,600	161.61	193,800	185.62	198,600			
5	CD		92.7	2.42 EDU'S/ACRE	70	46,300	70.1	46,700	71.84	46,700	47,800	70.1	46,700	71.84	47,800			
	TOTAL AREA (ACRES)		2473.0		1,855		1,869.90		1,916.27									
	TOTAL FLOW (GPD)					1,083,500		1,092,600										

## CHAPTER V

### ALTERNATIVES TO PROVIDE NEW OR IMPROVED WASTE WATER DISPOSAL FACILITIES

Presently the Township is serviced by sub-surface sewage disposal systems. Alternatives and directions the Township wishes to pursue in providing public and community sewers are evaluated in this section.

The Township currently has two developments that have sewage facilities and maintenance agreements.

The Cornerstone Presbyterian Church purchased 22.7 acres (Tax Parcel 27-5-33) at the intersection of Route 896 and Gypsy Hill Road. The Chester County Health Department issued the construction permit for the sub-surface sewage treatment facility to service this large church and meeting hall. Concerned with the longevity of a subsurface system, the owner and Township entered into a sewage facility maintenance agreement. The owner agreed to have the septic tank cleaned by a septic hauler licensed by the Chester County Health Department one time every three years or whenever inspection of the tank revealed the presence of septic in excess of 1/3 the depth of the tank. The owner is required to provide a receipt documenting that the tank is cleaned. In the event the owner fails to submit this receipt to the Township, the Township has the right to exercise whatever powers it has in the Second Class Township Code to rectify the noncompliance. This agreement was made in January 1998.

Landenberg Highlands is the second development to have a sewage facility and maintenance agreement in Franklin Township. In this development portions of the common open space are utilized for either "primary septic systems" or "replacement systems" for specifically identified units. The "systems" are assigned to particular units designated on the final recorded plan and are subject to easements in favor of the specified units. The easements are specifically for the construction, installation, maintenance, repair, renovation and/or replacement of "primary" or "secondary" sewer facilities. The rights given the Township and the language providing for the sewage facility and maintenance agreement are contained in The Declaration of Landenberg Highlands, A Planned Community development, prepared by Duane, Morris & Heckscher, LLP, 1 Liberty Place, Philadelphia, PA 19103.

These two developments evidence the Township's realization that it must assume a role as monitor for existing and future wastewater systems within the municipality. To this extent, the Township is committed to adopting a maintenance district program within the entire Township. The adoption of this program will be formatted in such a fashion that the areas contained within the Village of Kemblesville will be required to pump on an annual basis. The areas outside of the Village of Kemblesville will be on a program similar to that of Landenberg Highlands and the Cornerstone Presbyterian Church. The Township has further

decided that any lots in excess of 10 acres will not be in a maintenance district. A sample of this maintenance district resolution is in Appendix A.

In the Chester County Sewage Systems Inventory of 1991, two community facilities are shown. These are the Kemblesville Elementary School and the Heritage Village Apartments. Both of these have on-lot subsurface systems. The Kemblesville Elementary School (Avon Grove School District) was built in 1956 and is serviced with septic tanks with drain fields. In 1991 the system was said to be in good condition. Placement of the treatment facility is behind the school at Franklin and Peacedale Roads. A private company handles sludge disposal. As of 1991 the system was servicing 450 people. One hundred percent of this flow is institutional. Currently the system is servicing 560 students and staff and the school desires to expand to approximately 700 students and staff. The existing system is in a tenuous position and creates the northern boundary of what will be called the Low Pressure Community System Sewer District. Alternatives for relieving the over loading of this system will be discussed later in this chapter and in Chapter VI.

The second community system identified in the Sewage Inventory is the Heritage Village Apartments. The 1991 Inventory lists the owner as Time Investment Corporation, Landenberg, PA. The system consists of septic tanks with drain fields. In 1991 the system was only 2 years old and in good condition. The treatment of the sewage is performed by an on-site subsurface system. A private company handles sludge disposal. One hundred percent of the flow in this system is residential. There are 36 apartment units in this complex. This system is located directly south of the Cornerstone Presbyterian Church and is reportedly in fair condition.

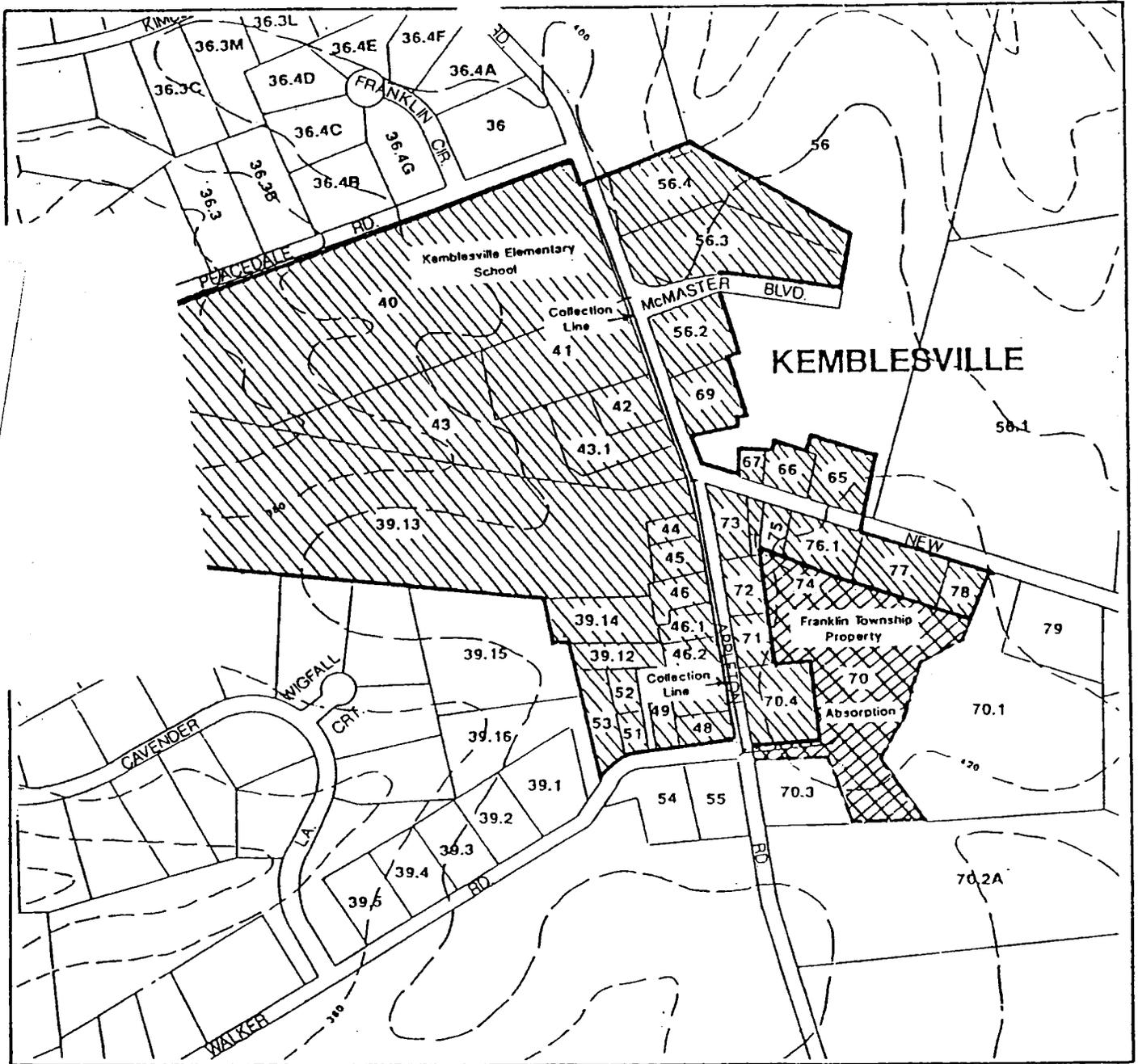
## IDENTIFICATION OF PROBLEM SEWAGE AREAS

In the spring of 1998, a windshield survey of Franklin Township was performed. This survey and discussions with Allen D. Robertson, an environmental health specialist with the Chester County Health Department, identified the Village of Kemblesville as a major problem area within the Township. Numerous systems are failing or have been replaced along the Route 896/Appleton Road corridor. This area is bounded on the north by the Kemblesville Elementary School and on the south by Township property. Due to lot size, geometry of the lots, and soil conditions, replacement areas are not available on-site or immediately off site to repair these systems. Two alternatives exist.

The first alternative is to develop a pump and haul program whereby licensed haulers would pump holding tanks on a weekly or as needed basis and dispose of the waste at a DEP permitted treatment facility. The cost associated with this type of program based on a normal base flow of 250 gal/unit is estimated to be \$175.00 per week. An annual cost would be approximately \$9,125.00. This cost does not reflect any of the physical alterations to the existing on-lot sewage facilities.

The second alternative is to construct a low-pressure community collection system and transport the effluent to the Township property located at the southern end of the problem area. In this low flow system each residential unit would be required to install a new dual compartment septic tank with a pump tank. The individual pump tanks would then connect to the main interceptor and convey the sewage to the Township property for treatment and disposal. At the southeast end of this problem area, the Township owns 6.5 acres (Tax Parcel 72-5-70) on which the Township office and maintenance buildings are located. A cost evaluation of the low-pressure community system for Kemblesville is in Chapter VI. The first cost segment is along Route 896 from the Kemblesville Elementary School to the intersection with Appleton Road. The second segment is from Appleton Road to the Township drive. The third segment is from the Township drive to the proposed treatment area. The fourth segment is the treatment facility. The fifth segment is engineering and design costs associated with a system of this nature.

A third alternative is to construct a regional sewer system for the areas of Kemblesville and the currently zoned Village District. A table top map evaluation of the topography indicates that any type of gravity collection system would not be viable without extensive use of large pump stations or the construction of a large sewage treatment plant southwest of Walker and Appleton Roads. The cost of this type of alternative is prohibitive because of the large capital outlay. Without developer participation, this alternative is not viable as an immediate correction.



Franklin Township, Chester County  
 Low Pressure Community System Sewer District

## CHAPTER VI EVALUATION OF ALTERNATIVES

In this chapter the pump and haul alternative and the low-pressure community system alternative are evaluated.

### Alternative 1 - Pump and Haul

As stated in the previous chapter, the pump and haul alternative is the most expedient means for correcting the failed systems. The financial burden for the installation of the new holding tanks and the pumping and hauling would be borne by property owners. The Township's obligation in monitoring the proper management of wastewater disposal would be laborious and management heavy.

The estimated cost to an owner to install a new holding tank and to abandon the existing system would be \$1,500.00 - \$2,000.00. In addition to this initial capital outlay, each lot owner would be paying 8 to 10 cents per gallon for disposal. On average it can be expected that each Equivalent Dwelling Unit (EDU) would generate 250/gal/day (GPD) and the tanks would require weekly pumping. The estimated combined cost for the first year alone is \$11,125.00. The weekly pumping and hauling at the current rate of 8 to 10 cents per gallon would be ongoing at an approximate cost of \$9,125.00 per year. The pump and haul arrangement as a permanent solution would have a negative impact on property values.

The Kemblesville Elementary School (currently 560 students and staff) would generate approximately 5,600 gal/day based on a flow of 10 gal/day/individual. This translates into a cost of \$450.00/day to \$550.00 per day to the Avon Grove School District plus the additional cost of developing and reconnecting a holding tank system.

This alternative does not appear to be feasible on a village wide basis. The pump and haul alternative may be warranted where complete failure or blockage of a system is evidenced and in need of immediate correction.

### Alternative 2 - Low Pressure Community System

The second alternative is low-pressure community system with a disposal bed area on Township property. This alternative appears very favorable because there would be no land acquisition cost and possibly no long-term debt or bond issues for the Township. The cost associated with this alternative would be borne completely by the users and have no financial impact on residents outside of the sewer district.

The costs of the phases of construction are contained in the following sheets. All interceptor lines are to be located along Route 896, Appleton Road and the Township's Drive. Both 896 and Appleton Road are state highways and will require PennDOT construction standards

The Chester and Delaware Counties, Pennsylvania, Soil Survey, May 1963, shows this property to contain Glenelg channery silt loam. For the purpose of evaluating the construction costs of this alternative, an average percolation rate of 45 min/inch was assumed. Soil testing for actual percolation rates must be performed prior to designing the actual bed area.

Based on the assumed percolation rate, approximately 2.24 square feet of absorption area will be required for each gallon of sewage flow. Depending on the final treatment facility design, this area may be able to be reduced. With the estimated flows of 18,650 gallons per day, 41,776 square feet of absorption area will be required to treat the waste water generated by the sewer district. Additional area will also be needed to house pumping facilities, inventory of supplies etc. Some of the existing structures on the property may provide adequate space for these needs.

The evaluation of the alternative does not include land acquisition costs. These costs may have to be included in the final evaluation. The estimated cost to develop the community infrastructure will be \$7,895 per EDU based on the attached evaluation. This cost does not include the individual septic tanks or pumps located on each lot. The tanks, pumps and connection to the low-pressure interceptor are estimated to be approximately \$4,030 per unit.

Without including any type of grant funding, the overall initial cost for each owner is estimated to be \$10,254 per EDU with a \$303 per EDU annual operating cost. Whereas, the initial cost of the pump and haul alternative is \$11,125 per EDU with an annual operating cost of \$9,125 per EDU.

An additional cost to the annual operating cost for the low-pressure community system is septic tank maintenance. Currently the concept of annual pumping is being considered to extend the life of the failing systems. An estimated cost of \$125.00 per pumping should be anticipated and it should be realized that a recommendation of the Franklin Township Planning Commission would be the initiation of a Maintenance District Ordinance. This ordinance will require annual pumping of all septic tanks and cesspools within the sewer district and pumping of all septic tanks every three years for lots less than ten acres outside the district. This policy is anticipated to start immediately in an attempt to prolong the existing systems. Therefore the cost associated with the pumping will not be a new cost when the low-pressure community system goes on line. The new low-pressure community system may actually allow the Township to relax the required annual pumping within the sewer district.

### ALTERNATIVE 3 - REGIONAL SEWER

As previously discussed, the concept of regional sewer is not viable at this time. The cost associated with the construction of a regional sewer system is prohibitive. However, the possibility of constructing a plant with the development of the Village District is a very likely possibility. To facilitate the type of village development the ordinance allows the Township and the developer(s) to work together with the developer bearing the financial burden of the infrastructure.

**COST ANALYSIS OF LOW PRESSURE COMMUNITY SYSTEM FOR THE VILLAGE OF KEMBLESVILLE**

**SEGMENT 896**

<b>MATERIAL</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b>TOTAL COST</b>
Route 896				
Force Main	900	lf	\$25.00	\$22,500
Connection Tees to Row	14	ea	\$50.00	\$700
Thrust Blocks	10	ea	\$100.00	\$1,000
Select Fill	400	cy	\$15.00	\$6,000
Road Borings	2	ea	\$3,000.00	\$6,000
5" BCBC	500	sy	\$15.00	\$7,500
2" ID-2 Wearing	500	sy	\$7.00	\$3,500
Temporary Paving	300	sy	\$10.00	\$3,000
Topsoil and Seeding	1000	sy	\$3.50	\$3,500
E&S Control	1	ls	\$5,000.00	\$5,000
Traffic Control	1	ls	\$10,000.00	\$10,000
<b>TOTAL</b>				<b>\$68,700</b>
<b>COST PER LINEAL FOOT</b>				<b>\$76.33</b>

**COST OF LOW PRESSURE COMMUNITY SYSTEM FOR THE VILLAGE OF KEMBLESVILLE**

**SEGMENT APPLETON**

<b>MATERIAL</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b>TOTAL COST</b>
Appleton Road				
Force Main	940	lf	\$25.00	\$23,500
Connection Tees to ROW	18	ea	\$50.00	\$900
Thrust Blocks	15	ea	\$100.00	\$1,500
Select Fill	418	cy	\$15.00	\$6,270
Road Borings	4	ea	\$3,000.00	\$12,000
5" BCBC	522	sy	\$15.00	\$7,830
2" ID-2 Wearing	522	sy	\$7.00	\$3,654
Temporary Paving	313	sy	\$10.00	\$3,130
Top Soil and Seeding	1044	sy	\$3.50	\$3,654
E&S Control	1	ls	\$5,000.00	\$5,000
Traffic Control	1	ls	\$10,000.00	\$10,000
<b>TOTAL</b>				<b>\$77,438</b>
<b>COST PER LINEAL FOOT</b>				<b>\$82.38</b>

**COST ANALYSIS OF LOW PRESSURE COMMUNITY SYSTEM FOR THE VILLAGE OF KEMBLESVILLE**

**SEGMENT TOWNSHIP DRIVE**

<b>MATERIAL</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b>TOTAL COST</b>
Township Drive				
Force Main	300	lf	\$25.00	\$7,500
Connection Tees to ROW	2	ea	\$50.00	\$100
Thrust Blocks	3	ea	\$100.00	\$300
Select Fill	133	cy	\$15.00	\$1,995
Road Borings	0	ea	\$0.00	\$0
3" BCBC	167	sy	\$12.00	\$2,004
2" ID-2 Wearing	167	sy	\$7.00	\$1,169
Temporary Paving	100	sy	\$10.00	\$1,000
Topsoil and Seeding	333	sy	\$3.50	\$1,166
E&S Control	1	ls	\$5,000.00	\$5,000
Traffic Control	1	ls	\$1,000.00	\$1,000.00
<b>TOTAL</b>				<b>\$21,234</b>
<b>COST PER LINEAL FOOT</b>				<b>\$70.78</b>

**COST ANALYSIS OF LOW PRESSURE COMMUNITY SYSTEM FOR THE VILLAGE OF KEMBLESVILLE**

**SEWAGE TREATMENT FACILITY**

<b>MATERIAL</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b>TOTAL COST</b>
Land Acquisition	Township		\$0.00	\$0
Dosing System	1	ea	\$4,500.00	\$4,500
Collection System	1	ea	\$7,500.00	\$7,500
Secondary Treatment	7,600	sf	\$10.00	\$76,000
Bed Areas	31,920	sf	\$3.50	\$111,720
<b>TOTAL</b>				<b>\$199,720</b>
<i>Bed Area with Future Flows</i>	36,064	sf	\$3.50	\$126,224

<b>MATERIAL</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b>TOTAL COST</b>
Hydrologist	1	ls	\$3,000.00	\$3,000
Monitoring Wells	4	ea	\$1,500.00	\$6,000
Percs and Probes	1	ls	\$3,000.00	\$3,000
Engineering	1	ls	\$10,000.00	\$10,000
Surveying	1	ls	\$5,000.00	\$5,000
<b>TOTAL</b>				<b>\$27,000</b>
Permits				\$5,000
Legal Fees				\$10,000
<b>TOTAL</b>				<b>\$15,000</b>

**COST ANALYSIS OF LOW PRESSURE COMMUNITY SYSTEM FOR THE VILLAGE OF KEMBLESVILLE**

**SUMMARY OF COST**

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Route 896	\$68,700
Appleton Road	\$77,444
Township Drive	\$21,233
Treatment Area	\$199,720
Design	\$27,000
Legal and Administrative	\$15,000
10% Contingencies	\$40,910
TOTAL	\$450,007
COST PER EDU*	\$7,895

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\*Does Not Include On-lot Connections or Improvements

**COST ANALYSIS OF LOW PRESSURE COMMUNITY SYSTEM FOR THE VILLAGE OF KEMBLESVILLE**

**ANALYSIS OF ABSORPTION AREA**

Assumed: Average Percolation Rate of 45 Minutes/Inch  
 (Average Percolation Rate - 30) x (0.03) + 1.79 = 2.24 Square Feet/Gallon

**BASE FLOW EVALUATION**

TAX PARCEL		EXISTING FLOW (GPD)	EDU	FUTURE FLOW (GPD)	EDU
72-5- 40.00	School	5,600	22	7,600	30
41.00		250	1	250	1
42.00		250	1	250	1
43.00		250	1	250	1
43.10		250	1	250	1
39.12		250	1	250	1
39.13		250	1	250	1
39.14		250	1	250	1
44.00		250	1	250	1
45.00		250	1	250	1
46.00		250	1	250	1
46.10		250	1	250	1
46.20		250	1	250	1
47.00		250	1	250	1
48.00		250	1	250	1
49.00		250	1	250	1
50.00		250	1	250	1
51.00		250	1	250	1
52.00		250	1	250	1
53.00		250	1	250	1
56.20		250	1	250	1
56.30		250	1	250	1
56.40		250	1	250	1
65.00		250	1	250	1
66.00		250	1	250	1
67.00		250	1	250	1
69.00	Store	400	2	250	1
70.40		250	1	250	1
71.00		250	1	250	1
72.00		250	1	250	1
73.00		250	1	250	1
75.00		250	1	250	1
76.10		250	1	250	1
77.00		250	1	250	1
78.00		250	1	250	1
<b>TOTAL</b>		<b>14,250</b>	<b>57</b>	<b>16,100</b>	<b>64</b>

\*For the Purposes of This Evaluation an EDU (Equivalent Dwelling Unit) equals 250 GPD (Gallons Per Day)

**COST ANALYSIS OF LOW PRESSURE COMMUNITY SYSTEM FOR THE VILLAGE OF KEMBLESVILLE**

**BED AREA ESTIMATE**

Bed Area Calculation with <b>Existing Flow</b>		
2.24 x 14,250 =		<b>31,920</b> Square Feet Absorption Area Required
Bed Area Calculation with <b>Future Flow</b>		
2.24 x 16,100 =		<b>36,064</b> Square Feet Absorption Area Required

**INDIVIDUAL RESIDENTIAL LOT OWNER'S COST**

Dual Compartment Septic Tank	1,500 Gallon	\$950
Pump Tank	500 Gallon	\$420
1/2 HP Pump		\$360
Alarms, Floats and Fittings		\$300
Installation		\$1,500
Abandonment of Existing System		\$500
<b>TOTAL</b>		<b>\$4,030</b>

**ANNUAL AUTHORITY EXPENSES**

Treatment Operating Cost	\$2.00 per 1,000 Gallons	\$10,403
Engineering		\$1,200
Legal		\$1,200
Billing	34 @ \$3.00 each	\$102
Secretary and Bookkeeper	Part Time	\$5,000
Auditor		\$1,500
<b>TOTAL</b>		<b>\$19,405</b>
<b>TOTAL ANNUAL OPERATING COST PER EDU</b>		<b>\$340.43</b>

**FRANKLIN TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA**

Chester County Health Department Permit No. \_\_\_\_\_

Tax Parcel No. \_\_\_\_\_

Lot Size \_\_\_\_\_  
SQ. FT. / ACRES**Residence and Site Information**\_\_\_\_\_  
Owner of Record\_\_\_\_\_  
Address\_\_\_\_\_  
Address Cont.

Telephone No. Day (\_\_\_\_) \_\_\_\_\_

Evening (\_\_\_\_) \_\_\_\_\_

**Typical Use (Circle One)**

Residential      Commercial

Industrial      Institutional

**Water Supply (Circle One)**

Public      Well

Spring      Cistern

Other \_\_\_\_\_

**Distance to the Nearest Existing or Proposed Water Supply from Sewer System** \_\_\_\_\_**Type of Facility Served**

Single Family Residence \_\_\_\_\_

Estimated Year of Construction \_\_\_\_\_

Number of Bedrooms \_\_\_\_\_

Multi-family (gal/day) \_\_\_\_\_

Commercial (gal/day) \_\_\_\_\_

**Type of System (Check One)**

\_\_\_\_ Standard Trench / Bed with Septic Tank

\_\_\_\_ Sand Mound with Septic Tank

\_\_\_\_ Holding Tank

\_\_\_\_ Other \_\_\_\_\_

Are All Waste Lines Connected to the Wastewater System?    \_\_\_\_ Yes    \_\_\_\_ No    \_\_\_\_ Uncertain

**Plot Plan and Layout**

A plot plan of the parcel must be provided showing at a minimum the following items. The plan does not have to be to scale but must be clean and neat, with dimensions shown.

- |                           |   |
|---------------------------|---|
| 1. Property lines         | 5. Reference to north   |
| 2. Adjacent Streets       | 6. Directions of slopes   |
| 3. Lot dimensions in feet | 7. Distance to nearest stream (if any)*                                   |
| 4. Location of:           | 8. Isolation distances as set forth in Title 25 PA Code, Subsection 73.13 |
| a. Buildings              | 9. Surface drainage swales and rain water pits*                           |
| b. treatment tanks        | 10. Location of system from two adjacent property lines                   |
| c. all wells and springs* |   |

\*Including adjacent properties if within 100 feet

Use the backside of this form or a separate 8 ½" x 11" sheet for plot plan drawing.

**Signatures**

I am the owner of record of the lot described on this form. The information provided herein is true and correct to the best of my knowledge. I understand that providing false information on this form is subject to the penalties of 18 PA C.S.A. 4904, relating to unsworn falsification to authorities.

Property Owner's Signature \_\_\_\_\_ Date \_\_\_\_\_

## MAINTENANCE DISTRICT ORDINANCE

### AN ORDINANCE GOVERNING MUNICIPAL MANAGEMENT OF ON-LOT SUBSURFACE SEWAGE DISPOSAL FACILITIES THE TOWNSHIP OF FRANKLIN, CHESTER COUNTY, PENNSYLVANIA

The Board of Supervisors of the Township of Franklin, in the County of Chester and the Commonwealth of Pennsylvania, hereby ordains:

#### SECTION I. SHORT TITLE: INTRODUCTION: PURPOSE

- A. This ordinance shall be known and may be cited as "An ordinance providing for a Sewage Management Program for Franklin Township".
- B. In accordance with municipal codes, the Clean Streams Law (Act of June 27, 1937, P. L. 1987, No. 394 as amended, 35 P.S. SS 691.1 to 691.1001), and the Pennsylvania Sewage Facilities Act (Act of January 24, 1966, P. L. 1535 as amended, 35 P. S., SS 750.1 et seq., known as Act 537), it is the power and the duty of Franklin Township to provide for adequate sewage treatment facilities and for the protection of the public health by preventing the discharge of untreated or inadequately treated sewage. The Official Sewage Facilities Plan for Franklin Township indicates that it is necessary to formulate and implement a sewage management program to effectively prevent and abate water pollution and hazards to the public health caused by improper treatment and disposal of sewage.
- C. The purpose of this ordinance is to provide for the regulation, inspection, maintenance and rehabilitation of on-lot sewage disposal systems; to further permit intervention in situations which may constitute a public nuisance or hazard to the public health; and to establish penalties and appeal procedures necessary for the proper administration of a sewage management program.

#### SECTION II. DEFINITIONS

- A. *Authorized Agent*: A sewage enforcement officer, employee of Franklin Township, professional engineer, plumbing inspector, or any other qualified or licensed person who is authorized to function within specified limits as an agent of the Board to administer or enforce the provisions of this ordinance.

- B. **Board:** The Board of Supervisors of Franklin Township, Chester County, Pennsylvania.
- C. **Community Sewage System:** Any system, whether publicly or privately owned, for the collection of sewage from two or more lots, and the treatment and/or disposal of the sewage on one or more lots at any other site.
- D. **Department:** The Department of Environmental Protection of the Commonwealth of Pennsylvania (DEP).
- E. **Individual Sewage System:** A system of piping, tanks, or other facilities serving a single lot and collecting and disposing of sewage in whole or in part into the soil or into any waters of the Commonwealth.
- F. **Malfunction:** A condition which occurs when an on-lot sewage disposal system discharges sewage onto the surface of the ground; into ground waters of this Commonwealth; into surface waters of this Commonwealth; or backs up into a building connected to the system; or in any manner causes a nuisance or hazard to the public health or pollution of ground or surface water or contamination of public or private drinking water wells. Systems shall be considered to be malfunctioning if any condition noted above occurs for any length of time during any period of the year.
- G. **Official Sewage Facilities Plan:** A comprehensive plan for the provision of adequate sewage disposal systems, adopted by the Board and approved by the Pennsylvania Department of Environmental Protection, pursuant to the Pennsylvania Sewage Facilities Act.
- H. **On-lot Sewage Disposal System:** Any system for disposal of domestic sewage involving pretreatment and subsequent disposal of the clarified sewage into a subsurface soil absorption area or retaining tank; this term includes both individual sewage systems and community sewage systems.
- I. **Person:** Any individual, association, public or private corporation for profit or not for profit, partnership, firm, trust, estate, department, board, bureau or agency of the Commonwealth, political subdivision, municipality, district, authority or any other legal entity whatsoever which is recognized by law as the subject of rights and duties. Whenever used in any clause prescribing and imposing a penalty or imposing a fine or imprisonment, the term person shall include the members of an association, partnership or firm and the officers of any local agency or municipal, public or private corporation for profit or not for profit.
- K. **Qualified Pumper/Hauler:** A person who is trained and qualified to collect, transport, and dispose of the sewage and who is a permitted Chester County Licensed Liquid Waste Hauler.
- L. **Rehabilitation:** Work done to modify, alter, repair, enlarge or replace an existing on-lot sewage disposal system.

- M. **Sewage:** Any substance that contains any of the waste products or excrement or other discharge from the bodies of human beings or animals and any noxious or deleterious substances being harmful or inimical to the public health, or to animal or aquatic life, or to the use of water for domestic water supply or for recreation or which constitutes pollution under the Act of June 22, 1937 (P. L. 1987, No. 394), known as "The Clean Streams Law," as amended.
- N. **Sewage Enforcement Officer (SEO):** A person certified by DER who is employed or contracted by the Township. Such person is authorized to conduct investigations and inspections, review permit applications, issue or deny permits and do all other activities as may be provided for such person in the Sewage Facilities Act, the rules and regulations promulgated thereunder and this or any other ordinance adopted by the Township.
- O. **Sewage Management District.** Any area or areas of the Township designated in the Official Sewage Facilities Plan adopted by the Board as an area for which a Sewage Management program is to be implemented.
- P. **Sewage Management Program:** A comprehensive set of legal and administrative requirements encompassing the requirements of this ordinance, the Sewage Facilities Act, the Clean Streams Law, the regulations promulgated thereunder and such other requirements adopted by the Board to effectively enforce and administer this ordinance.
- Q. **Subdivision:** The division or revision of a lot, tract or other parcel of land into two or more lots, tracts, parcels or other divisions of land, including changes in existing lot lines. The enumerating of lots shall include as a lot that portion of the original tract or tracts remaining after other lots have been subdivided therefrom.
- R. **Township:** the Township of Franklin, Chester County, Pennsylvania.
- S. For the purposes of this ordinance, any term that is not defined herein shall have that meaning attributed to it under the Sewage Facilities Act and the Regulations promulgated thereto.

### SECTION III. APPLICABILITY

- A. From the effective date of this ordinance, its provisions shall apply in any portion of the Township identified in the Official Sewage Facilities Plan as a sewage management district. Within such an area or areas, the provisions of this ordinance shall apply to all persons owning any property serviced by an on-lot sewage disposal system and to all persons installing or rehabilitating on-lot sewage disposal systems.

#### SECTION IV. PERMIT REQUIREMENTS

- A. No person shall install, construct or alter an individual sewage system or community sewage system or construct or occupy any building or structure for which an individual sewage system or community sewage system is to be installed without first obtaining a permit from the Sewage Enforcement Officer which permit shall indicate that the site and the plans and specifications of such system are in compliance with the provisions of the Clean Streams Law and the Pennsylvania Sewage Facilities Act and the regulations adopted pursuant to those Acts.
- B. No system or structure designed to provide individual or community sewage disposal shall be covered from view until approval to cover the same has been given by a sewage enforcement officer. If 72 hours have elapsed, excepting Sundays and Holidays, since the sewage enforcement officer issuing the permit received notification of completion of construction, the applicant may cover said system or structure unless permission has been specifically refused by the sewage enforcement officer.
- C. Applicants for sewage permit may be required to notify the sewage enforcement officer of the schedule for construction of the permitted on-lot sewage disposal system so that inspection(s) in addition to the final inspection required by the Sewage Facilities Act may be scheduled and performed by a sewage enforcement officer.
- D. No building or occupancy permit shall be issued for a new building which will contain sewage generating facilities until a valid sewage permit has been obtained from a sewage enforcement officer.
- E. No building or occupancy permit shall be issued and no work shall begin on any alteration or conversion of any existing structure, if said alteration or conversion will result in the increase or potential increase in sewage flows from the structure, until either the structure's owner receives a permit for alteration or replacement of the existing sewage disposal system or until the structure's owner and the appropriate officials of the Township receive written notification from a sewage enforcement officer that such a permit will not be required. The sewage enforcement officer shall determine whether the proposed alteration or conversion of the structure will result in increased sewage flows.
- F. Sewage permits may be issued only by a sewage enforcement officer employed, or contracted, by the Township. DER shall be notified as to the identity of each sewage enforcement officer employed or contracted by the Township.

#### SECTION V. INSPECTIONS

- A. Any on-lot sewage disposal system may be inspected by an authorized agent at any reasonable time as of the effective date of this ordinance.

- B. Such inspection may include a physical tour of the property, the taking of samples from surface water, wells, other ground water sources, the sampling of the contents of the sewage disposal system itself and/or the introduction of a traceable substance into the interior plumbing of the structure served to ascertain the path and ultimate destination of waste water generated in the structure.
- C. An authorized agent shall have the right to enter upon land for the purposes of inspections described in this section.
- D. An initial inspection shall be authorized by every person owning on-lot sewage disposal systems in the maintenance district within two years of the effective date of this ordinance for the purpose of determining the type and functional status of each sewage disposal system in the sewage management district. A written report shall be furnished to the Board of each inspection along with a completed truth and verification statement. A copy of said report shall be maintained in the Township records.
- E. A schedule of routine inspections may be established to assure the proper functioning of the sewage systems in the sewage management district.
- F. An authorized agent shall inspect systems known to be, or alleged to be, malfunctioning. Should said inspections reveal that the system is indeed malfunctioning, the authorized agent shall order action to be taken to correct the malfunction. If total correction cannot be done in accordance with the regulations of DER including, but not limited to, those outlined in Chapter 73 of Title 25 of the Pennsylvania Code or is not technically or financially feasible in the opinion of the authorized agent and a representative of DER, then action by the property owner to mitigate the malfunction shall be required.
- G. There may arise geographic areas where numerous on-lot sewage disposal systems are malfunctioning. A resolution of these area wide problems may necessitate detailed planning and revision to the portion of the Sewage Facilities Plan pertaining to areas affected by such malfunctions. When a DER authorized Official Sewage Facilities Plan Revision has been undertaken, mandatory repair or replacement of individual malfunctioning sewage disposal systems within the area affected by the revision may be delayed, pending the outcome of the plan revision process. However, immediate corrective action may be compelled whenever a malfunction, as determined by Township officials and/or the Department, represents a serious public health or environmental threat.

## SECTION VI. OPERATION

- A. Only normal domestic wastes shall be discharged into any on-lot sewage disposal system. The following shall not be discharged into the system.
1. Industrial waste.
  2. Automobile oil and other non-domestic oil.
  3. Toxic or hazardous substances including but not limited to pesticides, disinfectants (excluding household cleaners), acids, paint, paint thinners, herbicides, gasoline and other solvents.
  4. Clean surface or ground water, including water from roofs or cellar drains; springs; or basement pumps and French drains.

## SECTION VII. MAINTENANCE

- A. Each person owning a building served by an on-lot sewage disposal system that contains a septic tank shall have the septic tank pumped and inspected by a qualified pumper/hauler within twelve months of the effective date of this ordinance. Thereafter that person shall have the tank pumped at least once every three years or whenever an inspection reveals that the septic tank is filled with solids or with scum in excess of 1/3 of the liquid depth of the tank. Receipts from the pumper/hauler shall be copied to the Township and retained by the property owner in an orderly fashion and be available for review by an authorized agent upon request. Receipts shall be maintained for a minimum of the last twelve years for pumping and maintenance of the on lot system for the prescribed twelve months and three year pumping periods.
- B. The required pumping frequency may be increased at the discretion of an authorized agent if the septic tank is undersized, if solid buildup in the tank is above average, if the hydraulic load on the system increases significantly above average, if a garbage grinder is used in the building, if the system malfunctions or for other good cause shown. If any person can prove that such person's septic tank had been pumped within three years of the six-month anniversary of the effective date of this ordinance, then that person's initial required pumping may be delayed to conform to the general three-year frequency requirement where an inspection reveals a need for more frequent pumping frequencies.
- C. Any person owning a property served by a septic tank shall submit, with each required pumping receipt, a written statement, from the pumper/hauler or from any other qualified individual acceptable to the Township, that the baffles in the septic tank have been inspected and found to be in good working order. Any person whose septic tank baffles are determined to require repair or replacement shall first contact a sewage enforcement officer for approval of the necessary repair.

- D. Any person owning a building served by an on-lot sewage disposal system which contains an aerobic treatment tank shall follow the operation and maintenance recommendations of the equipment manufacturer. A copy of the manufacturer's recommendations and a copy of the service agreement shall be submitted to the Township within six months of the effective date of this ordinance. Thereafter, service receipts shall be submitted to the Township at the intervals specified by the manufacturer's recommendations. In no case may the service or pumping intervals for aerobic treatment tanks exceed those required for septic tanks.
- E. Any person owning a building served by a cesspool or dry well in an area of numerous malfunctions or in an area where a repair is not technically feasible, shall have that system pumped according to the schedule prescribed for septic tanks to mitigate potential pollution. As an alternative to this scheduled pumping of the cesspool or dry well, and pending any scheduled replacement of the substandard system as identified in the Official Sewage Facilities Plan, the owner may apply for a sewage permit from a sewage enforcement officer for a septic tank to be installed preceding the cesspool or dry well. For this interim repair system consisting of a cesspool or dry well preceded by an approved septic tank, only the septic tank must be pumped at the prescribed interval.
- F. Additional maintenance activity may be required as needed including but not necessarily limited to, cleaning and unclogging of piping, servicing and repair of mechanical equipment, leveling of distribution boxes, tanks and lines, removal of obstructing roots and trees, the diversion of surface water away from the disposal area, etc.

#### SECTION VIII. SYSTEM REHABILITATION

- A. No person shall operate or maintain an on-lot sewage disposal system in such a manner that it malfunctions. All liquid waste, including kitchen and laundry wastes and water softener backwash, shall be discharged to a treatment tank. No sewage system shall discharge untreated or partially treated sewage to the surface of the ground or into the waters of the Commonwealth unless a permit for such discharge has been obtained from DER.
- B. A written notice of violation shall be issued to any person who is the owner of any property which is found to be served by malfunctioning on-lot sewage disposal system or which is discharging sewage without a permit.
- C. Within seven (7) days of notification by the Township that a malfunction has been identified, the property owner shall make application to the sewage enforcement officer for a permit to repair or replace the malfunctioning system. Within thirty (30) days of initial notification by the Township, construction of the permitted repair or replacement shall commence. Within sixty (60) days of the original

notification by the Township, the construction shall be completed unless seasonal or unique conditions mandate a longer period, in which case the Township shall set an extended completion date.

- D. A sewage enforcement officer shall have the authority to require the repair of any malfunction by the following methods: cleaning, repair or replacement of components of the existing system, adding capacity or otherwise altering or replacing the system's treatment tank, expanding the existing disposal area, replacing the existing disposal area, replacing a gravity distribution system with a pressurized system, replacing the system with a holding tank or any other alternative appropriate for the specific site.
- E. In lieu of, or in combination with, the remedies described in Subsection D above, a sewage enforcement officer may require the installation of water conservation equipment and the institution of water conservation practices in structures served. Water using devices and appliances in the structure may be required to be retrofitted with water saving appurtenances or they may be required to be replaced by water conserving devices.
- F. In the event that the rehabilitation measures in Subsections A through E are not feasible or effective, the owner may be required to apply to DER for a permit to install an individual spray irrigation treatment system or a single residence treatment and discharge system. Upon receipt of said permit the owner shall complete construction of the system within thirty (30) days.
- G. Should none of the remedies described in this Section be totally effective in eliminating the malfunction of an existing on-lot sewage disposal system, the property owner is not absolved of responsibility for that malfunction. The Township may require whatever action is necessary to lessen or mitigate the malfunction to the extent necessary.

## SECTION IX. LIENS

The Township, upon written notice from a sewage enforcement officer that an imminent health hazard exists due to failure of a property owner to maintain, repair or replace an on-lot sewage disposal system as provided under the terms of this ordinance, shall have the authority to perform, or contract to have performed, the work required by the sewage enforcement officer. The owner shall be charged for the work performed and, if necessary, a lien shall be entered therefore in accordance with law.

## SECTION X. DISPOSAL OF SEPTAGE

- A. All septage originating within the sewage management district shall be disposed of in accordance with the requirements of the Solid Waste Management Act (Act 97 of 1980, 35 P. S. 5. SS6018.101 et seq.) and all

other applicable laws and at sites or facilities approved by DER. Approved sites or facilities shall include the following: septage treatment facilities, wastewater treatment plants, composting sites, and approved farm lands.

- B. Pumper/haulers of septage operating within the sewage management district shall operate in a manner consistent with the provisions of the Pennsylvania Solid Waste Management Act (Act 97 of 1980, 35 P. S. 5S6018.101-6018.1003) and all other applicable laws.

## SECTION XI. ADMINISTRATION

- A. The Township shall fully utilize those powers it possesses through enabling statutes and ordinances to effect the purposes of this ordinance.
- B. The Township shall employ qualified individuals to carry out the provisions of this ordinance. The employees shall include a sewage enforcement officer and may include an administrator and such other persons as may be necessary. The Township may also contract with private qualified persons or firms as necessary to carry out the provisions of this ordinance.
- C. All permits, records, reports, files and other written material relating to the installation, operation and maintenance and malfunction of on-lot sewage disposal systems in the sewage management district shall become the property of, and be maintained by, the Township. Existing and future records shall be available for public inspection during regular business hours at the official office of the Township. All records pertaining to sewage permits, building permits, occupancy permits and all other aspects of the sewage management program shall be made available, upon request, for inspection by representatives of the Pennsylvania Department of Environmental Resources.
- D. The Township Board shall establish all administrative procedures necessary to properly carry out the provisions of this ordinance.
- E. The Township Board may establish a fee schedule, and authorize the collection of fees to cover the cost to the Township of administering the program.

## SECTION XII. APPEALS

- A. Appeals from final decisions of the Township or any of its authorized agents under this ordinance shall be made to the Board of Supervisors in writing within thirty (30) days from the date of written notification of the decision.

- B. The appellant shall be entitled to a hearing before the Board of Supervisors at its next regularly scheduled meeting. If a written appeal is received at least fourteen (14) days prior to that meeting. If the appeal is received within fourteen (14) days of the next regularly scheduled meeting, the appeal shall be heard at the next regularly scheduled meeting. The municipality shall thereafter affirm, modify, or reverse the aforesaid decision. The hearing may be postponed for a good cause shown by the appellant or the Township. Additional evidence may be introduced at the hearing provided that it is submitted with the written notice of appeal.
- C. A decision shall be rendered in writing within thirty (30) days of the date of the hearing.

### SECTION XIII. PENALTIES

Any person failing to comply with any provision of this ordinance shall be subject to a fine of not less than one-hundred dollars (\$100.00) and costs, and not more than three-hundred dollars (\$300.00) and costs, or in default thereof shall be confined in the county jail for a period of not more than thirty (30) days. Each day of noncompliance shall constitute a separate offense.

### SECTION XIV. REPEALER

All ordinances or parts of ordinances inconsistent with the provisions of this ordinance are hereby repealed to the extent of such inconsistency.

### SECTION XV. SEVERABILITY

If any section or clause of this ordinance shall be adjudged invalid, such adjudication shall not affect the validity of the remaining provisions that shall be deemed severable therefrom.

### SECTION XVI. EXCLUSIONS

Excluded from the provisions of the Maintenance District Ordinance are the portions of any property which are utilized for agricultural uses where manure management is practiced in compliance with the Federal Clean Stream Laws and the rules and regulations of the Commonwealth of Pennsylvania. Properties that generate both agricultural animal waste and other sewage are excluded only for the animal waste portion(s) of the property as it relates to this ordinance. Any other sewage generated on the property and provided for within this ordinance is not excluded from the provisions of this ordinance.

Duly Enacted and Ordained this day of \_\_\_\_\_ 19 \_\_\_\_ by the Board of Supervisors of the Township of Franklin, Chester County, Pennsylvania, in lawful sessions duly assembled.

ATTEST:

Township of Franklin  
Chester County, Pennsylvania

\_\_\_\_\_

Secretary

BY: \_\_\_\_\_

Chairman of the Board of Supervisors

## **Franklin Township Initial Sewage Facility Plan Meeting**

Act 537, was enacted by the Pennsylvania Legislature in 1966, and required that every municipality in the state develop and maintain an up to date sewage facility plan. Development pressures over the past years and constantly changing growth pattern require complete updates and inventory of resources within the municipality.

Franklin Township is now developing its own sewage facility plan to protect the natural resources of the township and to meet the township's obligations set forth in the "Pennsylvania Sewage Facilities Act" Act of 1965, P.L. No.537, as amended.

The main purpose of the sewage facility plan will be to protect the health, safety, and welfare of the citizens living in the municipality by correcting malfunctioning on-lot septic systems, overloaded treatment facilities and plan for proper facilities for future growth.

The plan will be prepared in the Department of Environmental Protections (DEP) recommended plan format.

The Grafton Association has found that it is best to present an over simplified explanation to the planning groups of municipalities at the beginning of the sewage facilities planning process so that everyone involved has a basic understanding of the wastewater treatment processes. These explanations are over simplified but will give the reader the basic differences between the most common treatment methods accepted in our area.

### **Basic Sewage Treatment**

Water is a basic need to our daily lives. The impact of how we handle or treat our wastewater increases exponentially as the population density increases. Mismanagement of water can quickly result in the lack of fresh water and very expensive treatment alternatives. Look back on all of the catastrophes that have been seen in the United States in the last couple of years. The first concern for people is how to have that morning cup of coffee. (*Trucking in water is not a cheap option.*) Trucked water or bottled water is not always affordable.

The best way to manage and protect our natural water resource is to properly treat our wastewater and conserve water whenever possible. In the next few minutes, take the time to read and review this information to understand in very basis terms

the treatment of waste water, and the differences between on lot sewage systems, community subsurface sewage systems and spray irrigation systems.

The impact of an on-lot sewage system is as good as the design, installation and maintenance of the system. In years past, it was acceptable to dig a hole, fill it with stone, cover it up, and start running in wastewater.

Years of experience have now shown us that this may work in some occasions in isolated areas but for the most part this type of design is not acceptable.

Individual on lot treatment systems are generally designed based on the following:

- Flow (gallons per day (GPD))
- Percolation rates
- Limiting zone
- Isolation distances
- Time

After the waste is discarded into a plumbing fixture the solids must be removed. This is accomplished by slowing down the waste and allowing the heavier materials (*sludge*) to settle out and the lighter materials (*scum*) to float. In an individual on-lot system this is accomplished in the *septic tank*.

Upon leaving the septic tank, the liquids are divided so that the entire absorption field area receives an equal amount of flow. The division of flow is done with a distribution box (*D-box*) and conveyed to the drainage field area by means of a solid pipe header. Upon reaching the absorption fields or absorption trenches, the flow is distributed by means of perforated pipe.

It is critical that in the construction and placement of these non mechanical devices, these apparatus be installed level and on a solid base so that the levels will be maintained after back filling and construction is completed.

An absorption area must be constructed in an area where the soils are undisturbed. Undisturbed means that no earth moving activity or heavy equipment has occurred or been on the area over the last four years. After meeting this criterion, the site can be evaluated by slope.

The maximum slope of undisturbed soil is 25%. For slopes between 15% and 25%, detailed and engineered designs are required.

The absorption area or absorption trenches are designed based on the average *percolation rate*. The percolation rate is expressed in *minutes per inch*. Based on the percolation rate, the required square feet of absorption area can be determined based on the estimated flow. A minimum flow of 400 GPD or 100 GPD

per bedroom is required for a single-family house on an on-lot system. (*Other types of flows are spelled out in Chapter 73.17 of Title 25*)

In addition to the percolation rate and slope, absorption areas are selected based on limiting zones. A limiting zone consists of rock, shattered rock or high water table. To be suitable a minimum of four feet of suitable material is required to install an absorption area. Special designs, (*such as sand mounds*), utilize sand fill to provide the minimum four feet.

### The Treatment Plant Process

The basic treatment process we describe within the *septic tank* above is the *pre-treatment process* and the *primary treatment* in the flow chart. *Secondary treatment* which is done by Mother Nature by the soil in our on lot system is done by chemical, biological, and physical processes in a treatment plant process.

### ***Go to flow pattern through the plant***

Effluent discharge to stream, underground seepage bed or surface discharge.

### Spray Irrigation

The use of spray fields has been developed over the last three decades. The technology has progressed in the last twenty years to the point that spray irrigation systems have been designed for single family residences in Chester County.

### ***Review list of spray facilities in Chester County***

An experimental facility was developed for Mr. & Mrs. Guy Hadden of Honeybrook in 1983. This facility consists of four chambers that treat the sewage and six spray-heads. Prior to discharge, the effluent is chlorinated and then sprayed into the back yard of their two-acre lot. The system is used year round but still has a four-day storage capacity. The Haddens have indicated that they have received no complaints of odors from neighbors next door. According to Maria Goman, the system is operating satisfactorily.

### ***Review Hypothetical Spray Irrigation Wastewater Treatment Flow***

**APPENDIX B**

**SOIL CLASSIFICATION**  
**FROM DEP TECHNICAL MANUAL**

## SOIL GROUPS

The soil series mapped in Pennsylvania by the U.S. Soil Conservation Service have been placed in fifteen groups, based on their limitations for subsurface disposal of effluent and the most probable percolation rates of those which are not eliminated from consideration by flooding, seasonal water table, shallowness, or special pollution hazards. The probable percolation rates are based on data from the Penn State Soil Characterization Laboratory at over 350 typical field locations representing 113 series. Other series were assigned to groups by their physical similarities. The list contains some soil names which are not being used in current mapping, but which occur on older maps and on field sheets and interpretive tables for surveys that are not yet published. A few miscellaneous land classes are included, but not those where artificial conditions have been produced.

As soils are added by correlation they will be added to the appropriate group.

- A. **Soils that do not have seasonal high water table, severe flooding hazard, extreme shallowness, or limestone bedrock; grouped according to probable percolation rates.**

### (Group 1)

Soils with very rapid percolation with hazard from insufficient filtration and renovation of effluent.

Adams	Conotton
Allegheny, coarse subsoil variant	Dune sand
Alton	Gatesburg
Ashton	Hoosic
Barbour, high bottom phase	Howard
Beach sand, stabilized	Lakin
Bedington	Leetonia sand, variant
Berks, brown subsoil phase	Massillon
Berks (in Berks County only)	Otisville
Blandburg	Plainfield
Chavies (Dauphin County only)	Rushtown
Chagrin, high bottom phase	Tunkhannock
Chenango	Vanderlip
Chili	Vrooman
Colonie	

### (Group 2)

Deep, well drained soils with probable percolation rates of 1 inch of water in 6-15 minutes.

Arendtsville	Kempton	Trexler
Clifton	Leck Kill	Troy
Cossayuna	Leck Kill - Calvin	Unadilla
Duncannon (except in Bucks County)	Ottawa	Wheeling
Hartleton	Patuxent	Wooster
Highfield	Swartswood	Woostern
	Tioga, high bottom phase	

**(Group 3)**

Moderately deep, well drained soils with probable percolation rates of 1 inch of water in 6-15 minutes.

(Rates are quite variable in short distances due to variations of material immediately under the soil.)

Ashby  
Berks (except  
Berks County)  
Catoctin

Dilldown  
Kistler  
Kutztown  
Manor

Nassau  
Stephensburg  
Trexler, moderately  
shallow

**(Group 4)**

Deep, well drained soils with probable percolation rates of 1 inch of water in 15-30 minutes.

Alford  
Annandale  
Birdsboro  
Chester  
Dutchess  
Elioak  
Germania  
Hanover  
Hazleton

Lansdale  
Lewisberry  
Lycoming  
Meadville  
Mifflinburg  
Morrison  
Murrill, deep phase  
Myersville  
Rayne

Sassafras  
Sequatchie  
Summerhill  
Sweden  
Valois  
Wellston  
Whiteford  
Wickham  
Wyoming

**(Group 5)**

Moderately deep, well drained soils with probable percolation rates of 1 inch of water in 15-30 minutes.

(Rates are quite variable in short distances due to variations of material immediately under the soil.)

Brandywine  
Brecknock  
Cardiff  
DeKalb  
Leetonia

Lehew  
Lordstown  
Mount Airy  
Muskingum  
Oquaga

Oquago - Lackawanna  
Parker  
Steinsburg  
Teas  
Wheeling, shallow phase

**(Group 6)**

Deep, well drained soils with probable percolation rates of 1 inch of water in 30-45 minutes.

Allegheny	Elkinsville	Lashley
Allenwood	Elsinboro	Mazeppa
Belmont	Fauquier	Mench
Brookside	Fleetwood	Pocono
Butlertown	Hackers	Sassafras - Glenelg
Cassville	Hartsells	Shelocta
Chavies (Fayette and neighboring counties)	Haven	Walton
Christiana	Holston	Wayne
Clymer	Howell	Waynesboro
Edgemont	Juniata	Weatherly
Elk	Laidig	Westmoreland, deep variant
	Laidig and Murrill	Worth

**(Group 7)**

Moderately deep, well drained soils with probable percolation rates of 1 inch of water in 30-45 minutes.

(Rates are quite variable in short distances due to variations of material immediately under the soil.)

Bucks	Fleetwood, shallow phase	Penn
Calvin	Glenelg	Penn - Lansdale
Chome	Lansdale, shallow phase	

**(Group 8)**

Deep, well drained soils with probable percolation rates of 1 inch of water in 45-60 minutes.

Cattaraugus	Norton	Ungers
Lackawanna	Quakertown	Westfield
Neshaminy	Springtown	

**(Group 9)**

Moderately deep, well drained soils with most probable percolation rates of 1 inch of water in 45-60 minutes.

(Rates are quite variable in short distances due to variations in material immediately under the soil. Malfunctions may be expected in many individual cases on these soils, although the average percolation rate is satisfactory.)

Culleoka	Loudonville	Westmoreland
Gilpin	Rayne - Gilpin	
Gilpin - Rayne	Summerhill - Gilpin	

**(Group 10)**

Well drained soils with probable percolation rates slower than 1 inch of water in 60 minutes.

Bath	Meckesville	Upshur, acid substratum
Duncannon (Bucks County only)	Minora	Upshur - Gilpin
Ewingville	Montalto	Vandalia
Legore	Upshur	

- B. Soils series that are underlain by limestone and have a high hazard of groundwater pollution through solution channels.**

**(Group 11)**

Araby	Duffield	Litz
Athol	Dunmore	Mertz
Barree	Edom	Millheim
Bedington - Edom	Elliber	Murrill
Benson	Emory	Opequon
Birdsboro - Duffield	Fogelsville	Pequea
Brooke	Frankstown	Ryder
Chambersburg	Hagerstown	Vira
Conestoga	Hollinger	Washington
Corydon	Hublersburg	Washington, coarse variant
Crestmore	Letort	

- C. Well drained soils that are shallow or very shallow to bedrock.**

**(Group 12)**

Arnot	Montevallo	Ramsey - Dekalb
Klinesville	Northumberland	Stony land
Manlius	Penn, very shallow variant	Very stony land
Mehoopany	Ramsey	Weikert

D. Soils series that occur on floodplains and have a high flooding hazard. Not suitable for subsurface disposal systems.

(Group 13)

Algiers  
Alluvial land  
Alluvial soils, undifferentiated  
Atkins  
Barbour  
Basher  
Bermudian  
Bowmansville  
Cacapon  
Chagrin  
Chewacla  
Clifty  
Codus  
Comus  
Congaree  
Cuba  
Dunning  
Elkins

Hatboro  
Holly  
Huntington  
Kerrtown  
Largent  
Linden  
Lindsay  
Lobdell  
Lorain  
Marsh  
Melvin  
Middlebury  
Moshannon  
Newark  
Nolin  
Orrville  
Papakating  
Philo

Pope  
Riverwash  
Rowland  
Schuylkill  
Senecaville  
Sloan  
Steff  
Stony and cobbly  
alluvial soils  
Stony alluvial soils  
Tioga  
Topton  
Wallkill  
Warners  
Wayland  
Wehadkee  
Wyalusing

- E. **Moderately well drained soils on upland sites. These soils have seasonal high water tables which is the major limitation on use for subsurface disposal system.**

**(Group 14)**

Albrights	Ernest	Raritan
Altavista	Fairfax	Readington
Amaranth	Ganoga	Rebuck
Bedford	Gilpin - Wharton	Saluvia
Beltsville	Glenville	Scio
Berrien	Greer	Sciotoville
Blairton	Hornell	Sedan
Braceville	Imler	Stendal
Bridgeville	Iredell	Strasburg
Buchanan	Iva	Swartswood - Wurtsboro
Cambridge	Kedron	Thurmont
Canaseraga	Kreamer	Tilsit
Canfield	Landisburg	Titusville
Captina	Langford	Titusville - Gilpin
Clarksburg	Lansdowne	Trego
Conotton, moderately well drained variant	Lawrenceville & Duncannon	Unadilla and Scio
Conowingo	Lawrenceville	Urbana
Cookport	Lehigh	Vandergrift
Culvers	Mardin	Vandergrift - Gilpin
Dewart	Monongahela	Warrior
Dormont	Morehead	Watson
Drab	Mount Lucas	Wellsboro
Drifton	Painesville	Wharton
Edgemont, moderately well drained variant	Pekin	Wharton - Gilpin
Edom, moderately well drained variant	Penn & Readington	Wharton - Upshur
Eifort	Phelps	Whitwell
Empeyville	Pierpont	Williamsburg
	Platea, moderately well drained variant	Wiltshire
	Rainsboro	Woodstown
	Zoar	Wurtsboro

**F. Somewhat poorly, poorly, and very poorly drained soils on upland sites. These soils have high water tables and are unsuitable for subsurface disposal systems.**

**(Group 15)**

Abbottstown	Ellery	Norwich
Albia	Ellery & Alden	Orange
Alden	Erie	Othello
Aldino	Evendale	Peat and Muck
Allis	Fallsington	Penlaw
Alvira	Fredon	Platea
Andover	Fremont	Purdy
Ariel	Frenchtown	Ravenna
Armagh	Ginat	Reaville
Armenia	Grandin	Red Hook
Atherton	Greenwood Peat	Rexford
Baile	Gresham	Rimer
Bartle	Griggs	Rittman
Birdsall	Guernsey	Roanoke
Blago	Guernsey - Culleoka	Robersville
Boynton	Guthrie	Rohrersville
Brinkerton	Halsey	Shallow Peat and Muck
Burgin	Johnsburg	Sheffield
Californ	Kanona	Shelmadine
Calvert	Keyport	Stanton
Canadice	Kreamer, somewhat poorly drained variant	Thorndale
Canadaigua	Lamington	Tidal Marsh
Caneadea	Lawrence	Towhee
Carlisle	Leadvale	Trumbull
Cavode	Leonardtwn	Tughill
Chalfont	Library	Tuller
Chillisquaque	Lickdale	Turbotville
Chilo	Loysville	Tygart
Chippewa	Luray	Tyler
Cokesbury	Lyles	Venango
Colbert	Mahining	Volusia
Colden	Marengo	Wadsworth
Collamer	Markes	Wallington
Comly	McGary	Watchung
Conyngham	Miner	Waterboro Muck
Crofon	Montgomery	Wauseon
Cuyler	Morris	Weeksville
Dalton	Muck	Williamson
Dannemora	Muck & Peat	Woodglen
Doylestown	Natalie	Worsham
Dubois	Nolo	Zipp
Elbert		

## **General Notes**

**Stoniness and Rockiness:** Extremely stony phases of any soil and areas with common outcrops of bedrock and considered unsatisfactory for subsurface systems. Moderately stony areas may be used with care.

**Made lands, Mine dumps, Strip mine spoils, and Sanitary landfills:** These miscellaneous land types need individual local determinations of depth, water table conditions, and soil texture as they affect percolation rates and effluent renovation in a stabilized area.

The soil descriptions and/or soils legends were prepared for each county by the U.S. Soil Conservation Service (S.C.S.). These may be found in published Soil Survey Reports, in Interim Soil Survey Reports or in Mapping Legends for surveys in progress, available for inspection at local offices of the S.C.S. It is not intended, however, that use of the county soil surveys will eliminate the need for on-site sampling and testing of soils prior to the approval or disapproval of permits under Chapter 73.

**APPENDIX C**

**LIST OF  
SEPTAGE HAULERS**

RECEIVED

APR 04 2000

TATUM & LEE  
A DIVISION OF URS CORP.

### Report by Group Number

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<b>BUSINESS:</b>	A&A PORTABLE TOILETS, INC.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. RICK . GOTWALS	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	P.O. BOX 26285	<b>#TRUCKS:</b>	4
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 409-9717
<b>CITY STATE ZI</b>	COLLEGEVILLE, PA,PA 19426	<b>CCHD#:</b>	937
<b>BUSINESS:</b>	A-1 SANITATION SERVICE, INC.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. ANTHONY . SMIERIKA, SR.	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	718 GRANTHAM LANE	<b>#TRUCKS:</b>	3
<b>ADDRESS2:</b>	P.O. BOX 336	<b>TELE#:</b>	(302) 322-1074
<b>CITY STATE ZI</b>	NEW CASTLE,DE 19720	<b>CCHD#:</b>	951
<b>BUSINESS:</b>	AAA SEPTIC SERVICE & EXCAVAT	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. JOSEPH J. ZYDINSKY	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	RTE. 372-E	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>	P.O. BOX 451	<b>TELE#:</b>	(610) 857-1200
<b>CITY STATE ZI</b>	PARKESBURG, PA,PA 19365	<b>CCHD#:</b>	935
<b>BUSINESS:</b>	ACE CESSPOOL COMPANY	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR ROBERT . SWEIGART	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	NAAMANS & OGDEN ROADS	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>	P.O. BOX 21	<b>TELE#:</b>	(302) 478-1477
<b>CITY STATE ZI</b>	CLAYMONT,DE 19703	<b>CCHD#:</b>	946
<b>BUSINESS:</b>	ACE DISPOSAL	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. FLOYD . HERTZFELD	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1133 VALLEY HILL ROAD	<b>#TRUCKS:</b>	7
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 644-3685
<b>CITY STATE ZI</b>	MALVERN,PA 19355	<b>CCHD#:</b>	911
<b>BUSINESS:</b>	ALPINE SANITATION (FORMERLY	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. MICHAEL J. HORVATH	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1320 BLACK ROCK ROAD, RD #1	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 933-2068
<b>CITY STATE ZI</b>	PHOENIXVILLE,PA 19460	<b>CCHD#:</b>	917
<b>BUSINESS:</b>	ARROW LEASING CORP.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. ALBERT T. SAMMONS, JR.	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1772 PULASKI HIGHWAY	<b>#TRUCKS:</b>	4
<b>ADDRESS2:</b>		<b>TELE#:</b>	(302) 834-4546
<b>CITY STATE ZI</b>	BEAR,DE 19701	<b>CCHD#:</b>	934

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<b>BUSINESS:</b>	BOULDEN INC	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. URIE . BOULDEN JR	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	540 OLD BARKSDALE RD	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(302) 368-2553
<b>CITY STATE ZI</b>	NEWARK,DE 19711	<b>CCHD#:</b>	906

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<b>BUSINESS:</b>	BRANDYWINE SEPTIC SERVICES, I	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR RICHARD P. JONES	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	P.O. BOX 487	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 268-2289
<b>CITY STATE ZI</b>	AVONDALE,PA 19311	<b>CCHD#:</b>	949

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<b>BUSINESS:</b>	C.F. HECKMAN & SON	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. THOMAS P. HECKMAN	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	2205 RIVER RD	<b>#TRUCKS:</b>	6
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 374-3067
<b>CITY STATE ZI</b>	READING,PA 19605	<b>CCHD#:</b>	914

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<b>BUSINESS:</b>	C.M. KRISTMAN WASTE REMOVA	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. CHARLES . KRISTMAN	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1099 CANNERY ROAD	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 347-0688
<b>CITY STATE ZI</b>	COATESVILLE,PA 19320	<b>CCHD#:</b>	954

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<b>BUSINESS:</b>	CONCORD WASTEWATER SERVIC	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. GEORGE J. GOLDEN	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	186 ANDRIEN ROAD	<b>#TRUCKS:</b>	2
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 459-1111
<b>CITY STATE ZI</b>	GLEN MILLS,PA 19342	<b>CCHD#:</b>	902

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<b>BUSINESS:</b>	DENNIS M BREGANDE EXCAVATI	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. DENNIS M. BREGANDE	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1320 VALLEY ROAD	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 459-1616
<b>CITY STATE ZI</b>	GLEN MILLS,PA 19342	<b>CCHD#:</b>	939

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<b>BUSINESS:</b>	EASY HOUSE PORTABLE TOILETS	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. BARRY J. ZADEH	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	D/B/A POTTY ON THE SPOT	<b>#TRUCKS:</b>	8
<b>ADDRESS2:</b>	P.O. BOX 8379	<b>TELE#:</b>	(717) 391-8182
<b>CITY STATE ZI</b>	LANCASTER,PA 17604	<b>CCHD#:</b>	909

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<b>BUSINESS:</b>	EDWARD ARMSTRONG & SONS	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR JOHN E. TILLER	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	205 GREENFIELD RD	<b>#TRUCKS:</b>	6
<b>ADDRESS2:</b>		<b>TELE#:</b>	(717) 393-2770
<b>CITY STATE ZI</b>	LANCASTER,PA 17601	<b>CCHD#:</b>	941
<b>BUSINESS:</b>	ELDREDGE FERRERO WASTEWAT	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR HANK . BEECH	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	223 FELLOWSHIP ROAD	<b>#TRUCKS:</b>	17
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 458-9333
<b>CITY STATE ZI</b>	UWCHLAN,PA 19480	<b>CCHD#:</b>	910
<b>BUSINESS:</b>	FOSTER SEPTIC SERVICES	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR WILLIAM W. FOSTER	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	439 MCFARLAN ROAD	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 444-8151
<b>CITY STATE ZI</b>	KENNETT SQUARE,PA 19348	<b>CCHD#:</b>	943
<b>BUSINESS:</b>	GENE'S SEPTIC SERVICE	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. GENE . BENNETT	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	707 BRANDYWINE RD	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 696-7591
<b>CITY STATE ZI</b>	DOWNINGTOWN,PA 19335	<b>CCHD#:</b>	933
<b>BUSINESS:</b>	GMP WASTE WATER MANAGEME	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. GERALD . PISANO	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	(LICENSED REVOKED 6/23/97)***	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>	625 LINCOLN STREET	<b>TELE#:</b>	(610) 932-2839
<b>CITY STATE ZI</b>	OXFORD,PA 19363	<b>CCHD#:</b>	938
<b>BUSINESS:</b>	GRAY BROTHERS INC	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR GEORGE GRAY &. MR GARY G	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1696 E LANCASTER AVE	<b>#TRUCKS:</b>	6
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 644-2800
<b>CITY STATE ZI</b>	PAOLI,PA 19301	<b>CCHD#:</b>	920
<b>BUSINESS:</b>	HICKMAN SANITATION SERVICE	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. DAVID M. HICKMAN	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	352 SNYDER AVE.	<b>#TRUCKS:</b>	10
<b>ADDRESS2:</b>	P.O. BOX 3040	<b>TELE#:</b>	(610) 696-3060
<b>CITY STATE ZI</b>	WEST CHESTER,PA 19381	<b>CCHD#:</b>	2

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<b>BUSINESS:</b>	HOOPERS DISPOSAL	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR CHARLES R. BLOSENSKI, JR	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	11 COVENTRY COVE	<b>#TRUCKS:</b>	3
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 286-3890
<b>CITY STATE ZI</b>	ELVERSON,PA 19520	<b>CCHD#:</b>	931

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<b>BUSINESS:</b>	HORBLINSKI CESSPOOLS & SEPTI	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. JONATHAN . HORBLINSKI	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	106 RUTHLAND AVE	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 383-0404
<b>CITY STATE ZI</b>	COATESVILLE,PA 19320	<b>CCHD#:</b>	929

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<b>BUSINESS:</b>	INK'S DISPOSAL SERVICE	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. ROBERT C. INK	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	564 N. MANOR ROAD	<b>#TRUCKS:</b>	2
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 286-5488
<b>CITY STATE ZI</b>	ELVERSON,PA 19520	<b>CCHD#:</b>	908

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<b>BUSINESS:</b>	J GALLAGHER SEPTIC & WASTE	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. JAMES R. GALLAGHER	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	460 DEVON CT	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 466-7500
<b>CITY STATE ZI</b>	DOWNINGTOWN,PA 19335	<b>CCHD#:</b>	926

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<b>BUSINESS:</b>	J. ROBERT PIERSON, INC.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. ROBERT . PIERSON	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	195 LAUREL HEIGHTS ROAD	<b>#TRUCKS:</b>	2
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 274-8252
<b>CITY STATE ZI</b>	LANDENBERG,PA 19350	<b>CCHD#:</b>	953

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<b>BUSINESS:</b>	J.A. PRETTYMAN EXCAVATING	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. JAMES A. PRETTYMAN	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	PO BOX 26	<b>#TRUCKS:</b>	2
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 932-5270
<b>CITY STATE ZI</b>	OXFORD,PA 19363	<b>CCHD#:</b>	923

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<b>BUSINESS:</b>	JOHN B. SELDOMRIDGE, JR., INC.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. JOHN B. SELDOMRIDGE JR	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1880 BEAVER DAM ROAD	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 273-3316
<b>CITY STATE ZI</b>	HONEY BROOK,PA 19344	<b>CCHD#:</b>	907

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<b>BUSINESS:</b>	JOHNNY ON THE SPOT INC	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. BILL . REYNOLDS	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	522 ELLIS AVENUE	<b>#TRUCKS:</b>	4
<b>ADDRESS2:</b>	P.O. BOX 63	<b>TELE#:</b>	(610) 586-6322
<b>CITY STATE ZI</b>	DARBY,PA 19023	<b>CCHD#:</b>	940
<b>BUSINESS:</b>	KELLER'S SANITATION SERVICE	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. ROBERT W. KELLER	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	289 BALTIMORE PK	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 932-9202
<b>CITY STATE ZI</b>	NOTTINGHAM,PA 19362	<b>CCHD#:</b>	913
<b>BUSINESS:</b>	KELLY PHILLIPS SEPTIC SERVICES	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR KELLY S. PHILLIPS	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	139 PARKESBURG ROAD	<b>#TRUCKS:</b>	3
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 857-9263
<b>CITY STATE ZI</b>	COATESVILLE,PA 19320	<b>CCHD#:</b>	922
<b>BUSINESS:</b>	KEYSTONE WASTEWATER MGMT	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. ROBERT M. ABERNATHY, JR.	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	764 GAP NEWPORT PIKE	<b>#TRUCKS:</b>	7
<b>ADDRESS2:</b>	BOX 507	<b>TELE#:</b>	(610) 268-0700
<b>CITY STATE ZI</b>	AVONDALE,PA 19311	<b>CCHD#:</b>	919
<b>BUSINESS:</b>	KULP & SON, INC.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. DWANE C. KULP	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	210 S. CEDAR STREET	<b>#TRUCKS:</b>	3
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 948-4593
<b>CITY STATE ZI</b>	SPRING CITY,PA 19475	<b>CCHD#:</b>	928
<b>BUSINESS:</b>	LEARY & HIGGINS COMPANY	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. JOHN . LEARY	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	PO BOX 1475	<b>#TRUCKS:</b>	3
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 692-0231
<b>CITY STATE ZI</b>	WEST CHESTER,PA 19381	<b>CCHD#:</b>	925
<b>BUSINESS:</b>	LEVENGOD SEPTIC SERVICE	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR WILLIAM . LEVENGOD	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1058 RIVERSIDE DRIVE	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 705-9209
<b>CITY STATE ZI</b>	POTTSTOWN,PA 19464	<b>CCHD#:</b>	948

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<b>BUSINESS:</b>	LINCOLN E. COCKERHAM	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. GLENN H. COCKERHAM	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	420 LINCOLN HWY	<b>#TRUCKS:</b>	2
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 644-2882
<b>CITY STATE ZI</b>	MALVERN,PA 19355	<b>CCHD#:</b>	903
<b>BUSINESS:</b>	LLOYD Z. NOLT TRUCKING	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. LLOYD Z. NOLT	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1301 LINCOLN ROAD	<b>#TRUCKS:</b>	4
<b>ADDRESS2:</b>		<b>TELE#:</b>	(717) 733-7226
<b>CITY STATE ZI</b>	LITITZ,PA 17543	<b>CCHD#:</b>	945
<b>BUSINESS:</b>	P.E. KRAMME, INC.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. GERALD A. KRAMME	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	P.O. BOX 937	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 268-2274
<b>CITY STATE ZI</b>	MONROEVILLE,NJ 8343	<b>CCHD#:</b>	918
<b>BUSINESS:</b>	PERNA SEPTIC SERVICE	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	CHARLES M. PERNA	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	60 SCHOOL HOUSE ROAD	<b>#TRUCKS:</b>	4
<b>ADDRESS2:</b>		<b>TELE#:</b>	(215) 799-2200
<b>CITY STATE ZI</b>	SOUDERTON,PA 18964	<b>CCHD#:</b>	932
<b>BUSINESS:</b>	R & K SEPTIC & SERVICES, INC.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. MARK . REESER	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	78 PARK AVENUE	<b>#TRUCKS:</b>	2
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 384-1716
<b>CITY STATE ZI</b>	COATESVILLE,PA 19320	<b>CCHD#:</b>	942
<b>BUSINESS:</b>	REIFSNEIDER TRANSPORTATION I	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. HANK . BEECH	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	223 FELLOWSHIP ROAD	<b>#TRUCKS:</b>	29
<b>ADDRESS2:</b>	P.O. BOX 756	<b>TELE#:</b>	(610) 458-9333
<b>CITY STATE ZI</b>	UWCHLAN,PA 19480	<b>CCHD#:</b>	915
<b>BUSINESS:</b>	RELIEF RENTALS, INC.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. BRIAN W. YOUNG, PRESIDENT	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	P.O. BOX 962	<b>#TRUCKS:</b>	3
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 630-9181
<b>CITY STATE ZI</b>	BLUE BELL,PA 19422	<b>CCHD#:</b>	947

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<b>BUSINESS:</b>	SEARS FRANK SANITATION	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. FRANK . SEARS	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	509 LIME QUARRY RD	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(717) 442-8609
<b>CITY STATE ZI</b>	GAP,PA 17527	<b>CCHD#:</b>	901

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<b>BUSINESS:</b>	SYNAGRO-CDR MID ATLANTIC	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. RICHARD . HUSHON	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	P.O. BOX 70	<b>#TRUCKS:</b>	13
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 932-0900
<b>CITY STATE ZI</b>	OXFORD,PA 19363	<b>CCHD#:</b>	924

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<b>BUSINESS:</b>	TAYLOR SEPTIC SERVICE	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. FREEMAN . TAYLOR	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	PO BOX 602	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(410) 658-4090
<b>CITY STATE ZI</b>	RISING SUN,MD 21911	<b>CCHD#:</b>	927

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<b>BUSINESS:</b>	TERMINIX INTERNATIONAL CO., L	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	SERVICEMASTER . CORPORATION	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	382 TURNER WAY	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 859-0112
<b>CITY STATE ZI</b>	ASTON,PA 19014	<b>CCHD#:</b>	936

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<b>BUSINESS:</b>	WEAVER & STURGILL SANITATIO	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. RICHARD . STURGILL	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	5589 STRASBURG RD	<b>#TRUCKS:</b>	2
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 273-2342
<b>CITY STATE ZI</b>	ATGLEN,PA 19310	<b>CCHD#:</b>	912

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<b>BUSINESS:</b>	WILLIAM P. MCGOVERN, INC.	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. WILLIAM P. MCGOVERN	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	1144 W. BALTIMORE PIKE	<b>#TRUCKS:</b>	13
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 444-5797
<b>CITY STATE ZI</b>	KENNETT SQUARE,PA 19348	<b>CCHD#:</b>	921

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<b>BUSINESS:</b>	WM SWEIGART & SONS SANITATI	<b>GROUP:</b>	4
<b>EXPRNAME:</b>	MR. WILLIAM . SWEIGART	<b>LICENSE#:</b>	
<b>ADDRESS1:</b>	506B WEIR ROAD	<b>#TRUCKS:</b>	1
<b>ADDRESS2:</b>		<b>TELE#:</b>	(610) 485-3272
<b>CITY STATE ZI</b>	ASTON,PA 19014	<b>CCHD#:</b>	944

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**APPENDIX D**

**SAMPLE OLDS  
MANAGEMENT ORDINANCE**

AN ORDINANCE GOVERNING MUNICIPAL MANAGEMENT  
OF ON-LOT SUBSURFACE SEWAGE DISPOSAL FACILITIES  
WITHIN SEWAGE MANAGEMENT DISTRICTS IN THE TOWNSHIP OF PATTON,  
CENTRE COUNTY, PA

BE IT ORDAINED by the Board of Supervisors of the Township of Patton, in the County of Centre, and the State of Pennsylvania, as follows:

**Section I. Short Title; Introduction; Purpose**

A. This ordinance shall be known and may be cited as "A Sewage Management Program for Patton Township.

B. As mandated by the municipal codes, the Clean Streams Law (35 P.S. §§691.1001), and the Pennsylvania Sewage Facilities Act (Act of January 24, 1966, P.L. 1535 as amended, 35 P.S. §750.1 et seq., known as Act 537), municipalities have the power and the duty to provide for adequate sewage treatment facilities and for the protection of the public health by preventing the discharge of untreated or inadequately treated sewage. The Official Sewage Facilities Plan for Patton Township, entitled the 1990 Centre Region Act 537 Sewage Facilities Plan indicates that it is necessary to formulate and implement a sewage management program to effectively prevent and abate water pollution and hazards to the public health caused by improper treatment and disposal of sewage.

C. The purpose of this ordinance is to provide for the inspection, maintenance and rehabilitation of on-lot sewage disposal systems; to further permit the municipality to intervene in situations which are public nuisances or hazards to the public health; and to establish penalties and appeal procedures necessary for the proper administration of a sewage management program.

**Section II. Definitions**

A. Act 537: The Act of January 24, 1966, P.L. 1535 as amended, 35 P.S. §750.1 et seq known as the Pennsylvania Sewage Facilities Act.

B. Authorized Agent: A certified sewage enforcement officer, code enforcement officer, professional engineer, plumbing inspector, municipal secretary or any other qualified or licensed person who is delegated by the municipality to function within specified limits as the agent of the municipality to carry out the provisions of this ordinance.

C. Board: The Board of Supervisors, Patton Township, Centre County, Pennsylvania.

D. Codes Enforcement Officer (C.E.O.)—An individual employed by the municipality to administer and enforce other ordinances in the municipality.

E. Community Sewage System: Any system, whether publicly or privately owned, for the collection of sewage from two or more lots, and the treatment and/or disposal of the sewage on one or more lots or at any other site.

F. Department: The Department of Environmental Resources of the Commonwealth of Pennsylvania (D.E.R.).

**G. Individual Sewage System:** A system of piping, tanks or other facilities serving a single lot and collecting and disposing of sewage in whole or in part into the soil or into any waters of this Commonwealth.

**H. Malfunction:** The condition which occurs when an on-lot sewage disposal system discharges sewage onto the surface of the ground, into ground waters of this Commonwealth, into surface waters of this Commonwealth, backs up into the building connected to the system or otherwise causes a nuisance hazard to the public health or pollution of ground or surface water or contamination of public or private drinking water wells. Systems shall be considered to be malfunctioning if any of the conditions noted above occur for any length of time during any period of the year.

**I. Municipality:** Patton Township, Centre County, Pennsylvania.

**J. Official Sewage Facilities Plan:** The 1990 Centre Region Act 537 Sewage Facilities Plan.

**K. On-lot Sewage Disposal System:** Any system for disposal of sewage involving pretreatment and subsequent disposal of the clarified sewage into the soil for final treatment and disposal; including both individual sewage systems and community sewage systems.

**L. Person:** Any individual, association, public or private corporation for profit or not for profit, partnership, firm, trust, estate, department, board, bureau or agency of the Commonwealth, political subdivision, municipality, district, authority, or any other legal entity whatsoever which is recognized by law as the subject of rights and duties. Whenever used in any clause prescribing and imposing a penalty or imposing a fine or imprisonment, the term person shall include the members of an association, partnership or firm and the officers of any local agency or municipal, public or private corporation for profit or not for profit.

**M. Rehabilitation:** Work done to modify, alter, repair, enlarge or replace an existing on-lot sewage disposal system.

**N. Replacement Area:** A portion of a lot or a developed property, sized to allow the installation of subsurface sewage disposal area, which is reserved to allow that installation in the event of the malfunction of the originally installed on-lot sewage disposal system.

**O. Sewage:** Any substance that contains any of the waste products or excrement or other discharge from the bodies of human beings or animals and any noxious or deleterious substances being harmful or inimical to the public health, or to animal or aquatic life, or to the use of water for domestic water supply or for recreation or which constitutes pollution under the Act of June 22, 1937 (P.L. 1987, No. 394), known as "The Clean Streams Law", as amended.

**P. Sewage Enforcement Officer (S.E.O.)**--the official of the local agency who issues and reviews permit applications and conducts such investigations and inspection as are necessary to implement Act 537 and the rules and regulations promulgated thereunder.

**Q. Sewage Management District:** Any area or areas of a municipality for which a sewage management program is defined by a resolution of the Board of Supervisors.

**R. Sewage Management Program:** A comprehensive set of legal and administrative requirements encompassing the requirements of this ordinance and other administrative requirements adopted by the municipality to effectively enforce and administer the ordinance.

S. Subdivision: The division or re-division of a lot, tract or other parcel of land into two or more lots, tracts, parcels or other divisions of land, including changes in existing lot lines. The enumerating of lots shall include as a lot that portion of the original tract or tracts remaining after other lots have been subdivided therefrom.

### Section III. Applicability

A. From the effective date of this ordinance, its provisions shall apply in any portion of Patton Township as a sewage management district. Within such an area or areas, the provisions of this ordinance shall apply to all persons owning any property serviced by an on-lot sewage disposal system and to all persons installing or rehabilitating on-lot sewage disposal systems. If necessary, the entire municipality may be identified as a sewage management district.

### Section IV. Permit requirements

A. No person shall install, construct, or request bid proposals for construction or alter an individual sewage system or community sewage system or construct or request bid proposals for construction or install or occupy any building or structure for which an individual sewage system or community sewage system is to be installed without first obtaining a permit indicating that the site and the plans and specifications of such system are in compliance with the provisions of the Pennsylvania Sewage Facilities Act and the standards adopted pursuant to that Act.

B. No system or structure designed to provide individual or community sewage disposal shall be covered from view until approval to cover the same has been given by the municipal sewage enforcement officer. If 72 hours have elapsed, excepting Sundays and Holidays, since the sewage enforcement officer issuing the permit received notification of completion of construction, the applicant may cover said system or structure unless permission has been specifically refused by the sewage enforcement officer.

C. The municipality may require applicants for sewage permits to notify the municipality's certified sewage enforcement officer of the schedule for construction of the permitted on-lot sewage disposal system so that inspection(s) in addition to the final inspection required by Act 537 may be scheduled and performed by the municipality's certified sewage enforcement officer.

D. No building or occupancy permit shall be issued by the municipality or its codes enforcement officer for a new building which will contain sewage generating facilities until a valid sewage permit has been obtained from the municipality's certified sewage enforcement officer.

E. No building or occupancy permit shall be issued and no work shall begin on any alteration or conversion of any existing structure, if said alteration or conversion will result in the increase or potential increase in sewage flows from the structure, until the municipality's codes enforcement officer and the structure's owner receive from the municipality's sewage enforcement officer either a permit for alteration or replacement of the existing sewage disposal system or written notification that such a permit will not be required. The certified sewage enforcement officer shall determine whether the proposed alteration or conversion of the structure will result in increased sewage flows.

F. Sewage permits may be issued only by a certified sewage enforcement officer employed by the municipality for that express purpose. The Department of Environmental Resources shall be notified by the municipality as to the identity of their currently employed certified sewage enforcement officer.

## Section V. Replacement Areas

A. Any supplements or revisions to the municipality's Official Sewage Facilities Plan which are prepared pursuant to the applicable regulations of the Pennsylvania Department of Environmental Resources for subdivision or development of land within an identified sewage management district shall provide for the testing, identification, and reservation of an area of each lot or developed property suitable for the installation of a replacement on-lot sewage disposal system. This requirement is in addition to the testing, identification, and reservation of an area for the primary sewage disposal system.

B. No permit shall be issued for any proposed new on-lot sewage disposal system on any newly created or subdivided property in any sewage management district unless and until a replacement area is tested, identified and reserved.

## Section VI. Inspections

A. Any on-lot sewage disposal system may be inspected by the municipality's authorized agent at any reasonable time as of the effective date of this ordinance.

B. The inspection may include a physical tour of the property, the taking of samples from surface water, wells, other ground water sources, the sampling of the contents of the sewage disposal system itself and/or the introduction of a traceable substance into the interior plumbing of the structure served to ascertain the path and ultimate destination of wastewater generated in the structure.

C. The municipality's authorized agent shall have the right to enter upon land for the purposes of inspections described above.

D. An initial inspection shall be conducted by the municipality's authorized agent within one year of the effective date of this ordinance for the purpose of determining the type and functional status of each sewage disposal system in the sewage management district. A written report shall be furnished to the owner of each property inspected and a copy of said report shall be maintained in the municipal records.

E. A schedule of routine inspections may be established by the municipality if necessary to assure the proper function of the systems in the sewage management district.

F. The municipality and its authorized agent shall inspect systems known to be, or alleged to be, malfunctioning. Should said inspections reveal that the system is indeed malfunctioning, the municipality and its authorized agent shall take action to require the correction of the malfunction. If total correction is not technically or financially feasible in the opinion of the authorized agent and a representative of the Pennsylvania Department of Environmental Resources, then action by the property owner to mitigate the malfunction shall be required.

G. There may arise geographic areas within the municipality where numerous on-lot sewage disposal systems are malfunctioning. A resolution of these area-wide problems may necessitate detailed planning and a municipally sponsored revision to that area's Act 537 Official Sewage Facilities Plan. When a DER authorized Official Sewage Facilities Plan Revision has been undertaken by the municipality, mandatory repair or replacement of individual malfunctioning sewage disposal systems within the study area may be delayed, at the discretion of the municipality, pending the outcome of the plan revision process. However, the municipality may compel immediate corrective action whenever a malfunction, as determined by municipal officials and the Pennsylvania DER, represents a serious public health or environmental threat.

## Section VII. Operation

A. Only normal domestic wastes shall be discharged into any on-lot sewage disposal system. The following shall not be discharged into the system.

1. Industrial waste.
2. Automobile oil and other non-domestic oil.
3. Toxic or hazardous substances or chemicals, including but not limited to, pesticides, disinfectants, acids, paints, paint thinners, herbicides, gasoline and other solvents.
4. Clean surface or ground water, including water from roof or cellar drains, springs, basement sump pumps and french drains.

## Section VIII. Maintenance

A. Any person owning a building served by an on-lot sewage disposal system which contains a septic tank which fails shall have the septic tank pumped by a qualified pumper/hauler every three years. An option will be provided to allow the property owner to obtain an inspection from the municipal sewage enforcement officer to document the owner's system does not require pumping.

B. The required pumping frequency may be increased at the discretion of the municipality's authorized agent if the septic tank is undersized, if solids buildup in the tank is above average, if the hydraulic load on the system increases significantly above average, if a garbage grinder is used in the building, if the system malfunctions or for other good cause shown. If any person can prove that their system tank had been pumped within three years of the six month anniversary of the effective date of this ordinance, then the municipality may delay that person's initial required pumping to conform to the general pumping frequency requirement.

C. Any person owning a property served by a septic tank shall submit, with each required pumping receipt, a written statement, from the pumper/hauler or from any other qualified individual acceptable to the municipality, that the baffles in the septic tank have been inspected and found to be in good working order. Any person whose septic tank baffles are determined to require repair or replacement shall first contact the municipality's certified sewage enforcement officer for approval of the necessary repair.

D. Any person owning a building served by an on-lot sewage disposal system which contains an aerobic treatment tank shall follow the operation and maintenance recommendations of the equipment manufacturer. A copy of the manufacturer's recommendations and a copy of the service agreement shall be submitted to the municipality within six months of the effective date of this ordinance. Thereafter, service receipts shall be submitted to the municipality at the intervals specified by the manufacturer's recommendations. In no case may the service or pumping intervals for aerobic treatment tanks exceed those for those required for septic tanks.

E. Any person owning a building served by a cesspool or dry well shall have that system pumped according to the schedule prescribed from septic tanks as noted in Section VIII, Paragraph A. As an alternative to this scheduled pumping of the cesspool or dry well, the owner may secure a sewage permit from the certified sewage enforcement officer for a septic tank to be installed preceding the cesspool or dry well. For a system consisting of a cesspool or dry well preceded by an approved septic tank, only the septic tank must be pumped at the prescribed interval.

F. The municipality may require additional maintenance activity as needed including, but not necessarily limited to, cleaning and unclogging of piping, servicing and the repair of mechanical equipment, leveling of distribution boxes, tanks and lines, removal of obstructing roots or trees, the diversion of surface water away from the disposal area, etc.

#### Section IX. System Rehabilitation

A. No person shall operate and maintain an on-lot sewage disposal system in such a manner that it malfunctions. All liquid wastes, including kitchen and laundry wastes and water softener backwash, shall be discharged to a treatment system or tank. No sewage system shall discharge untreated or partially treated sewage to the surface of the ground or into the waters of the Commonwealth unless a permit to discharge has been obtained from the Pennsylvania Department of Environmental Resources.

B. The municipality shall issue a written notice of violation to any person who is the owner of a property in the municipality which is found to be served by a malfunctioning on-lot sewage disposal system or which is discharging raw or partially treated sewage without a permit.

C. Within seven (7) days of notification by the municipality that a malfunction has been identified, the property owner shall make application to the municipality's certified sewage enforcement officer for a permit to repair or replace the malfunctioning system. Within thirty (30) days of initial notification by the municipality, construction of the permitted repair or replacement shall commence. Within sixty (60) days of the original notification by the municipality, the construction shall be completed unless seasonal or unique conditions mandate a longer period, in which case the municipality shall set an extended completion date.

D. The municipality's certified sewage enforcement officer shall have the authority to require the repair of any malfunction by the following methods: cleaning, repair or replacement of components of the existing system, adding capacity or otherwise altering or replacing the system's treatment tank, expanding the existing disposal area, replacing the existing disposal area, replacing a gravity distribution system with a pressurized system, or other alternatives as appropriate for the specific site.

E. In lieu of, or in combination with, the remedies described in D above, the municipal sewage enforcement officer may require the installation of water conservation equipment and the institution of water conservation practices in structures served. Water using devices and appliances in the structure may be required to be retro-fitted with water saving appurtenances or they may be required to be replaced by water conserving devices and appliances. Wastewater generation in the structure may also be reduced by requiring changes in water usage patterns in the structure served.

F. In the event that the rehabilitation measures in A through E are not feasible or do not prove effective, the municipality may require the owner to apply to the Pennsylvania Department of Environmental Resources for a permit to install a single residence treatment and discharge system. Upon receipt of said permit the owner shall complete construction of the system within sixty (60).

G. Should none of the remedies described above prove totally effective in eliminating the malfunction of an existing on-lot sewage disposal system, the property owner is not absolved of responsibility for that malfunction. The municipality may require whatever action is necessary to lessen or mitigate the malfunction to the extent that it feels necessary.

## **Section X. Fees**

Costs for the completion of water quality testing and municipal sewage enforcement officer inspections shall be assessed to property owners within the appropriate sewage management districts. It shall be each individual property owner's responsibility to contract with a qualified pumper/hauler for the pumping of the owner's septic tank.

## **Section XI. Liens**

The municipality, upon written notice from the municipal sewage enforcement officer that an imminent health hazard exists due to failure of a property owner to maintain, repair or replace an on-lot sewage disposal system as provided under the terms of this ordinance, shall have the authority to perform or contract to have performed, the work required by the certified sewage enforcement officer. The owner shall be charged for the work performed and, if necessary, a lien shall be entered therefore in accordance with law.

## **Section XII. Disposal of Septage**

A. All septage originating within the municipal sewage management district shall be disposed of at sites or facilities approved by the Pennsylvania Department of Environmental Resources. Approved sites or facilities shall include the following: septage treatment facilities, wastewater treatment plants, composting sites, and approved farm lands. The property owner is required to submit a receipt to the municipality documenting the tank was pumped, and indicating the DER permitted site where the septage was disposed.

B. Septage of pumper/haulers operating within the municipal sewage management district shall operate in a manner consistent with the provisions of the Pennsylvania Solid Waste Management Act (Act 97 of 1980, 35 P.S. §§6018.101-6018.1003).

## **Section XIII. Administration**

A. The municipality shall fully utilize those powers it possesses through enabling statutes and ordinances to effect the purposes of this ordinance.

B. The municipality shall employ qualified individuals to carry out the provisions of this ordinance. Those employees shall include a certified sewage enforcement officer and may include a codes enforcement officer, secretary, administrator or other persons as required. The municipality may also contract with private qualified persons or firms as necessary to carry out the provisions of this ordinance.

C. All permits, records, reports, files and other written material relating to the installation, operation and maintenance and malfunction of on-lot sewage disposal systems in the sewage management district shall become the property of the municipality. Existing and future records shall be available for public inspection during required business hours at the official municipal office. All records pertaining to sewage permits, building permits, occupancy permits and all other aspects of the municipality's sewage management program shall be made available, upon request, for inspection by representatives of the Pennsylvania Department of Environmental Resources.

D. The Board of Supervisors shall establish a fee schedule, and subsequently collect fees, to cover the cost to the municipality of administering this program. Costs for the completion of water quality testing and municipal sewage enforcement officer inspections will be assessed to property owners within the appropriate sewage management districts. It shall be the responsibility of each individual property owner to contract with a qualified pumper/hauler for septic tank pumping.

**Section XIV. Appeals**

A. Appeals from decisions of the municipality or its authorized agents under this ordinance shall be made to the Patton Township Board of Supervisors in writing within thirty (30) days from the date of the decision in question.

B. The appellant shall be entitled to a hearing before the (borough council/board of supervisors) at its next regularly scheduled meeting, if the appeal is received at least fourteen (14) days prior to that meeting. If the appeal is received within fourteen (14) days of the next regularly scheduled meeting, the appeal shall be heard at the subsequent meeting. The municipality shall thereafter affirm, modify, or reverse the aforesaid decision. The hearing may be postponed for a good cause shown by the appellant or the municipality. Additional evidence may be introduced at the hearing provided that it is submitted with the written notice of appeal.

C. A decision shall be rendered in writing within thirty (30) days of the date of the hearing. If a decision is not rendered within thirty (30) days, the release sought by the appellant shall be deemed granted.

**Section XV. Penalties**

Any person failing to comply with any provisions of this ordinance shall be subject to a fine of not less than one hundred dollars (\$100) and costs, and not more than three hundred dollars (\$300) and costs, or in default thereof shall be confined in the county jail for a period of not more than thirty (30) days. Each day of noncompliance shall constitute a separate offense.

**Section XVI. Repealer**

All ordinances or parts of ordinances inconsistent with the provisions of this ordinance are hereby repealed to the extent of such inconsistency.

**Section XVII. Severability**

If any section or clause of this ordinance shall be adjudged invalid, such adjudication shall not affect the validity of the remaining provisions which shall be deemed severable therefrom.

Duly Enacted and Ordained this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_ by the Board of Supervisors) of the Township of Patton, Centre County, Pennsylvania, in lawful sessions duly assembled.

ATTEST:

Township of Patton

Centre County, Pennsylvania

\_\_\_\_\_  
Secretary

BY:

\_\_\_\_\_  
Chairman of the Patton Township Board of Supervisors

INSTALLATION AND MAINTENANCE AGREEMENT FOR AN INDIVIDUAL STREAM

DISCHARGE OR SPRAY IRRIGATION WASTEWATER DISPOSAL SYSTEM

THIS AGREEMENT, made this \_\_\_ day of \_\_\_, \_\_\_, by and between the TOWNSHIP of Kennett Chester County, Pennsylvania, (hereinafter the "Township") and \_\_\_\_\_ (hereinafter the "Property Owner").

WITNESSETH:

WHEREAS, Property Owner is presently equitable owner and hereafter will be owner in fee simple of a part of a certain tract of land located in Kennett Township, Chester County, Pennsylvania, otherwise known as part of Chester County Tax parcel \_\_\_\_\_ as more particularly described and depicted on the attached plan.

WHEREAS, Property Owner has requested the Board of Supervisors of Kennett Township to amend its Sewage Facilities Plan (otherwise known as the "Act 537" Plan) so as to permit a stream discharge or spray irrigation system (hereinafter the "System") to be installed and operated upon the aforementioned Property of Property owner; and

WHEREAS, the Township is willing to amend its Act 537 Plan so as to provide for the installation of the System upon the Property provided that the Property Owner agrees to install, operate and maintain the system upon certain terms and conditions more particularly set forth herein; and

WHEREAS, the Township and Property Owner desire to memorialize the agreements reached between them with respect to the installation, operation and maintenance of the aforesaid System so as to insure the safe and orderly operation of same.

NOW THEREFORE, for and in consideration of the covenants contained herein, the parties hereto do agree as follows:

4. The System shall also be inspected by the Township annually to ensure it is being properly maintained and all components are in good working order.

5. In the event the report prepared by the factory representative or Engineer, or inspections by the Pennsylvania Department of Environmental Protection (DEP) or the Township indicates repair and/or replacement of any component part or all of the System in order to bring the System in compliance with DEP regulations, the Property Owner shall complete such repairs and obtain certification from the Engineer that the repairs have been made in accordance with his specifications within thirty days of the date the report is issued.

6. In the event the Property Owner fails or refuses to conduct the operation, maintenance and testing required herein, or to comply with the recommendations of its Engineer, factory representative, Township or DEP with respect to the repair and/or replacement of the System or any parts thereof, the Township shall have the right to enter upon the premises, conduct said inspections, and to perform any repairs or replacements with respect to the System, all of which shall be made at the cost and expense of the Property Owner. Prior to entering the premises and conducting repairs or replacements, the Township shall provide Property Owner thirty days advance written notice of its intention to enter upon the premises for these purposes. The Property owner shall have the right to comply with the terms of the Agreement within that thirty-day period. Any notice required by the terms of this Agreement shall be sufficient if sent to Property Owner's last known address.

7. During the period of time when the System is inoperable and/or incapable of treating the discharged effluent so as to meet and/or exceed those standards of the DEP as aforesaid, Property Owner shall make the necessary arrangements to remove said effluent and arrange for the appropriate disposition of same at the properly certified and licensed sewage disposal facility. In the event the Property Owner shall fail to make the necessary arrangements for the removal of said effluent, the Township shall have the right, upon 48 hours written notice to Property owner, to enter upon the premises and cause said effluent to be removed. Where the Property Owner causes the effluent to be removed, he shall, upon request of the Township, provide an Agreement with a hauler providing for the removal. The property Owner agrees to continue hauling effluent until such time as the System has been properly certified as being operable by the Township Engineer or DEP.

8. The Property Owner agrees to pay the Township's annual fee for the inspection of the System (set at \$100 for the first year) and agrees that any costs incurred by the Township for inspections, repairs and/or replacement of the System or its component parts or in the removal of effluent in accordance with the terms of the Agreement, shall be recoverable by the Township from the Property Owner. In the event the Property Owner (or his heirs or assigns) shall fail to pay the Township for such costs or expense, then the Township shall have the right either to sue the said Property Owner in assumpsit for reimbursement or its costs or to cause a lien to be placed on the Property in the amount of said expense.

9. It is expressly understood and agreed that nothing contained herein shall be construed to waive, affect or alter any requirements of the Zoning, Land Development and Subdivision or other Ordinances of the Township and nothing contained herein empowers any Township officer or employee to waive any requirements of such Ordinances. It is expressly understood and agreed that installation of the System upon the Property does not constitute approval for any land development of the Property.

10. Property Owner, for themselves, their heirs, administrators, executors, successors and assigns, shall at all times hold the Township harmless from any claims, suits and legal expenses.

11. Property Owner agrees to provide to Township a complete set of "as built" plans for the aforesaid System as finally approved by DEP or any other governmental agency having jurisdiction thereof.

12. The Property Owner agrees to reimburse the Township in the amount of \$ \_\_\_\_\_ for the engineering fees incurred in reviewing this application for amendment of the 537 Plan.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals the day and year first above written.

BOARD OF SUPERVISORS OF  
KENNETT TOWNSHIP

ATTEST:

BY: \_\_\_\_\_

\_\_\_\_\_  
PROPERTY OWNER  
\_\_\_\_\_  
\_\_\_\_\_

**APPENDIX E**  
**COSTS SUMMARY**

**Kemblesville Sewer Alternatives  
Gravity / Force Main Option  
Franklin Township, PA**

ITEM NO.	APPROX. QUANT.	UNIT	DESCRIPTION OF ITEMS	UNIT COST	AMOUNT	
				DOLLAR	DOLLAR	
1	4,500	LF	Soil Erosion and Sediment Control	\$1	\$4,500	
2	300	LF	Restoration - Grass (topsoil, seed and mulch)	\$2	\$600	
3	1,556	SY	Road Restoration @ 10 feet wide	\$30	\$46,700	
4	1,194	SY	State Road Restoration @ 5 feet wide	\$35	\$41,800	
5	30	crossings	Restoration - Pavement	\$500	\$15,000	
6	17	Ea	4" PVC Laterals (adjacent to property)**	\$2,500	\$42,500	
7	26	Ea	4" PVC Laterals (across street)**	\$4,500	\$117,000	
8	1,102	CY	Rock Excavation (bedrock 5 feet deep)	\$65	\$71,600	
9	1,730	LF	8" PVC Gravity Sewer (3-5 feet deep)	\$30	\$51,900	
10	2,280	LF	8" PVC Gravity Sewer (6-8 feet deep)	\$35	\$79,800	
11	440	LF	8" PVC Gravity Sewer (9-12 feet deep)	\$40	\$17,600	
12	2,350	LF	1.5" SDR 21 Force Main	\$13	\$30,600	
13	2	Ea	Inline Cleanouts with Gate Valves (every 1000 feet)	\$1,200	\$2,800	
14	1	Ea	Air/Vacuum Release Valve	\$2,500	\$2,500	
15	2	Ea	1.5" Isolation Valves	\$750	\$1,500	
16	1	Ea	Pump Station #1 (20 gpm peak flow)	\$30,000	\$30,000	
17	1	Ea	Pump Station #2 (32 gpm peak flow)	\$30,000	\$30,000	
18	4	Ea	Manholes (3-5 feet deep)	\$1,500	\$6,000	
19	6	Ea	Manholes (6-8 feet deep)	\$2,000	\$11,500	
20	2	Ea	Manholes (9-12 feet deep)	\$2,500	\$5,000	
21	1	Ea	Connection to Existing Manhole	\$1,000	\$1,000	
<b>Subtotal Line Items</b>						\$610,500
Bonds and Insurance				2%		\$12,210
Staking				2%		\$12,210
Electrical, Mechanical and Controls (incl generator)				10%		\$61,050
Traffic Maintenance				2%		\$12,210
Mob and Demob				5%		\$30,525
<b>Subtotal Gravity Sewer Option</b>						\$738,705
Legal, Administration, Engineering, Permits, Inspection				20%		\$147,741
Contingency				15%		\$110,806
22	0.6	Acre	Land Costs (Two Pump Station Sites)	\$20,000		\$12,000
<b>TOTAL GRAVITY SEWER OPTION</b>						\$1,009,252
<b>Annual Operating Costs</b>						
	2	Ea	Average Annual Service Cost	\$1,000		\$2,000
	1	LS	Miscellaneous	\$2,000		\$2,000
<b>Total Annual Operating Cost</b>						\$4,000
<b>Total Present Worth Operating Cost *</b>						\$54,361
<b>TOTAL PRESENT WORTH GRAVITY SEWER OPTION</b>						\$1,063,613
* for 20 years at interest rate of 4%						
** includes connection to the house and abandonment of septic system (crush and fill tanks)						
Note: An engineering estimate is an opinion of probable construction costs made by an engineer and not by a professional construction cost estimator or construction contractor. The accuracy of the engineering estimate cannot be guaranteed.						