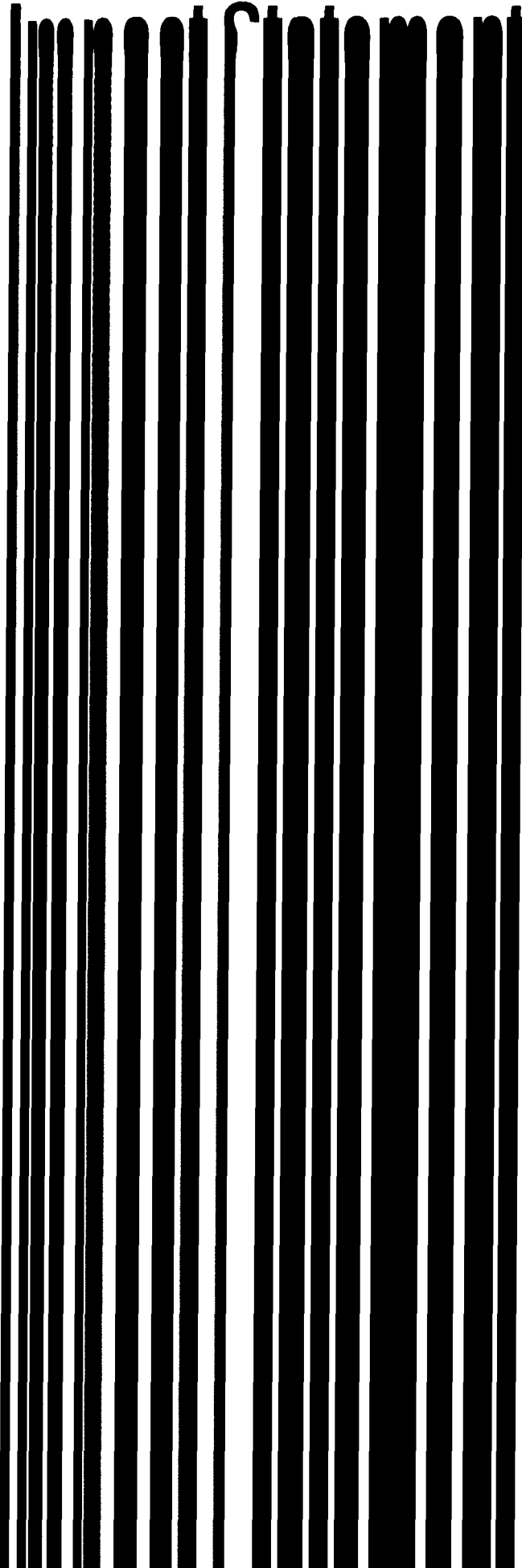


Final Environmental

903R80004





Final Environmental Impact Statement

903R80004

Horsham-Warminster- Warrington, Pennsylvania Wastewater Treatment Facilities

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

6TH AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

MAY 7 1980

TO ALL INTERESTED AGENCIES, PUBLIC GROUPS, AND CITIZENS:

Enclosed is a copy of the Final Environmental Impact Statement (EIS) prepared by the U.S. Environmental Protection Agency (EPA) in conjunction with wastewater treatment facilities plans and applications for Federal construction grants jointly submitted by the Horsham Township Sewer Authority, Montgomery County; Warrington Township Municipal Authority, Bucks County; and the Warminster Township Municipal Authority, Bucks County within the Commonwealth of Pennsylvania.

Pursuant to the National Environmental Policy Act of 1969 and regulations promulgated by this Agency (40 CFR Part 6, November 6, 1979), this Final EIS is submitted for your review. Comments or inquiries concerning this EIS should be submitted to the above address, attention of the EIS Preparation Section, by June 16, 1980.

EPA has determined that two alternatives are eligible for Federal funding. The Agency's preferred project (Alternative 3) consists of the conveyance of Horsham's flows through Lower Gwynedd Township to the Ambler sewage treatment plant (STP) and the use of community systems for Horsham Township. EPA's second choice (Alternative 2) for funding eligibility would send the flow from specific subareas in Horsham Township for treatment at the Ambler STP. Either alternative endorses the same approach for the Warrington-Warminster portion of the planning area; namely, the conveyance of wastewater from Warrington Township via the Little Neshaminy interceptor to Warminster STP. The Warminster STP would accordingly be expanded and upgraded, if necessary, to treat this additional flow.

I wish to thank each applicant for the assistance they have provided to EPA's staff during this EIS process. In addition, I wish to commend the performance of the Central Contacts Committee which supplied guidance to EPA on important technical decisions involving the evaluation of alternatives for the planning area. Finally, I want to especially recognize the interest demonstrated by the area's citizens. Their participation throughout this EIS Process has greatly contributed to the development of acceptable solutions to the sewage problems of the participating municipalities.

A public meeting regarding the Final EIS will be held on May 29, 1980 at 7:30 p.m. in the Keith Valley Middle School. Both the public and representatives of organizations are encouraged to attend and express their comments and opinions on EPA's recommendations.

Sincerely, yours,

A handwritten signature in dark ink, appearing to read "Jack J. Schramm", is written over the typed name.

Jack J. Schramm
Regional Administrator

U.S. EPA Region III
Regional Center for Environmental
Information
1650 Arch Street (3PM52)
Philadelphia, PA 19103

FINAL ENVIRONMENTAL IMPACT STATEMENT

on

**HORSHAM-WARMINSTER-WARRINGTON, PENNSYLVANIA
WASTEWATER TREATMENT FACILITIES**

Prepared by
US Environmental Protection Agency
Region III
Philadelphia, Pennsylvania

Richard V. Pepino, Project Monitor
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Prepared with the assistance of
WAPORA, Inc.
Berwyn, Pennsylvania

Robert A. Scott, Project Manager

Type of Action:

Legislative ()
Administrative (x)

SUMMARY



The following Executive Summary is prepared to focus the reader's attention on vital issues addressed by the Final Environmental Impact Statement (EIS). The topics previewed in this summary merely highlight the more detailed discussions presented in the Final EIS.

We encourage the reader not to formulate conclusions based on the Executive Summary, but rather to read the expanded text in order to establish a sound rationale for consideration of the recommended alternatives presented in the Final EIS.

EXECUTIVE SUMMARY

Grant Applications

This Final Environmental Impact Statement (EIS) has been prepared by the US Environmental Protection Agency (US-EPA). The Final EIS concerns applications submitted to US-EPA for Federal wastewater treatment construction grants by the following municipal authorities in the Commonwealth of Pennsylvania:

- The Township of Horsham Sewer Authority
- Warrington Township Municipal Authority
- Warminster Township Municipal Authority

Federal funds were requested by the grant applicants for construction of a regional interceptor and collector sewer system for areas primarily within the Townships of Horsham, Warrington, and Warminster as well as for expansion of the treatment capacity of the existing municipal sewage treatment plant in Warminster Township.

Draft EIS

On September 12, 1979 a Draft EIS on this project was issued by US-EPA. The Draft EIS presented five alternative wastewater management systems which incorporated elements of the applicants' proposed system as well as alternative approaches for resolving wastewater treatment problems. The following chart summarizes centralized and decentralized approaches, described in the Draft EIS, which are suggested to satisfy Horsham Township's wastewater management needs. Figure A indicates the division of the planning area into subareas.

<u>Alternative</u>	<u>Centralized Treatment</u>	<u>Decentralized Treatment</u>
1	subareas 4,5,7 and 8 to Warminster STP via Park Creek interceptor	none
2	subareas 4,5,7, and 8 to Ambler STP via force main and lift station and conveyance through Lower Gwynedd Township	none
3	subareas 7 and 8 to Ambler STP via force main and lift station and conveyance through Lower Gwynedd Township	subareas 4 and 5 to have community subsurface disposal systems
4	same as Alternative #3	subareas 4 and 5 have individual systems
5	construction of a 0.5 mgd tertiary treatment discharging to Park Creek at a point south of Willow Grove NAS	none

For Warrington and Warminster Townships, Alternatives 1 through 5 are basically identical. Wastewater flows are proposed to be conveyed from Warrington Township via the Little Neshaminy Interceptor for treatment at the Warminster STP, which is proposed to have its treatment capacity expanded.

A primary purpose of the Draft EIS was to identify wastewater management solutions which were implementable, cost-effective, environmentally sound, and grant eligible. The Draft EIS made no specific recommendations concerning preferred alternatives. Instead probable adverse and beneficial effects of each approach were identified as well as the costs expected to be incurred.

Comments on Draft EIS

Written comments on the Draft EIS were received by US-EPA during a public commenting period from September 12, 1979 to November 12, 1979. In addition, oral testimony on the Draft EIS was received at the Public Hearing held on October 23, 1979. Comments on the Draft EIS included questions, new information, recommendations for improvements to the document and recommendations for selecting alternatives. A total of 24 issues were raised by governmental agencies or the public during the commenting period. The Final EIS responds to each issue in detail. Among these issues, US-EPA considers the following to be the most critical:

Key Comments

- What effluent limitations will the PA Department of Environmental Resources (PA-DER) require for the Warminster sewage treatment plant as well as for plants which might discharge to the Park Creek in Horsham Township?
- In estimating costs for alternative systems, did US-EPA account for initial assessments to homeowners and other users, as well as capital contributions from the Horsham Sewer Authority to the Lower Gwynedd Township Municipal Authority?
- In estimating costs for alternative systems, did US-EPA account for costs of land acquisition and system maintenance?
- Three of the alternatives presented by US-EPA require the conveyance of wastewater from Horsham Township through Lower Gwynedd Township conveyance systems to the Ambler STP. What is the capacity available to the Horsham Sewer Authority in the Lower Gwynedd and Ambler systems?
- Two alternatives presented by US-EPA include the use of individual and cluster treatment systems in subareas 4 and 5 in Horsham Township. What are the necessary responsibilities of the management agency and homeowner in the successful operation of such systems?
- In both Warrington and Warminster Townships, infiltration and inflow to existing wastewater collection systems is considered by the municipalities and PA-DER to be excessive. What is the extent to which infiltration and inflow can be reduced by the respective authorities and what effect will this reduction have on the sizing and costs of the proposed expansion to the Warminster STP?
- The Wichard Sewer Company has received a Certificate of Public Convenience from the Pennsylvania Public Utility Commission to provide wastewater treatment services to the proposed Country Springs development in Horsham Township. The Wichard Sewer Company also has received an NPDES permit from PA-DER to discharge its effluent to the Park Creek. In light of these actions by the Commonwealth of PA, what effect does the Wichard Sewer Company proposal have on the alternatives presented by US-EPA?

Final Evaluation of Alternatives

In the Final EIS, US-EPA evaluated the alternative wastewater management approaches with consideration given to individual and cumulative environmental effects, public and governmental agency preferences, cost-effectiveness, and potential for successful implementation.

As reported in the Draft EIS, the most adverse environmental effects of a severe nature are associated with Alternatives 1 and 5. The most beneficial environmental effects are associated with Alternatives 3, 4, and 2, in that order. As reported in the Final EIS, public comments involving environmental impacts centered upon these specific effects:

- floodplain encroachment
- availability of water supplies
- erosion and sedimentation
- loss of prime farmland.

After responding to public comments concerning environmental impacts of the alternatives, the following clarification emerged. Alternatives 1 and 5 continued to be associated with the most adverse effects. Further examination of potential floodplain encroachment (both primary and secondary impacts) reinforced the probability of adverse effects of these two alternatives, particularly in subareas 4 and 5 in Horsham Township.

Of the government agencies which have commented on the Draft EIS, only four agencies registered specific preferences on the selection of alternative systems. The four agencies included the US Department of the Navy, PA Department of Environmental Resources, Delaware Valley Regional Planning Commission, and Montgomery County Planning Commission.

The US Department of the Navy recommends adoption of either Alternative 3 or 4. This conclusion was reached "in keeping with the findings of the DEIS, the goals and objectives of the Navy's Air Installation Compatible Use Zone (AICUZ) Plan, Federal guidelines, notably the General Services Administration's Federal Management Circular 75-2, and the Horsham Township Land Management Plan" (Department of the Navy, 1979). The Navy could not support Alternative 1 due to its inducement for development in highly sensitive areas around the Naval Air Station. Similarly, Alternative 5 would also induce growth in the vicinity of the Naval Air Station, although to a somewhat lesser degree than Alternative 1.

PA-DER is willing to support Alternatives 3, 2, and 4, in that order. The PA-DER found Alternative 1 to be unacceptable because of its adverse impacts and Alternative 5 to be too costly.

The Delaware Valley Regional Planning Commission endorsed Alternatives 2, 3, and 4, stating that these alternatives best fulfill the requirements of the Federal Clean Water Act, the Pennsylvania Clean Streams Law, COWAMP/208, and county and local plans. Alternatives 1 and 5 could not be supported by DVRPC due to adverse environmental impacts and high cost.

Finally, the Montgomery County Planning Commission recommended selection of Alternatives 3 or 4 as the most cost/beneficial with least environmental impacts. According to the Planning Commission, these alternatives would be most consistent with Township comprehensive planning and zoning; could provide up to 85% Federal funding on alternative systems; and would solve the problems in a manner consistent with environmental and land use planning goals. Alternative 1 was described as a clearly unacceptable proposal; Alternatives 2 and 5 are considered potentially viable alternatives, but their environmental impacts and the possible inducement of growth in the more rural portions of Horsham Township make them less desirable alternatives.

Elimination of
Alternatives 1, 4, 5,
and 6

Based on environmental impact comparisons, public input, and government agency preferences, US-EPA eliminated Alternatives 1, 4, 5, and 6 from funding consideration. Potential adverse environmental effects on prime agricultural land, floodplains, forestland, wildlife habitats, aesthetic values, and historic properties were most significant for Alternative 1, followed by Alternative 5. Alternative 4 proposed the use of conventional and alternative on-lot disposal systems for subareas 4 and 5 in Horsham Township. This alternative was not supported by PA-DER, which questioned the use of holding tanks on a long-term basis for lots unsuitable for septic tank-soil absorption systems and sand mound-soil absorption systems. Although this alternative ranked very high in terms of beneficial environmental effects, its lack of support by the State was grounds for its elimination as a fundable alternative.

Finally, Alternative 6 (no-action) was rejected by US-EPA because the immediate need for suitable wastewater services in the planning area outweighed any environmental benefits of postponing or rejecting all solutions.

Endorsement of
Alternatives 2 and 3

US-EPA has determined that both Alternatives 2 and 3 are eligible for Federal funding. Alternative 3 requires the conveyance of flows from subareas 7 and 8 through Lower Gwynedd Township to the Ambler STP; subareas 4 and 5 are proposed to be serviced through community subsurface disposal systems. The use of community systems in subareas 4 and 5 is considered to have minimal adverse environmental effects, to be in conformance with municipal growth management objectives, and to be supported by the US Navy. This wastewater management approach is relatively new and as an alternative technology is eligible for 85% Federal funding.

Alternative 2 also is endorsed and recommended by US-EPA as an eligible alternative. However, this recommendation earmarks this alternative as the Agency's second choice behind Alternative 3. The recommendation of this alternative enables the Horsham Sewer Authority to have options in seeking an implementable wastewater service solution for the Park Creek area. Alternative 2 may have adverse effects in subareas 4 and 5 in terms of the induced conversion of undeveloped land to developed uses and marginal conformity with growth management objectives of Horsham Township. These effects are judged to be less severe than adverse effects projected under Alternatives 1 and 5 for subareas 4 and 5. US-EPA recommends that the Horsham Township Council, Planning Commission, and Sewer Authority carefully consider the ramification of its choice of alternative system with respect to previously adopted growth management objectives for this area.

For Warrington and Warminster Townships, their original proposal for conveyance of wastewater from Warrington via the Little Neshaminy interceptor to the Warminster STP (to be expanded) is fully endorsed by US-EPA for Federal funding.

Funding of Alternatives

The responsibility for final decisionmaking on funding eligibility rests with the US-EPA Regional Administrator. Following the close of the comment period on the Final EIS, US-EPA will prepare a formal Record of Decision which will be distributed to the public. This Record will set forth the conclusions of the EIS process, the decisions made by US-EPA on the funding of alternatives, and the actions to be undertaken by the grant applicants.

Final Public Meeting

A final public meeting to discuss the recommendations presented in the Final EIS will be held in the planning area approximately thirty days after issuance of this document. The site of the meeting will be the Keith Valley Middle School in Horsham Township.

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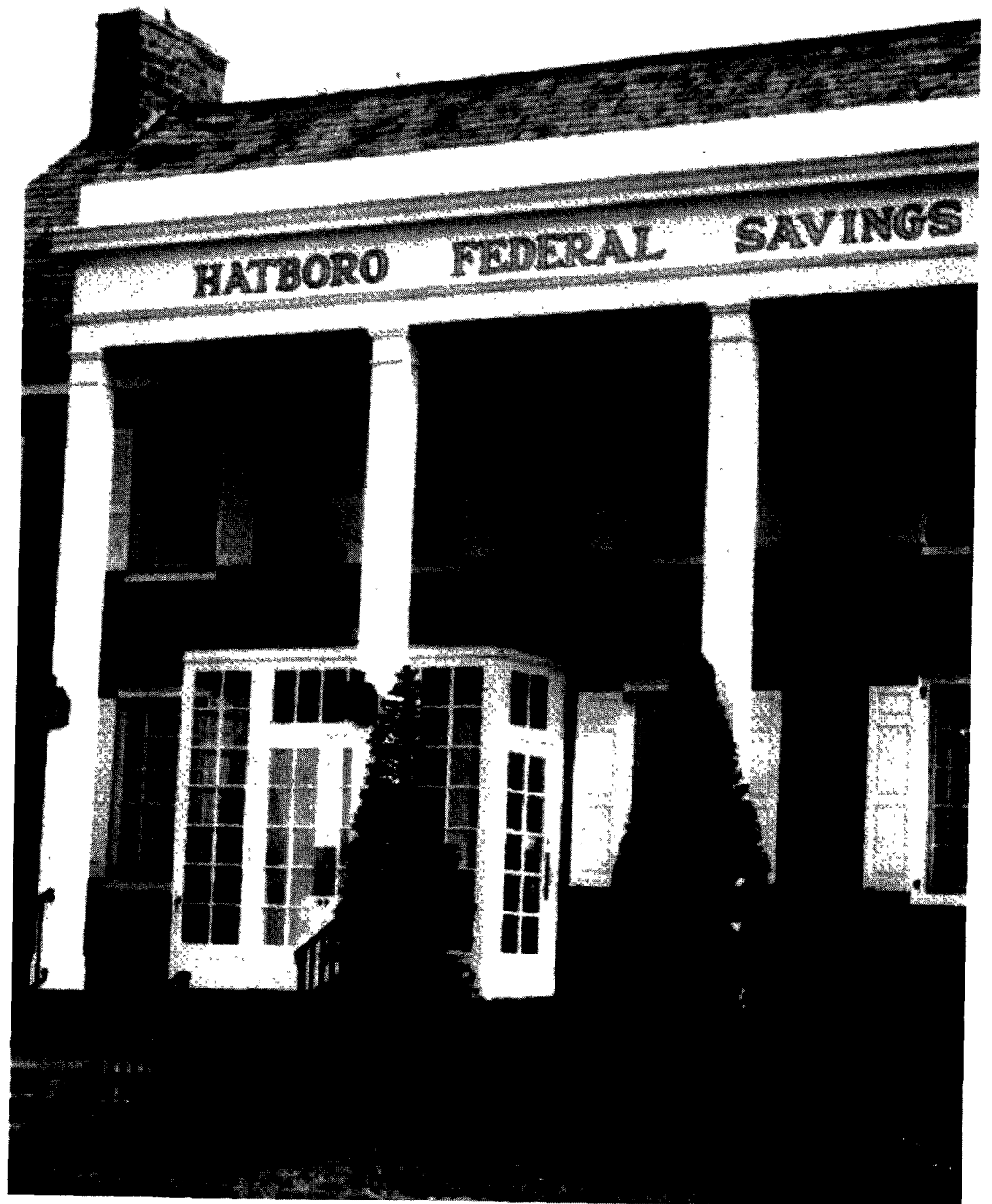
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**LIST OF ACRONYMS
AND ABBREVIATIONS**

AICUZ	Air Installation Compatibility Use Zone
BCPC	Bucks County Planning Commission
BOD	Biochemical oxygen demand
CFR	Code of Federal Regulations
CWA	The Clean Water Act, also known as the Federal Water Pollution Control Act, PL92-500, as amended
DEIS	Draft Environmental Impact Statement
DRBC	Delaware River Basin Commission
DVRPC	Delaware Valley Regional Planning Commission
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FR	Federal Register
FWPCA	See CWA
GPCPD	Gallons per capita per day
GPD	Gallons per day
HC	Hydrocarbons
I/I	Infiltration/Inflow
MCPC	Montgomery County Planning Commission
MGD	Million gallons per day
MLD	Million liters per day
NADC	Naval Air Development Center
NAS	Naval Air Station
NEPA	National Environmental Policy Act of 1969
NPDES	National Pollutant Discharge Elimination System
PA-DER	Pennsylvania Department of Environmental Resources
PL	Public Law (of the United States)
STP	Sewage treatment plant
USC	United States Code
USDA-SCS	United States Department of Agriculture - Soil Conservation Service
US-DOC	United States Department of Commerce
US-EPA	United States Environmental Protection Agency
US-HEW	United States Department of Health, Education and Welfare
US-HUD	United States Department of Housing and Urban Development

CHAPTER I

Introduction



CHAPTER I INTRODUCTION

This Final Environmental Impact Statement (EIS) has been prepared in conjunction with wastewater facilities plans and applications for Federal construction grants submitted to the US Environmental Protection Agency (US-EPA) by the following municipal authorities in the Commonwealth of Pennsylvania:

- The Township of Horsham Sewer Authority, Montgomery County PA (Grant Application No. 420880)
- Warrington Township Municipal Authority, Bucks County PA (Grant Application No. 420881)
- Warminster Township Municipal Authority, Bucks County PA (Grant Application No. 421062)

The three grant applicants requested Federal funds to construct a regional interceptor and collector sewer system for areas primarily within the Townships of Horsham, Warrington, and Warminster, and also to expand the treatment capacity of an existing sewage treatment plant (STP) in Warminster Township. On January 13, 1978 US-EPA issued a Notice of Intent to prepare an EIS with regard to these construction grant applications.

The decision to prepare the EIS was made in accordance with the National Environmental Policy Act (NEPA) and US-EPA regulations governing EIS preparation for wastewater facilities (40 CFR, Chapter I, Part 6). In March 1978, US-EPA initiated the EIS process by beginning preparation of a Draft EIS. This document was distributed to the public and government agencies on September 12, 1979. The Draft EIS is summarized in Section 2.0. of this Final EIS. Aside from that summation, the contents of the Draft EIS is not repeated in this document, but is included by reference as Appendix A. When necessary, contents of the Draft EIS are herein referred to by page (i.e. DEIS, 4-2). The Draft EIS is available for review at local and county libraries and municipal offices. Copies of the Draft EIS have been distributed to 19 Federal agencies, 7 State agencies, 11 Federal and State elected officials, 45 local government agencies, 26 environmental interest groups, 98 citizens, and numerous other individuals and organizations.

A public hearing on the Draft EIS was conducted by US-EPA at the Keith Valley Middle School in Horsham Township on October 23, 1979, at which time local and county officials and other interested parties presented their comments and recommendations concerning this project. Written comments also were received by US-EPA during a public commenting period that commenced with the distribution of the Draft EIS (September 12, 1979) and ended on November 12, 1979. Public and Agency comments on the Draft EIS are presented and addressed in Chapter III of this document.

The primary purpose of the Final EIS is to evaluate and address questions, comments, and recommendations received during the commenting period. By doing so, the critical issues concerning this project are clarified, enabling US-EPA to present its recommendations on alternatives eligible for funding by the Agency. The responsibility for final decisionmaking on funding eligibility rests with the US-EPA Regional Administrator. Following the close of the comment period on the Final EIS, US-EPA will prepare a formal Record of Decision which will be distributed to the public. This record will establish the conclusions of the EIS process, the decisions made by US-EPA on the funding of alternatives, and the actions to be undertaken by the grant applicants. The final evaluation of alternatives is presented in Chapter VI of this document.

The Final EIS has two other purposes. First, it provides guidance concerning wastewater service needs of areas which border the planning area. These areas were identified in the Draft EIS as option areas, because of their potential involvement with planning area wastewater management solutions. Recommendations on the needs of option areas are addressed in Chapter V of this document.

Second, the Final EIS provides a program for the successful implementation of recommended alternatives by the grant applicants, the State, and US-EPA. . Questions regarding the delineation of service areas, design capacity of facilities, funding eligibility, State priority points, anticipated negotiations, and management responsibilities are addressed in Chapter VI of this document.

The Final EIS concludes with a summation of the project's public participation program (Chapter VII) and a summation of final conclusions, recommendations, and responsibilities (Chapter VIII).

CHAPTER II

Summary of Draft EIS



CHAPTER II
SUMMARY OF DRAFT EIS

This section addresses the key assumptions, alternatives, and conclusions of the Draft EIS.

Assumptions

The Draft EIS addresses applications submitted to US-EPA for funds to construct interceptor and collector sewer systems that would provide service to developed and future growth areas through wastewater treatment provided at the Warminster STP. At the outset of the EIS process US-EPA determined that the three grant applications did not present a unified, feasible wastewater management system and that revisions to the proposed system were required. These revisions were embodied by US-EPA in Alternative 1, which is based on a treatment and collection system basically similar in design to that originally proposed by the applicants but consistent with US-EPA regulations and requirements for facility planning. In addition to this "revised" proposed action, US-EPA developed and evaluated a range of additional collection/treatment systems as alternatives. In total, five alternative wastewater management systems were presented in the Draft EIS. These alternatives are summarized in the following section.

The Draft EIS was oriented to resolving many issues concerning this project. Its objective was to identify solutions which are implementable, cost-effective, environmentally sound, and grant eligible. Because the document is issue-oriented, numerous assumptions were formulated by US-EPA to resolve procedural and analytical questions which if left unanswered would have further complicated and lengthened this decision-making process. The major assumptions formulated by US-EPA for the Draft EIS are summarized below.

- Assumption 1
- The Draft EIS focused on environmental impacts anticipated in Horsham and Warrington, because the planned wastewater service areas are situated in these two Townships
- Assumption 2
- The Draft EIS emphasized the identification of alternative systems to serve Horsham Township because public controversy had focused on the means for solving wastewater problems in that area.
- Assumption 3
- Because the grant applicants had invested considerable time and funds in designing wastewater systems for specific areas of need in their Townships, US-EPA focused its attention specifically on these same proposed service areas. The planning area chosen for this Draft EIS represents this focus.
- Assumption 4
- While the Draft EIS incorporated the necessary concepts, guidelines, regulations, and organization which US-EPA seeks in approved facility plans, it does not constitute by itself a wastewater facility plan. The primary purpose of the EIS process is to formulate and recommend alternative actions which are environmentally sound and which represent cost-effective use of Federal funds. The grant applicant, in accepting Federal funds, is expected to conform with EIS guidance as it implements construction grant program requirements.
- Assumption 5
- The Draft EIS closely examined and presented both centralized and decentralized approaches to wastewater treatment in the planning area. This approach was in accordance with the provisions and intent of the Clean Water Act of 1977 and other applicable regulations and guidance of US-EPA.
- Assumption 6
- Effluent limitations for the Warminster STP and a Park Creek STP (as identified in Alternative 5) were assumed to require nitrification and dechlorination. Although these processes were not proposed originally by the grant applicants, the possibility for their requirement had been acknowledged by the Pennsylvania Department of Environmental Resources (PA-DER) and assumed by US-EPA. Future requirements by PA-DER on nitrification and dechlorination for discharges to the Little Neshaminy and Park Creeks are dependent on PA-DER stream evaluation studies that are

currently in progress. While these effluent limitations were assumed in the Draft EIS, the Final EIS acknowledges the indeterminate status of these requirements at this time.

Assumption 7

- The amount of infiltration and inflow (I/I) which can be eliminated from the existing Warrington and Warminster collection systems has not been determined by the Warrington and Warminster Township Municipal authorities. With advice from PA-DER, US-EPA has assumed, for purposes of this EIS, that 50 percent removal of I/I would be accomplished. Only after Sewer System Evaluation Surveys are completed by the applicants can future I/I reduction be defined.

Assumption 8

- Planning area population projections used in the Draft EIS for the respective municipalities conform with projections established by the Delaware Valley Regional Planning Commission and PA-DER for the COWAMP/208 areawide water quality management program. This conformance between 201 Facility plan projections and 208 projections is assumed by US-EPA to satisfy requirements of the Clean Water Act. The municipal population projections are consistent also with projections of the Montgomery and Bucks County Planning Commission.

Assumption 9

- The Wichard Sewer Company has obtained the necessary State certification and permits to construct a wastewater treatment facility and to provide service to the proposed Country Springs residential development in Horsham Township. The efforts of the Wichard Sewer Company to obtain these approvals were assumed by US-EPA to be independent and beyond the investigative scope of the Draft EIS. US-EPA currently assumes that the wastewater service needs of the Country Springs development will be provided entirely by the Wichard Sewer Company and not by the Horsham Sewer Authority.

Assumption 10

- In estimating construction, operation, and maintenance costs for each of the alternatives presented in the Draft EIS, US-EPA did not account for the capital contributions or initial assessment charges which property owners would provide to the respective authorities in exchange for wastewater treatment services. These contributions were not included because the amount and probability of their occurrence could not be substantiated by US-EPA. The issue of capital contributions primarily affects Warrington Township, in terms of assessments anticipated from new developments, and Horsham Township, with regard to capital contributions which are required by Lower Gwynedd Township under alternatives 2, 3, and 4.

Assumption 11

- US-EPA assumed that the comprehensive plans and growth management plans of the affected municipalities represented the policies and objectives practiced and sought by the municipalities in their efforts to guide future growth. The alternative systems presented by US-EPA in the Draft EIS therefore were assessed carefully to determine the extent of conformance with these municipal policies.

Draft EIS Alternatives

The following summary describes the alternatives that were presented in the Draft EIS. The alternatives are described on a subarea basis. Figure 2-1 illustrates the division of the planning area into subareas. Alternatives 1 through 5 propose conveyance of flows from subareas 1, 2, 3 in Warrington Township, most of Warminster Township and Ivyland Borough, and part of Warwick Township to the Warminster STP. However, Alternative 1 proposes the conveyance of additional flows from Horsham and Upper Dublin Townships to the Warminster STP and is similar to the system proposed by the grant applicants. With Alternative 1, the Warminster STP would be expanded by 3.8 mgd to a year 2000 design capacity of 8.4 mgd. Alternatives 2 through 5 would result in expansion of the Warminster STP from the existing 4.56 mgd to 7.9 mgd design capacity. Under all alternatives the Warminster STP would be upgraded to provide facilities for dechlorination and biological nitrification.

The variety of alternatives available to Horsham Township was a major consideration addressed by the Draft EIS. The following table summarizes centralized and decentralized approaches, described in the Draft EIS, which are suggested to satisfy Horsham's wastewater management needs.

Table 2-1. Alternative wastewater management approaches proposed for the planning area.

<u>Alternative</u>	<u>Centralized Treatment</u>	<u>Decentralized Treatment</u>	<u>Figure Reference</u>
1	subareas 4,5,7 and 8 to Warminster STP via Park Creek interceptor	None	2-2
2	subareas 4,5,7, and 8 to Ambler STP via force main and lift station and conveyance through Lower Gwynedd Township	None	2-3
3	subareas 7 and 8 to Ambler STP via force main and lift station and conveyance through Lower Gwynedd Township	subareas 4 and 5 to have community subsurface disposal systems	2-4
4	same as Alternative #3	subareas 4 and 5 to have individual systems	2-5
5	construction of a 0.5 mgd tertiary treatment discharging to Park Creek at a point south of Willow Grove NAS	None	2-6

Horsham's subareas 7 and 8 contain the Fox, Oak Terrace, and Hideway Hills developments which are residential areas containing documented on-site disposal system failures. Subareas 4 and 5 encompass the Davis Grove Road-Prospectville area, which also is characterized by malfunctioning on-lot disposal systems. Alternatives 1 through 5 propose centralized treatment for subarea 9 in Upper Dublin Township.

Draft EIS Findings

If implemented, the alternative wastewater management systems identified in the Draft EIS would have varying effects upon the existing and future environmental setting in the planning area. The environmental categories which specifically were addressed in the Draft EIS include:

- land use
- population growth
- earth resources
- water resources
- air quality
- noise levels
- socioeconomic conditions
- cultural resources

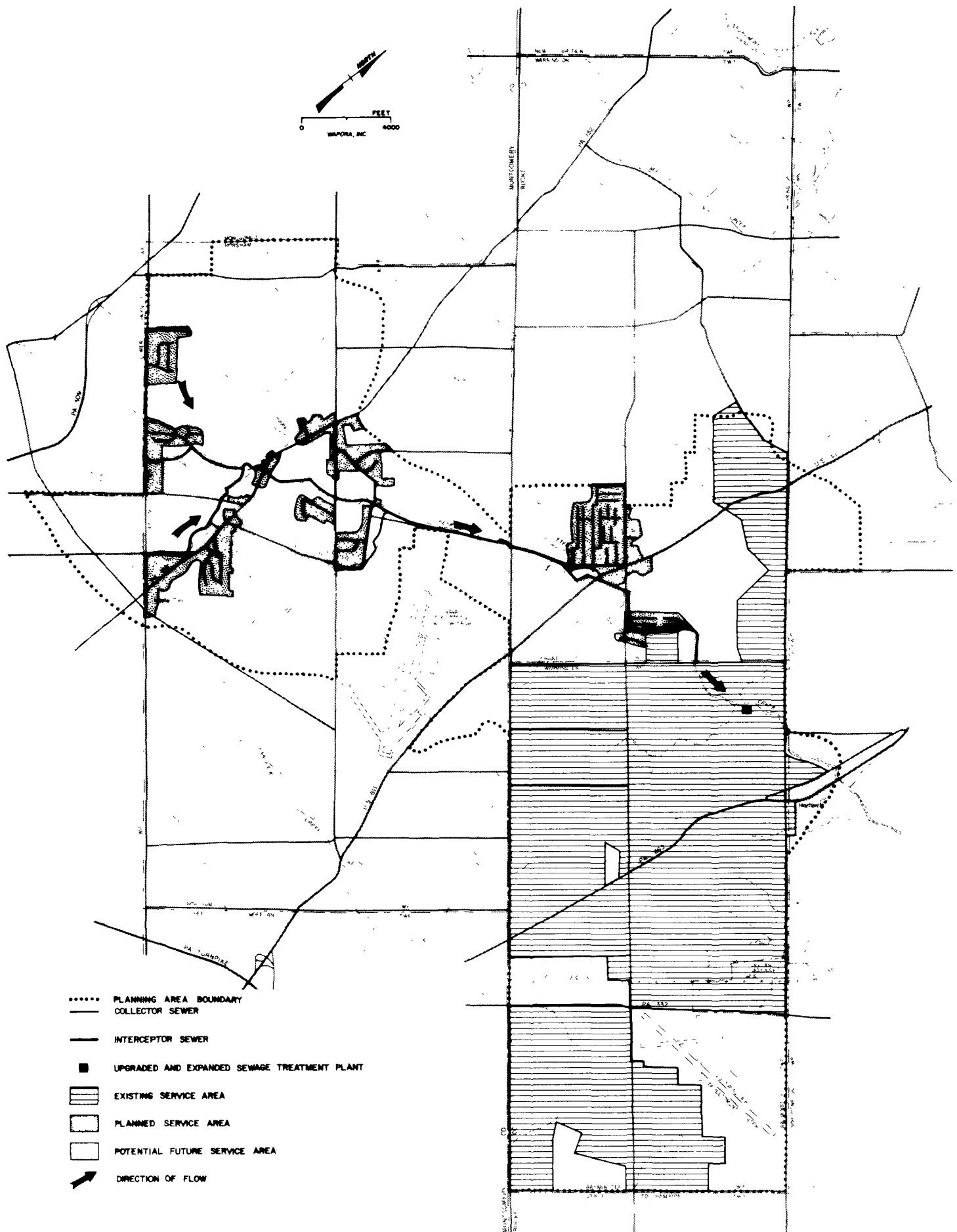


FIGURE 2-2
ALTERNATIVE 1

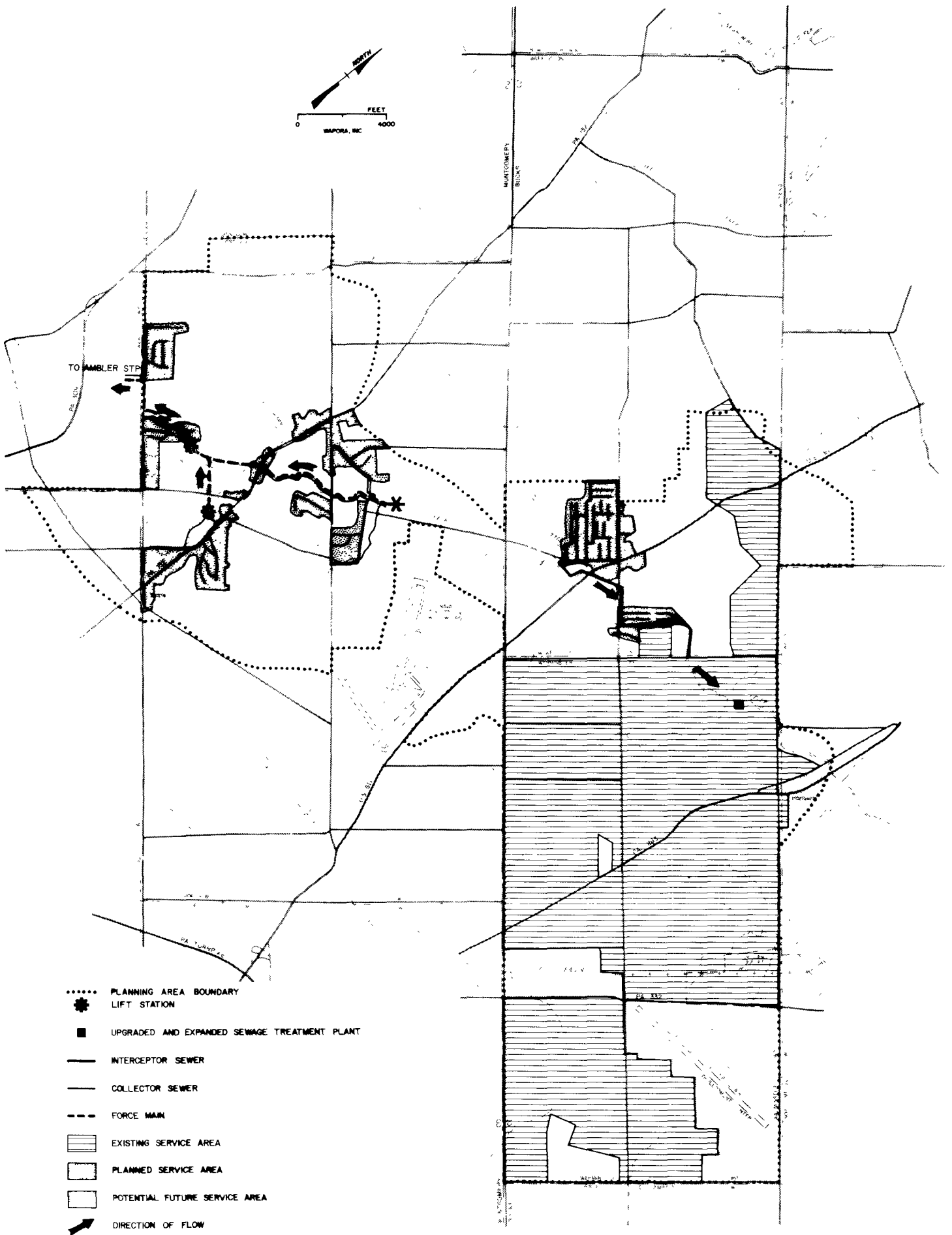


FIGURE 2-3
ALTERNATIVE 2

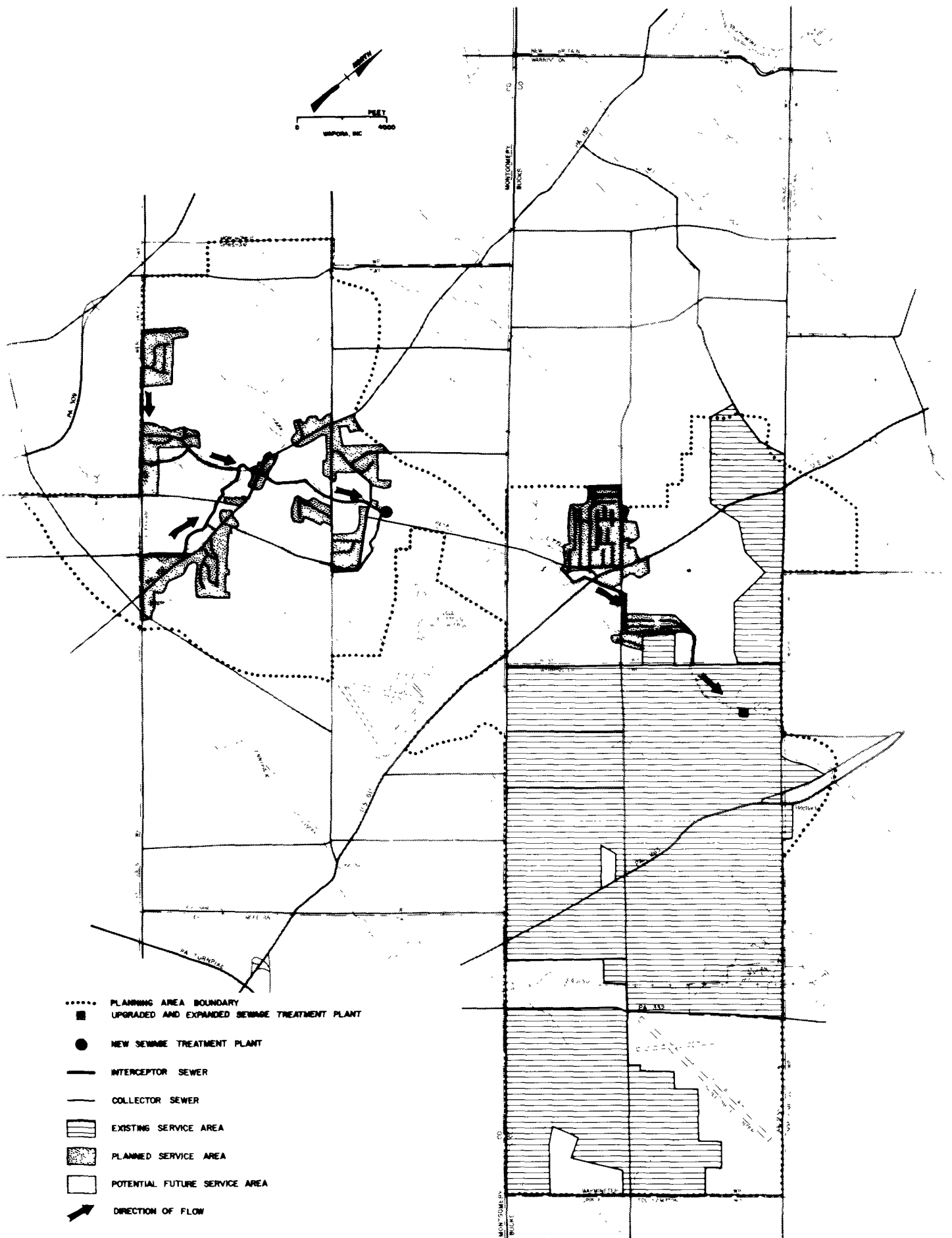


FIGURE 2-6
 ALTERNATIVE 5

Tables 2-2 and 2-3 summarize the adverse and beneficial environmental impact of the alternative waste management systems. These impacts are characterized by directness of impact (primary or secondary), probability of occurrence, and anticipated severity. Primary impacts are direct effects on the environment of the construction and operation of the wastewater facilities. Secondary impacts are indirect or induced changes in the environment resulting from the operation and availability of the wastewater facility and wastewater treatment service. Secondary impacts would include the induced changes in the pattern of land use, population density and related effects on air and water quality or other natural resources (US-EPA 1977).

Table 2-2. Summary of adverse environmental effects of alternative wastewater management systems in the planning area. Double marks (xx) denote very significant impacts. Single marks (x) denote less significant impacts.

Environmental Effect (by Environmental Category)	Type of Impact		Probability of Occurrence of Impact		Alternatives					
	Primary	Secondary	High	Moderate	1	2	3	4	5	6
<u>Land Use</u>										
1. Inducement for conversion of undeveloped land to developed uses		•	•		xx	x			x	
2. Compatibility of future land uses with operations of Willow Grove NAS		•	•		xx					
3. Conformance with conservation and density objectives of municipal growth management plans		•	•		xx	x			x	
<u>Population</u>										
1. Inducement for population increase exceeding projected population		•	•		xx	x			x	
<u>Earth Resources</u>										
1. Loss of prime agricultural land to developed uses		•	•		xx	x			x	
2. Clearing of forestland ¹	•	•	•		xx	xx			xx	
3. Loss of wildlife habitats and disruption of wildlife movement patterns ¹	•	•	•		xx	xx	xx	xx	xx	xx

¹Environmental effect occurs as both a primary impact (related to facility construction) and as a secondary impact (related to construction of new development) for the alternatives noted.

Table 2-2. Summary of adverse environmental effects of alternative wastewater management systems in the planning area (continued).

Environmental Effect (by Environmental Category)	Type of Impact		Probability of Occurrence of Impact		Alternatives					
					High		Moderate			
	Primary	Secondary			1	2	3	4	5	6
<u>Water Resources</u>										
1. Reduction in availability of groundwater resource for water supply		•	•		xx	xx			xx	
2. Decline in quality of groundwater ²	•		•							xx
3. Decline in quality of groundwater ³	•			•			xx	xx		
4. Decline in quality of surface water	•		•							xx
5. Toxic conditions in surface waters due to extent of chlorine in STP effluent	•		•		xx	xx	xx	xx	xx	
6. Increase in frequency/intensity of downstream flooding		•	•		xx	xx	xx	xx	xx	
7. Conformance with objectives of Executive Order 11988 on Floodplain Management	•		•		xx	xx	xx	xx	xx	
<u>Noise Levels</u>										
1. Disruptions due to noise generated during construction of facilities	•				xx	xx	xx	xx	xx	

²A primary impact caused specifically by taking no action. The impact has a high probability of occurrence.

³A primary impact related to alternatives 3 and 4, having a moderate probability of occurrence.

Table 2-2. Summary of adverse environmental effects of alternative wastewater management systems in the planning area.
(concluded).

Environmental Effect (by Environmental Category)	Type of Impact		Probability of Occurrence of Impact		Alternatives					
	Primary	Secondary	High	Moderate	1	2	3	4	5	6
<u>Socioeconomic Conditions</u>										
1. Increase in property values		•	•		xx	xx	x	x	xx	
2. Substantial increase in customer cost for wastewater service		•	•						xx	
3. Over-utilization of school facilities due to inducement for population increase		•	•		xx	x			x	
<u>Cultural Resources</u>										
1. Loss of aesthetic value of landscape, open space, and vistas		•	•		xx	xx	x	x	xx	
2. Adverse noise, air, and aesthetic effects of STP on potential historic district (Davis Grove)		•	•						xx	
3. Infringement of increased urban activity on historic properties and settings		•	•		xx	xx			xx	
4. Disruption to potential prehistoric archaeological sites	•		•		xx	x	x	x	xx	

Table 2-3. Summary of beneficial environmental effects of alternative wastewater management systems in the planning area. Double marks (xx) indicate very significant effect. Single marks (x) indicate less significant effect.

Environmental Effect (by Environmental Category)	Type of Impact		Probability of Occurrence of Impact		Alternatives					
	Primary	Secondary	High	Moderate	1	2	3	4	5	6
<u>Land Use</u>										
1. Conformance with densities proposed by municipal growth management plans		•	•				x	xx		
2. Protection of prime agricultural land		•		•						xx
3. Conformance with US Navy recommendations regarding population density in AICUZ		•	•				x	x		xx
<u>Earth Resources</u>										
1. Preservation of wildlife habitats and forest resources	•	•	•							xx
<u>Water Resources</u>										
1. Alleviation of public health hazards associated with malfunctioning on-lot systems		•	•		xx	xx	xx	xx	xx	
2. Recharge of groundwater resources		•	•				x	xx		
3. Alleviation of groundwater quality problems resulting from malfunctioning on-lot disposal systems		•	•		xx	xx			xx	

Table 2-3. Summary of beneficial environmental effects of alternative wastewater management systems in the planning area.
(concluded).

<u>Environmental Effect</u> (by <u>Environmental Category</u>)	<u>Type of Impact</u>		<u>Probability of Occurrence of Impact</u>		<u>Alternatives</u>					
	<u>Primary</u>	<u>Secondary</u>	<u>High</u>	<u>Moderate</u>						
					<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
<u>Water Resources (cont.)</u>										
4. Improvement in surface water quality	●		●		x	x	xx	xx		
<u>Socioeconomic Conditions</u>										
1. Increase in employment in planning area during construction of facilities		●	●		xx	xx	xx	xx	xx	
2. Increase in long-term employment in planning area		●	●		xx	xx	x	x	xx	

CHAPTER III

Public and Agency Comments on Draft EIS



CHAPTER III
PUBLIC AND AGENCY
COMMENTS ON DRAFT EIS

In accordance with the National Environmental Policy Act and US-EPA procedures for the preparation of environmental impact statements, Federal, State, and local agencies as well as the public were requested to comment on the Draft EIS from September 12, 1979 to November 12, 1979. In addition, oral testimony on the Draft EIS was received at the Public Hearing held on October 23, 1979.

Comments on the Draft EIS included questions, new information, recommendations for improvements to the document, and recommendations for selecting alternatives. Preferences for alternative systems are summarized in Chapter IV. In total, written comments were received by US-EPA from ten Federal agencies, two State agencies, two county agencies, two regional agencies, four municipal authorities, and numerous citizens and interest groups. In addition, testimony at the public hearing on the Draft EIS was made by representatives of one Federal agency, one State agency, two County agencies, one regional agency, and three municipal authorities as well as by seven citizens.

Comments received by US-EPA which posed the most relevant questions and presented new useful information are summarized by commenting agency in Tables 3-1, 3-2, and 3-3. These tables list 24 comments, each of which is responded to specifically in the following sections.

From the perspective of US-EPA, all comments concerning the Draft EIS were beneficial in assisting the Agency to refine its analysis of this project and in making final recommendations concerning fundable alternatives. From all the comments received, however, the following questions are considered by US-EPA to be among the most critical comments, based on the direct importance of the issue to the Agency's decision-making responsibilities:

Key Comments

- What effluent limitations will PA-DER require for the Warminster sewage treatment plant as well as for plants which might discharge to the Park Creek in Horsham Township?
- In estimating costs for alternative systems, did US-EPA account for initial assessments to homeowners and other users, as well as capital contributions from the Horsham Sewer Authority to the Lower Gwynedd Township Municipal Authority?
- In estimating costs for alternative systems, did US-EPA account for costs of land acquisition and system maintenance?
- Three of the alternatives presented by US-EPA require the conveyance of wastewater from Horsham Township through Lower Gwynedd Township conveyance systems to the Ambler STP. What is the capacity available to the Horsham Sewer Authority in the Lower Gwynedd and Ambler systems?
- Two alternatives presented by US-EPA include the use of individual and cluster treatment systems in subareas 4 and 5 in Horsham Township. What are the necessary responsibilities of the management agency and homeowner in the successful operation of such systems?
- In both Warrington and Warminster Townships, infiltration and inflow to existing wastewater collection systems is considered by the municipalities and PA-DER to be excessive. What is the extent to which infiltration and inflow can be reduced by the respective authorities and what effect will this reduction have on the sizing and costs of the proposed expansion to the Warminster STP?
- The Wichard Sewer Company has received a Certificate of Public Convenience from the Pennsylvania Public Utility Commission to provide wastewater treatment services to the proposed Country Springs development in Horsham Township. The Wichard Sewer Company also has received an NPDES permit from PA-DER to discharge its effluent to the Park Creek. In light of these actions by the Commonwealth of PA, what effect does the Wichard Sewer Company proposal have on the alternatives presented by US-EPA?

Table 3-1. Comments on existing conditions and background information, identified by commenting agency.

<u>Comment</u>	<u>COMMENTING AGENCY</u>			
	<u>PA Dept. of Environmental Resources</u>	<u>Delaware River Basin Commission</u>	<u>Montg. Co. Planning Commission</u>	<u>Warminster Twp. Munic. Authority</u> <u>Horsham Twp. Sewer Authority</u>
1. Extent to which infiltration and inflow to existing collection systems in Warrington and Warminster Townships can be reduced.	x			
2. Significance of the Wichard Sewer Company actions to the Draft EIS		x		x
3. Disparity between Draft EIS population projections and local government projections			x	x
4. Rated size of the Warminster STP.	x			
5. Conformance of Draft EIS subareas with municipal planning areas		x		
6. TCE pollution in the planning area		x		x
7. Suitability of soils in Horsham Township for land application of wastewater.		x		

Table 3-2. Comments on the formulation of alternatives, by commenting agency.

<u>Comment</u>	<u>COMMENTING AGENCY</u>						
	<u>PA Dept. of Environmental Resources</u>	<u>US Public Health Service</u>	<u>Montg. Co. Planning Commission</u>	<u>Warminster Twp. Munic. Authority</u>	<u>Warrington Twp. Munic. Authority</u>	<u>Horsham Twp. Sewer Authority</u>	<u>L. Gwynedd Twp. Munic. Authority Citizens</u>
1. Effluent limitations for discharges to Little Neshaminy and Park Creeks	x						
2. Location of proposed collector sewers					x	x	x
3. Costs of alternatives	x			x	x	x	
4. Capacity in Lower Gwynedd and Ambler Systems	x		x			x	
5. Participation of Lower Gwynedd Township Municipal Authority							x
6. Alternatives for non-municipal STPs	x	x	x				
7. Further detail requested on community systems			x			x	
8. Consideration of Upper Moreland-Hatboro STP and treatment source			x			x	

Table 3-3. Comments on the environmental impacts, by commenting agency.

Comment	COMMENTING AGENCY					
	Federal Emergency Manage. Agency	US Department of Transportation	USDA Soil Conservation Service	US Department of Interior	Advisory Council. on Historic Preservation	Delaware River Basin Commission
1. Further definition requested on primary and secondary impacts of floodplains	x					
2. Consistency between alternatives and transportation plans		x				
3. Availability of new or augmented water supplies						x
4. Erosion and sedimentation control at construction sites			x			
5. Impacts on prime farmland			x			
6. Impacts on floodwater retarding dams PA 610 and PA 614			x			
7. Impacts on cultural and historic resources				x	x	

These questions and each of the issues identified in Tables 3-1, 3-2, and 3-3 are addressed in the following sections:

- Response to comments on existing conditions.
- Response to comments on the formulation of alternatives.
- Response to comments on environmental impacts.

Because many of the comments and issues were addressed by more than one organization or person, the comments that are discussed have been reformulated by US-EPA to indicate the central concerns of the commenting parties. Sources of the comments can be ascertained from Tables 3-2, 3-2, and 3-3 as well as from Appendix B, where the full text of comment letters is presented.

EXISTING CONDITIONS:
COMMENTS AND RESPONSES

Each of the following comments and responses concern existing conditions and issues in the planning area. These issues must be resolved in order to finalize the alternatives and assess environmental impacts.

Issue 1

In both Warrington and Warminster Townships, infiltration and inflow (I/I) to existing wastewater collection systems is considered by the municipal authorities and PA-DER to be excessive. Sewer system evaluation studies required by US-EPA and PA-DER for facility planning have yet to be completed by the Warrington Township and Warminster Township Municipal Authorities and is critical in arriving at the selected plant design for the Warminster STP. This problem is especially critical for the larger collection system in Warminster Township. In light of these facts, what is the current status of I/I studies performed by the authorities, what remains to be accomplished, and how can I/I reduction be estimated for purposes of this EIS?

Response to Issue 1

Both Warrington Township and Warminster Township Municipal Authorities met with PA-DER on January 4, 1980 to discuss I/I. Warrington Township previously has submitted information to PA-DER on the extent of I/I, probable causes, and means of reducing this extraneous flow. PA-DER has advised the applicant that reorganization of previous submissions and additional cost-effectiveness analysis of alternative solutions is required. When these steps are completed, Warrington must prepare a Plan of Study for the Sewer System Evaluation Survey (SSES) and submit it to PA-DER for their approval. Warminster Township must also submit a Plan of Study for an SSES. Prior to doing so, however, PA-DER has required Warminster to collect additional monitoring data to update their flow records.

Because both Townships are not able to estimate I/I reduction at this time, USEPA and PA-DER again have agreed (as in the Draft EIS) that this reduction should be estimated at 50% for both Townships. The estimation of I/I reduction at this juncture is more critical for Warminster Township than Warrington Township. Warminster infiltration (after sewer system rehabilitation) was estimated in the Draft EIS for the year 2000 at 3.820 mgd (average flow). In contrast, Warrington infiltration (after rehabilitation, year 2000) was estimated at 0.049 mgd in the Street Road collection system and 0.078 mgd in the Valley Road collection system. As these numbers indicate, the accuracy of the 50% reduction estimate is of considerably more consequence to Warminster than Warrington in terms of the sizing of the Warminster STP.

Issue 2

The Wichard Sewer Company has received a Certificate of Public Convenience from the Pennsylvania Public Utility Commission to provide wastewater treatment services to the proposed Country Springs residential development in Horsham Township. The Wichard Sewer Company also has received an NPDES permit from PA-DER to discharge its effluent to the Park Creek. In light of these actions by the Commonwealth of Pennsylvania what effect does the Wichard Sewer Company proposal have on the Final EIS?

Response to Issue 2

The Draft EIS acknowledged the PUC approval of the Wichard applications as of July 1979. The Country Springs residential development, which is the service area of the Wichard Sewer Company, also was discussed. At that time, Country Springs had received final approval from Horsham Township on Phase One (225 single family units). The Wichard STP is proposed to service 648 residential units of the proposed Country Springs development and to have a design capacity of 0.227 mgd. Beyond the approved first phase of the development, US-EPA did not recognize the additional 423 units yet to be approved by Horsham as definite additions to the housing stock and as definite future wastewater service needs.

In the final EIS, the wastewater service needs of the Country Springs development is treated differently. It is now the position of US-EPA, based on both PA-PUC and PA-DER approvals granted the Wichard Sewer Company, that the solution to wastewater needs of the future County Springs area will be accommodated independently of the service needs of the remainder of Horsham Township. This position is acknowledged and agreed upon by the Wichard Sewer

Company. Consequently, subarea 8 which included Country Springs, will now be reduced in size to exclude the Country Springs area. Design flows from Horsham Township are to be reduced to represent this reduction in service needs (see Table 3-4). Also, the Country Springs area will be considered as an option area and is so discussed in Chapter V of this document.

Table 3-4. Year 2000 average design flow of subareas in Horsham Township, with and without the Country Springs development, in million gallons per day.

<u>Subarea</u>	<u>With Country Springs</u>	<u>Without Country Springs</u>
4	0.098	0.098
5	0.105	0.105
7	0.091	0.091
8	0.129	0.076

Issue 3

Both the Horsham Sewer Authority and the Warminster Township Municipal Authority have commented to US-EPA concerning disparity between Draft EIS population projections and projections used by the respective municipal planning commissions. In its prepared comments on the Draft EIS, the Horsham Sewer Authority noted "what appears to be a great disparity in the population figures projected by the Horsham Township Planning Commission, Montgomery County Planning Commission, Delaware Valley Regional Planning Commission, and the existing 208 study."

Response to Issue 3

Differences between the Draft EIS population projections and municipal planning commission projections for Horsham and Warminster Townships do exist. In preparing the EIS population projections, US-EPA examined existing projections prepared by the Montgomery County and Bucks County Planning Commissions, DVRPC, the municipal planning commissions, and consultants to the municipal authorities. The County Planning Commission projections on a municipal basis were consistent with the DVRPC projections. The DVRPC projections, in turn, were the actual population projections for the COWAMP/208 Water Quality Management Plan for Southeastern PA. US-EPA is required to accept for 201 facility planning only population projections which are consistent with state and regional water quality management population projections.

The Bucks County and Montgomery County Planning Commissions have reviewed the Draft EIS estimates and found them to be consistent with each of their official projections for the affected municipalities. DVRPC considers the EIS population estimates to be consistent with their year 2000 interim planning projections.

It is the recommendation of US-EPA that the disparity in population projections questioned by Horsham and Warminster Townships should be resolved at their initiative with the County Planning Commissions and DVRPC, with the ultimate objective of revising the DVRPC year 2000 projections if adjustments are warranted. For the purposes of this EIS process, the projections employed are considered to be reasonable and consistent with regional planning objectives. As the Horsham and Warminster authorities proceed in their facility planning steps, they will have ample time to request revision of the regional projections and, if successful, may use revised population estimates for future facility planning purposes.

Issue 4

The Draft EIS proposes, under Alternative 1, to expand the Warminster STP by 3.8 mgd, from 4.58 mgd to 8.4 mgd. According to PA-DER, however, the current plant was originally rated at 3.8 mgd, but was temporarily rerated to 4.58 mgd pending its expansion. At what size should the plant be rated in the Final EIS?

Response to Issue 4

The current rated capacity of the Warminster STP is 4.58 mgd. This is a temporary rating pending its expansion. According to PA-DER, the design capacity rating of the expanded Warminster STP should be derived in the following manner. Average annual flow into the Warminster STP from December 1978 through November 1979 was 5.45 mgd. Dry weather flow into this plant during this period was estimated to be 3.89 mgd. The difference between the average annual flow and the dry weather flow represents infiltration and inflow to the system under wet weather conditions. I/I contribution amounted to 1.56 mgd (5.45 - 3.89). Fifty percent removal of I/I would reduce this contribution to 0.78 mgd.

The design capacity rating of the Warminster STP under Alternative 1 is estimated as follows:

Average Annual Flow:	+ 5.45
+ Projected Expansion:	+ 3.80
- I/I Removal:	- 0.78
	<u>8.47</u>

The design capacity rating of the Warminster STP under alternatives 2 through 5 is estimated as follows:

Average Annual Flow:	+ 5.45
+ Projected Expansion:	+ 3.30
- I/I Removal:	- 0.78
	<u>7.97</u>

Issue 5

The Horsham Land Management Plan delineates planning districts within the Township. How were these planning districts considered in delineating subareas within the EIS planning area?

Response to Issue 5

As discussed in Section 1.8 of the Draft EIS, the subareas were delineated on the basis of hydrologic boundaries, municipal political boundaries, documented problems of malfunctioning on-lot disposal systems, known areas of projected development planning, and existing service area and development patterns. In Horsham Township, information regarding projected development planning and existing development patterns was gathered in part from the Horsham Land Management Plan. The planning districts of that plan were an important determinant in choosing subarea boundaries. Subareas 6 and 7 conform closely to Land Management District 3 (1.5 unit/acre), subarea 5 is almost entirely within Conservation District 1 (1.0 unit/acre district); and subarea 4 is almost entirely in Conservation District 2 (0.5 unit/acre district). Subarea 8 is in both Land Management Districts 2 and 3.

In Warrington Township, the entire planning area is situated in a single planning district with a proposed housing density of 2.0 units/acre.

Issue 6

Water authority officials in Bucks and Montgomery County face a groundwater contamination and water supply problem reportedly traced to the presence of trichloroethylene (TCE). Evidence of TCE has been found specifically in wells in Warminster, Warrington, and Horsham Townships. What is the significance of TCE contamination as reported recently and what effect would this problem have on proposed wastewater facilities in the planning area?

Response to Issue 6

Since May 1979, there has been an extensive effort by the Bucks County Health Department (BCHD), PA-DER and the US-EPA to identify the causes and extent of organic chemical contamination of groundwater in Bucks County. The primary contaminants under consideration are trichloroethylene (TCE) and perchloroethylene (PCE) both of which are commonly used industrial solvents. Both organic chemicals are known carcinogens and toxic to humans. Guidelines established by US-EPA indicate potential carcinogenicity at levels above 4.5 parts per billion (ppb) and acute toxicity at levels above 225 parts per billion (ppb).

Sampling of all municipal water supplies as well as numerous private water supplies for TCE/PCE was started in August 1979. The affected municipal water supplies in the planning area were impacted as follows:

Horsham Township Authority: Eleven wells and a small surface source were tested prior to October 2, 1979. All concentrations were less than 1.0 ppb TCE and less than 3.0 ppb PCE.

Warrington Township Authority: Two of four municipal wells were taken off-line from the distribution system with concentrations exceeding 120. ppb TCE and 0.9 ppb PCE. With two wells off-line, the Authority is purchasing water from Warminster Township.

Warminster Township Authority: Six of fifteen municipal wells have been contaminated and three of these are now off-line. Those wells which are contaminated and off-line have concentrations near 260 ppb of TCE and 250 ppb of PCE. There may be a water quantity problem in the Warminster Township Authority service area if demand increases in the spring of 1980.

Warminster Heights Authority: The authority operates two wells, both of which are contaminated with TCE/PCE in concentrations greater than 20 ppb. Both of the wells are still on line because there is no provision for connection to an alternate source.

In summation, these four geographic areas have experienced contamination problems. If the contaminated wells cannot be returned to service, then there may be a number of water supply problems encountered in the planning area during 1980.

A number of private water supplies in these areas also are contaminated. The total number of wells with this conditions may exceed two hundred. If these wells prove to be contaminated continually, then the private home owners may be forced to consider connection to one of the available public water supplies, which are already under the stress of diminished quantity. In addition, the presence of TCE/PCE in the groundwater also may be indicative of more widespread organic contamination and may present the possibility of further decrease of quantity due to affected groundwater sources.

With respect to proposed wastewater facilities, the major issue centers on the permanency of the problem. If augmented water supplies and water conservation practices are sufficient to allow demand to be met adequately and safely, then minimal effect on wastewater facilities would be anticipated. If stringent water conservation practices were required and were successful in reducing significantly the per capita water demand, then the sizing of wastewater conveyance and treatment facilities as discussed here would exceed actual need.

Issue 7

The Draft EIS addressed the suitability of soils on undeveloped lands for on-lot treatment systems. These systems include conventional septic tank-soil absorption systems and sand mound-soil absorption systems. Did US-EPA consider the extent of soils suitable for land application of wastewater (i.e. spray irrigation or overland flow) and if so is this means of wastewater treatment feasible based on soil conditions?

Response to Issue 7

US-EPA examined the suitability of soils for slow rate land application systems in its analysis of subarea baseline conditions. Areas with suitable soils were delineated on a USDA Soil Conservation Service (USDA-SCS) soils series map for Montgomery County. Only those sites occurring in vacant undeveloped land areas were considered as potential land application sites. The suitability of soils

for slow rate land application was determined using the following criteria for land treatment of wastewater:

Table 3-5. Criteria for suitability of soils for slow rate land application (US-EPA 1977).

<u>Soil Property</u>	<u>Suitable Soils</u>	<u>Marginal Soils</u>	<u>Unsuitable Soils</u>
depth to bedrock	>5 ft	3-5 ft	<3 ft
depth to seasonal high water table	>5 ft	3-5 ft	<3 ft
depth to water table	>5 ft	3-5 ft	<3 ft
slope	0-8%	8-15%	>15%
permeability	0.2-6.0 in/hr	0.2-6.0 in/hr	
SCS Drainage Classes Somewhat poorly, poorly, very poorly	-	-	all
floodplain soils	-	-	all
PA-DER Chapter 73 Classes 1, 10, 12, 13, 15	-	-	all
coarse fragments >65%	-	-	all

Based on these criteria, the only USDA-SCS soil series "suitable" for land application was Lansdale silt loam 0-3 slope. This soil series meet minimal criteria with respect to topography, soil texture, soil permeability, soil depth, depth to groundwater, and depth to bedrock.

The amount of undeveloped land in the planning area meeting minimal suitability criteria for land application was found to be less than the amount of land suitable for on-lot or community "subsurface" disposal systems. In subareas 4 and 5 of Horsham Township, 61 acres and 53 acres respectively of undeveloped land were estimated to be suitable for land application (the actual suitability of soils must be field checked primarily for depth to bedrock, depth to seasonal high water table, and occurrence of soil layers which would impede the downward infiltration of wastewater). Given the existing problems of area soils in regard to the performance of on-lot systems, the alternative of slow rate land application was omitted as a practical alternative in subareas 4 and 5 in favor other decentralized approaches employing subsurface disposal. The primary consideration in deciding in favor of subsurface alternatives was the amount of suitable land for primary and back-up disposal fields.

FORMULATION OF
ALTERNATIVES:
COMMENTS AND RESPONSES

Issue 1

Each of the following comments and responses concerns the formulation of alternative wastewater management systems in the planning area. These issues must be resolved to choose technically feasible, cost effective alternatives.

What effluent limitations will PA-DER require for the Warminster treatment plant and for plants which might discharge to the Park Creek in Horsham Township?

Response to Issue 1

The effluent limitations required by PA-DER (as of 23 January 1980) for wastewater treatment discharges to the Little Neshaminy and Park Creeks are Neshaminy "C" criteria. These criteria are summarized in the following table.

Table 3-6. Neshaminy "C" effluent limitations.

<u>Parameter</u>	<u>Limitation</u>
BOD ₅ (mg/l)	During the period 1 May to 31 October: <6 as monthly average <9 as weekly average <15 at anytime During the period 1 November to 30 April: <12 as monthly average <18 as weekly average <30 at anytime
Suspended solids (mg/l, year round)	<30 as monthly average <45 as weekly average <100 at anytime
pH (pH units, year round)	6.0 - 9.0
Fecal coliform (organisms/milliliter, year round)	<200 as monthly average <400 as weekly average
Dissolved oxygen (mg/l, year round)	>4.0
Total nitrogen (mg/l)	During the period 1 June to 31 October: <8 as monthly average <12 as weekly average <16 at anytime During the period 1 November to 31 May: <24 as monthly average <36 as weekly average <48 at anytime
Ammonia-Nitrogen (NH ₃ -N, mg/l)	During the period 1 June to 31 October: <1.5 as monthly average <2.5 as weekly average <3.0 at anytime During the period 1 November to 31 May: <3 as monthly average <4.5 as weekly average <9 at anytime

Each of these effluent limitations currently are required for the Warminster STP. However, US-EPA has requested that PA-DER reevaluate the requirements on total nitrogen for the Warminster STP, based on stream survey information collected by PA-DER during the summer of 1979. Consequently, it is possible that this plant may not be required to treat for total nitrogen removal. In addition, PA-DER also will notify US-EPA and the Warminster Township Municipal Authority regarding requirements for chlorination and dechlorination. In the Draft EIS, the Warminster STP was described as including biological nitrification as an upgraded treatment process. It presently is anticipated that there will be substantial treatment cost differences depending on the resolution of these effluent criteria. These cost differences are addressed in detail in Chapter IV.

Issue 2

The Draft EIS identified "planned service areas" in Horsham and Warrington Townships where new collector sewers would be installed. The location of proposed collector sewers was based by US-EPA on information available in the grant applications and updated to 1978 with assistance from the applicants. Do the location of proposed collector sewers as presented in the Draft EIS represent 1980 conditions and needs?

Response to Issue 2

The planned service areas in Horsham and Warrington Townships has remained relatively constant from mid-1977, when grant applications were submitted to US-EPA, to 1980. There are minor exceptions in both Townships, however.

In Horsham Township, some residents in the Maple Glen area (which includes the 900 block of Welsh Road, between Limekiln and Butler Pikes, and the 700 block of Butler Pike, between Welsh Road and Limekiln Pike) requested that US-EPA reconsider the need to provide centralized wastewater treatment service to this area in lieu of continued use or improvements to existing on-lot disposal systems. To survey the attitudes of the thirteen property owners in this area, the Horsham Sewer Authority on November 16, 1979 distributed a mail questionnaire. The results of this survey was a mixed response towards receiving centralized wastewater services.

For the present, US-EPA has not omitted the Maple Glen area as a planned service area for purposes of the Final EIS. The Agency has determined that the decision as to whether or not to include this area as facility planning proceeds in the future should rest more properly with the Horsham Sewer Authority and the Maple Glen residents.

The Warrington Township Municipal Authority has advised US-EPA that their planned service areas now should include residences on both Upper Barness Road and Lower Barness Road. Further, properties on School Lane, Park Road, and Brinkworth Avenue which originally were included in its grant application have received sewer service and are no longer considered planned service areas. These changes are not considered to affect significantly either the amount of wastewater flow, the design of wastewater facilities, or the cost of proposed improvements in Warrington Township.

Issue 3

For Federally-funded projects, as proposed by the grant applications, seventy-five percent of eligible construction costs generally are contributed by US-EPA. The remaining construction costs must be borne by the grant applicant (in this case, the municipal authorities). In estimating the costs of alternative systems, did US-EPA account for potential capital contributions from land developers and industries to the respective municipal authorities?

Response to Issue 3

Capital contributions are initial single payments generally contributed by land developers or industries in return for the provision of wastewater services to their site. For the type of facilities proposed by the grant applicants, capital contributions from such parties could be an important source of funds. This is particularly the case for Warrington Township, which has many proposed residential developments which are awaiting the availability of sewage facilities. In Horsham Township, fewer residential developments have been proposed and capital contributions from developers are not expected to offset

significantly local government costs. On the other hand, however, the Horsham Sewer Authority, under alternatives 2, 3, and 4, must contribute funds to the Lower Gwynedd Township Municipal Authority for wastewater facilities to be constructed in Lower Gwynedd through which Horsham wastewater would flow, as well as to Ambler Borough, for a share of the construction costs of the Ambler STP expansion.

For the Warminster Township Municipal Authority, capital contributions are not anticipated to offset their local costs. Most of the expansion to the Warminster STP includes treatment capacity for flows from Warrington and Horsham Townships.

In estimating costs for the alternative systems in the Draft EIS, US-EPA did not include capital contributions from developers, industries, and other sources as local contributions. This was done for two reasons. First the collections systems proposed in the Draft EIS for Warrington and Horsham Townships do not include immediate collection sewer service to new or anticipated land developments. In fact, in order to be eligible for Federal funding of collector sewers, substantial human habitation of service areas is required prior to October 18, 1972. Second, for contributions from other than land development sources, it is very difficult to estimate the amount of the contribution, which is generally subject to negotiation between the municipality and the contributor.

Issue 4

Alternatives 2, 3, and 4 in the Draft EIS require the conveyance of wastewater flows from Horsham Township through the Lower Gwynedd Township system for treatment at the Ambler Borough STP. Is there sufficient capacity in the Lower Gwynedd and Ambler systems to make this alternative feasible?

Response to Issue 4

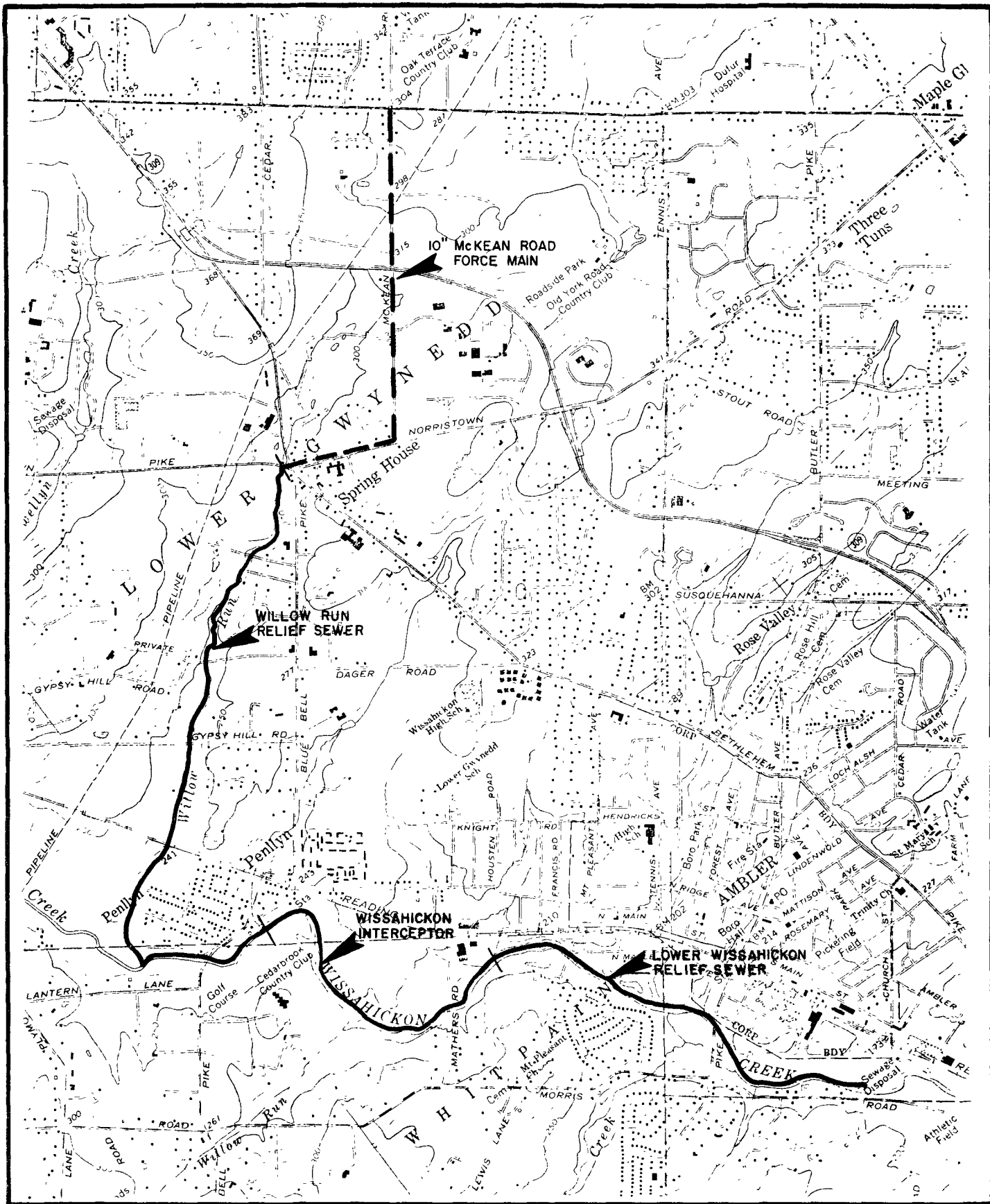
In considering the design capacity of wastewater systems, a distinction must be drawn between the capacity of conveyance systems (interceptor and collector systems, force mains, and pump stations) and the capacity of treatment systems.

The Lower Gwynedd Township Municipal Authority operates a wastewater conveyance system which conveys flow to the Ambler STP. This conveyance system currently includes a system of gravity interceptor and collector sewers, pump stations, and force mains in the area generally south of Summeytown Pike - Norristown Road. The primary sewer interceptor in Lower Gwynedd is the Willow Run interceptor which extends from Summeytown Pike to the Lower Gwynedd Township - Whitpain Township border. At this point, it joins a Wissahickon interceptor (along Wissahickon Creek) which leads to the Ambler STP.

Lower Gwynedd now is constructing additional wastewater facilities which would convey flows from the northeastern portion of the Township via the Forest Manor pump station and force main to the existing system. This pump station is located to the east of McKean Road near Welsh Road and presently has sufficient capacity to accept approximately 0.15 mgd, which corresponds closely to the 1985 flow requirements for subareas 7 and 8 in Horsham Township. Additional conveyance capacity beyond this amount is not available now in Lower Gwynedd Township.

To accept flows in excess of 0.15 mgd, Lower Gwynedd would need to make a series of changes in its conveyance system. These changes are indicated in Figure 3-1 and include:

- construction of a force main along McKean Road
- construction of a Willow Run relief sewer parallel to the existing Willow Run interceptor
- construction of a Lower Wissahickon relief sewer parallel to the existing Wissahickon interceptor "choke" section.



--- FORCE MAIN
 — GRAVITY SEWER

PROPOSED LOWER GWYNEDD WASTEWATER CONVEYANCE SYSTEM IMPROVEMENTS

FIGURE 3-1

These changes to the Lower Gwynedd conveyance system would satisfy existing wastewater service needs in Lower Gwynedd Township, as well as providing a solution for Horsham Township treatment needs.

In addition to resolving its own conveyance capacity problems, Lower Gwynedd is very interested in assisting Horsham Township so that Federal funds for its own conveyance system improvements could be received under the Horsham 201 construction grant from US-EPA.

With respect to treatment capacity, US-EPA determined that the Ambler Sewage Treatment Plant has ample excess treatment capacity to meet the wastewater service needs of the Horsham Township planning area. This determination was derived through comparison of the current population and wastewater flow projections of the current Ambler STP service area with the design capacity of the plant. Total capacity in the plant has been allocated by agreement to Ambler Borough, Montgomery County, and Lower Gwynedd, Upper Dublin, Whitemarsh, and Whitpain Townships. In order for treatment capacity in the Ambler STP to be obtained by the Horsham Sewer Authority, it must be obtained from one or more of these entities. To date, interest in transferring treatment capacity rights to Horsham Township has been obtained from Lower Gwynedd, Upper Dublin, and Montgomery County, which together control over 70% of the allocated capacity of the plant.

In summary, there is ample available treatment capacity in the Ambler plant to accommodate year 2000 wastewater flows from subareas 4, 5, 7, and 8 in Horsham Township. The rights to this treatment capacity must necessarily be negotiated and received from either the Lower Gwynedd Township Municipal Authority, Upper Dublin Township Municipal Authority, or Montgomery County. Conveyance of present and year 2000 wastewater flows through the Lower Gwynedd conveyance system can be accomplished, but additional sewer construction in Lower Gwynedd is required to meet the long range needs of Horsham and Lower Gwynedd Townships.

Issue 5

If alternatives 2, 3, and 4, are chosen by US-EPA as being among the final fundable alternatives, what assurance is there that the Lower Gwynedd Township Municipal Authority will be interested in working towards a solution with the Horsham Sewer Authority?

Response to Issue 5

US-EPA has met with representatives of the Lower Gwynedd Township Municipal Authority since 1979 in efforts to gauge their interest in this project. Meetings directly between Lower Gwynedd and Horsham began in mid-1979. The outcome of these meetings is represented in LGTMA's letter of October 12, 1979, assuring US-EPA that "if a solution is chosen which involves utilization of the Lower Gwynedd system and treatment at the Ambler Plant, the Lower Gwynedd Township Municipal Authority will cooperate with the appropriate local, State, and Federal agencies to undertake and complete a mutually beneficial project."

Issue 6

The effect of the wastewater discharge of non-municipal STPs on overall water quality in the planning area may be considerable. This is especially the case for the Warrington Sewer Company STP in Warrington Township and the English Village STP in Horsham Township. What are the alternatives for the non-municipal treatment facilities in the planning region?

Response to Issue 6

The grant applications received by PA-DER and US-EPA did not address the inclusion of non-municipal STP service areas into a municipally-owned centralized system. When US-EPA began its EIS process, the significance of these facilities again were considered. At that time, focus was placed on these facilities:

- Warrington Sewer Company STP
- English Village STP
- Willow Grove Naval Air Station STP.

Other smaller non-municipal plants, including the Christ's Home STP, Tamanend Junior High School STP and Johnsville NADC STP were considered by US-EPA to be of less significance.

US-EPA assured that inclusion of non-municipal STP service areas in wastewater management solutions was dependent to a great extent on negotiations between non-municipal STP owners and the municipal authorities. Most recently, discussions between the owners of English Village and Warrington Sewer Company sewage treatment facilities and the respective township municipal authorities have been unsuccessful in achieving resolution of existing problems. In an effort to avoid further complication of the Horsham-Warrington-Warminster facility planning problems US-EPA decided not to make the resolution of non-municipal treatment plant problems a primary goal of the EIS process. Instead, US-EPA identified and addressed these areas as "option areas", because of their potential involvement with wastewater management solutions identified as feasible for the planning area. Chapter V of the Final EIS addresses further the possible inclusion of these option areas in final recommended solutions.

Issue 7

The community wastewater disposal systems presented in alternative 3 for subareas 4 and 5 of Horsham Township constitutes an alternative approach for low density problem areas. Because this is not a conventional wastewater service approach, further detail has been requested by commenting parties as to the functions and management of these systems. What are the components of the community system as presented in Alternative 3?

Response to Issue 7A

Figure 3-2 illustrates schematically the type of community wastewater disposal system proposed in Alternative 3. As shown in Insert 2, sewage from the home flows first to a standard septic tank. Precast concrete tanks with a capacity of 1,000 gallons commonly are used for household systems. Solids are collected and stored in the tank, forming sludge and scum layers. Anaerobic digestion (a fermentation process in which several anaerobic and facultative organisms assimilate and breakdown organic matter) occurs in these layers, reducing the overall volume. Effluent is discharged from the tank, flowing to a vault or holding tank which houses the pressurization device, control sensors and valves. The holding tank can be made of properly cured precast or cast-in-place reinforced concrete, or molded fiberglass. Effluent is pumped from the holding tank through a service line to the pressure sewer main. Service connection lines are generally made of 1 to 2 inch PVC pipe. Pressure sewer mains are usually 2 to 12 inch diameter PVC pipe, depending on hydraulic requirements. Pipes must only be buried deep enough to avoid freezing.

The effluent in the pressure main is conveyed then to the community soil absorption field for subsurface disposal (see Insert 3). A soil absorption field utilizes the soil for absorption of treated effluent. The system may incorporate series of absorption trenches alternatively.

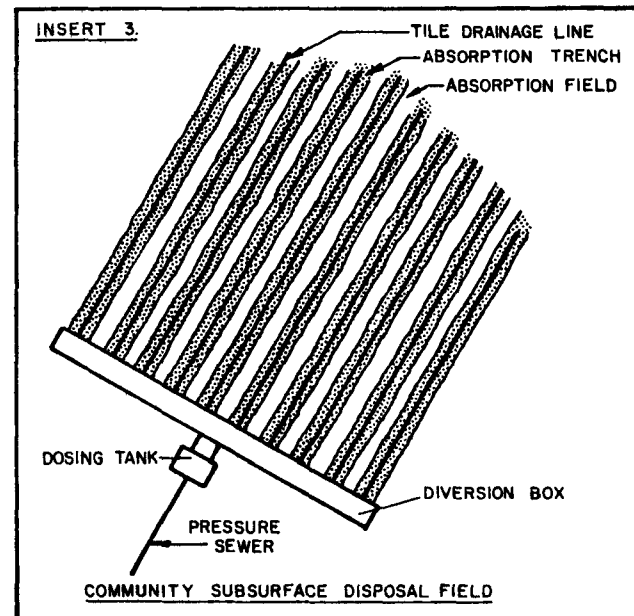
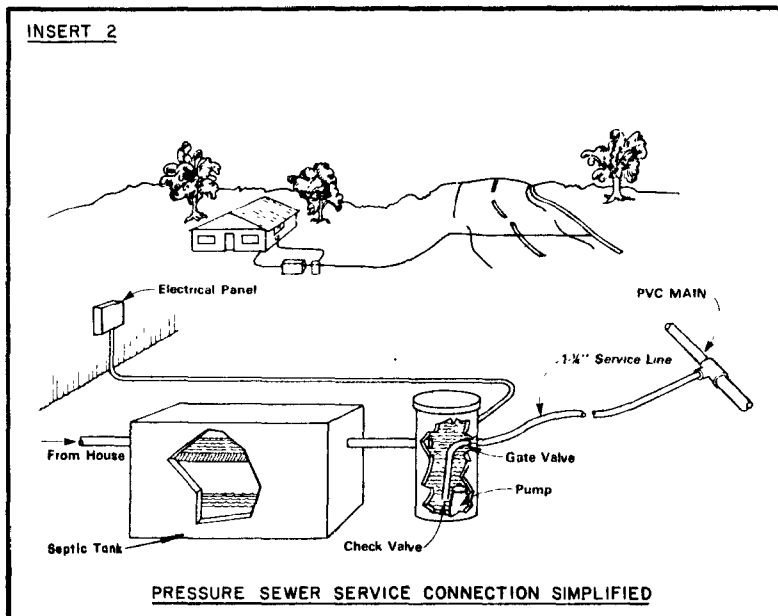
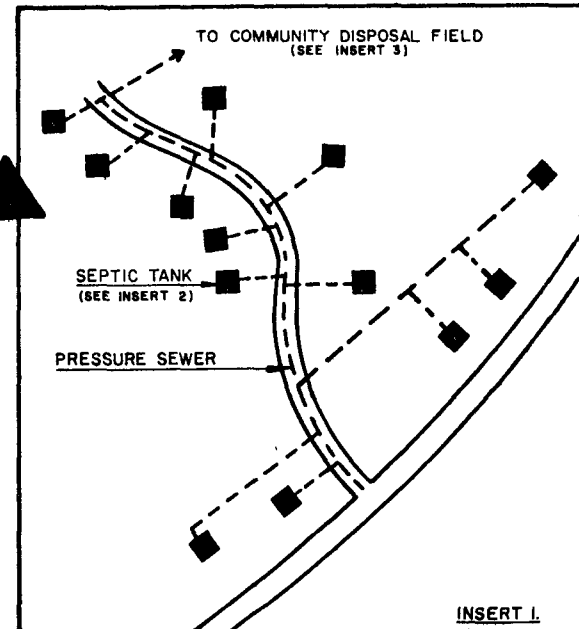
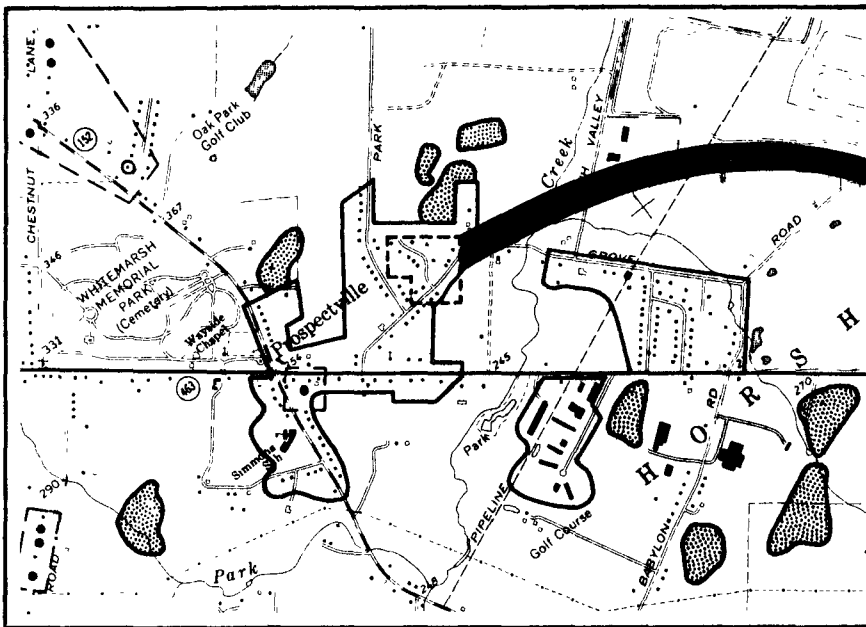
Many different designs may be used in laying out a subsurface disposal field. In sloping areas, serial distribution can be employed with absorption trenches by arranging the system so that each trench is utilized to its capacity before liquid flows into the succeeding trench. A dosing tank can be used to obtain proper sewage distribution throughout the disposal area and give the absorption bed a chance to rest or dry out between dosings. Providing two separate alternating beds is another method used to restore the infiltrative capacity of a system.

Issue 7B

Will the selected management agency for the community systems be responsible for all phases of design, construction, operation, and maintenance?

Response to Issue 7B

To properly manage a community system, and to avoid problems which occur ordinarily with on-site systems (improper installation, faulty design, maintenance lags, etc.), the management agency should regulate and operate all



COMMUNITY WASTEWATER TREATMENT SYSTEM
FIGURE 3-2

individual and jointly used disposal systems operating within the community system service area. The management agency should be responsible for:

1. Design and construction of community treatment systems for existing and future users. This responsibility extends to design and construction of pressure sewers and community disposal fields
2. Obtaining rights to lands with soils suitable for subsurface disposal setting aside sufficient additional area to accomodate future growth needs
3. Operation and maintenance of all individual and joint systems, including periodic pumping of all septic tanks. The management agency should operate and maintain all components of the facility located on private land commencing from the inlet of the septic tank
4. Monitoring groundwater and surface water quality to detect failing systems
5. Repair or reconstruction of any failing systems
6. Establishment of a fair assessment and rate structure for users to pay for cost of services.

Issue 7C

Will all existing individual systems be connected to the community system, or just those that currently are failing?

Response to Issue 7C

All residential and industrial units in subareas 4 and 5 proposed for centralized service under the Horsham Sewer Authority grant application to US-EPA would be connected also to the community system. This includes existing units on portions of Davis Grove Road, Willowbrook Road, Evergreen Road, Babylon Road, Caredean Drive, Midfield Drive, Park Road, Horsham Road, and Limekiln Pike.

Issue 7D

What are the responsibilities of the homeowner and industry which utilize the community system?

Response to Issue 7D

The property owners' only responsibility will be to provide and maintain the lateral drain from his home or establishment to the septic tank and any power costs associated with lifting his effluent into the pressurized collection sewer.

Issue 7E

What types of costs are incurred with a community system and how are these costs distributed among system users?

Response to Issue 7E

The following table describes direct and indirect costs which are anticipated for the type of community system proposed in Alternative 3. The means of distributing system costs among users is variable. One form of cost distribution is described in Table 3-7.

The above cost system basically entails an averaging of all costs for all users into a monthly or annual charge. Other cost distribution mechanisms which could be used by the management agency include a proportional distribution of all costs by flow metering or, alternatively, a component approach, with separate frontage fee, connection fee, and user fee.

The debt service on borrowed capital includes payment of principal and interest on money borrowed by the management agency to cover the 15% share of total system costs not picked up by the Federal Government construction grant. These costs included planning, design, and construction of the community system. Construction costs include all elements of the system, from the septic tank to the drainage field, excluding the lateral house drain.

Table 3-7. Direct and indirect costs of a community treatment system.

<u>DIRECT COSTS</u>	<u>INDIRECT COSTS</u>
<ul style="list-style-type: none"> ● Installation of lateral drain from building to septic tank ● Power for pressurization pumps 	<ul style="list-style-type: none"> ● Monthly or annual charge(s) covering: <ul style="list-style-type: none"> - permitting and inspection by management agency - periodic (even 1-3 years or as necessary) pumping of septic tank by management agency - rehabilitation or reconstruction of on-lot equipment (septic tank, effluent pump, and service line) by the management agency - rehabilitation or reconstruction of community equipment (pressure sewers, subsurface disposal fields, and monitoring equipment) by the management agency - debt service on borrowed capital - management agency administration

Issue 7F

Do the community systems utilize any gravity sewers, or will they be exclusively pressure systems?

Response to Issue 7F

The community system proposed under Alternative 3 utilizes pressure sewers exclusively. Compared to conventional gravity sewers, pressure sewer piping is relatively inexpensive. This allows for sewerage service in extreme topographical conditions or where homes are widely spaced. Because all of subareas 4 and 5 is in planning districts proposed for 0.5 to 1.0 unit/acre density, this type of infrastructure is well suited.

Issue 7G

To ensure maintenance and proper operation of community systems, how does the management agency acquire right-of-way onto private property?

Response to Issue 7G

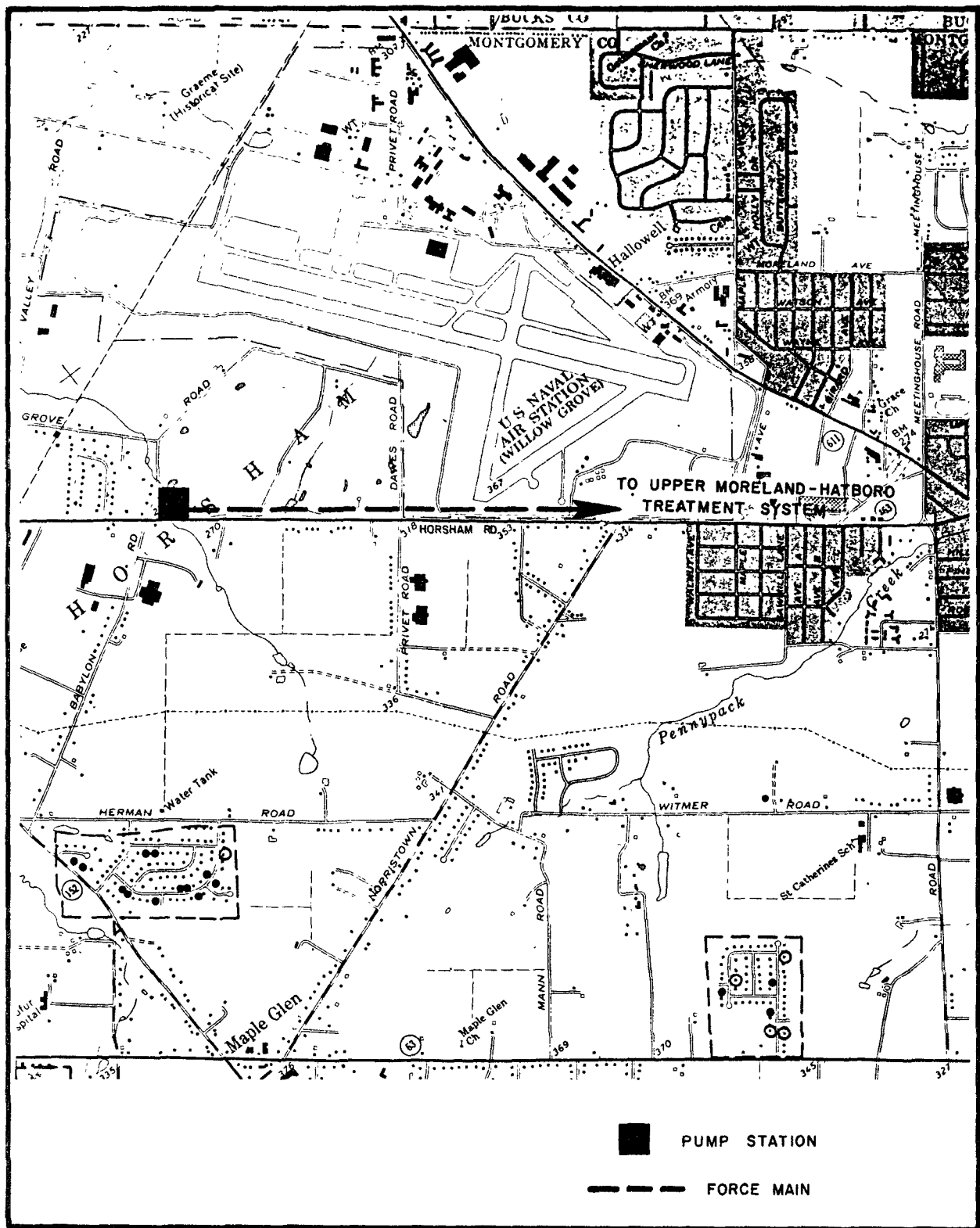
Many of the facility components of the community system, such as septic tanks and effluent pumps, will be located on private property. Since regular maintenance of these components is necessary for their proper functioning, permanent legal access to the properties must be obtained. Easements must be obtained also for any collection pressure sewers which cross private property. It is hoped that the necessary easements can be acquired voluntarily from the property owners.

Issue 8

A portion of subarea 5 in Horsham Township currently is serviced by the Upper Moreland-Hatboro STP via a pumping station and force main along Horsham Road (see Figure 3-3). Given that a portion of the planning is serviced by this municipal facility, could other parts of the planning area convey wastewater for treatment at that facility?

Response to Issue 8

US-EPA has discussed this issue with the Upper Moreland-Hatboro Joint Sewer Authority. The authority is currently engaged in its own 201 facility planning program and has indicated that they are not interested in discussing the conveyance of any additional flow from Horsham Township until its 201 program is completed. The 201 program is anticipated to be completed during 1981.



PUMP STATION AND FORCE MAIN CONVEYING WASTEWATER
TO UPPER MORELAND-HATBORO TREATMENT SYSTEM

FIGURE 3-3

ENVIRONMENTAL IMPACTS: COMMENTS AND RESPONSES

Each of the following comments and responses concerns environmental impacts of alternative wastewater management systems. The consideration of environmental effects is a critical determinant in US-EPA's process of selecting fundable alternatives.

Issue 1

The Federal Emergency Management Agency (FEMA) is the responsible Federal agency overseeing implementation of the National Flood Insurance Program and the Executive Order (No. 11988) on Floodplain Management. In its review of the Draft EIS, FEMA questioned whether the expansion of the Warminster STP would take place within a 100 or 500 year floodplain. Second, FEMA requested US-EPA to present in more detail the probable secondary impacts of the alternatives on floodplain areas.

Response to Issue 1

The existing Warminster STP is situated within the 100 year floodplain and the proposed expansion of this facility would also be within the 100 year floodplain. In its grant application to US-EPA, however, the Warminster Township Municipal Authority has proposed mitigative site and building measures to protect against flooding.

With respect to secondary impacts on floodplain areas, there undoubtedly will be residential and industrial development in the vicinity of floodplain areas in Horsham and Warrington Townships. This occurrence cannot be corrected directly through the location of wastewater facilities (treatment systems and conveyance systems) in the planning area. By providing effective wastewater services to specific areas of need (such as Oak Terrace, Hideaway Hills, Fox Development, Neshaminy Gardens, and Neshaminy Valley) and simultaneously providing sufficient treatment capacity for a reasonable degree of future population increase, it is not possible to totally isolate floodplain areas from secondary effects. A significant amount of vacant land remains both in areas adjacent and nearby to floodplains and areas within the floodplain. All projected population in the planning area municipalities can be accommodated on floodprone-free developable land. However, this future situation is dependent entirely on the decisions of the local government officials as they grant decisions on land development proposals in their municipalities.

In Horsham Township, there is significant undeveloped floodplain area along the Park Creek between the Fox and Oak Terrace developments. This area extends roughly south from the intersection of Limekiln Pike and McKean Road to the Horsham corporate boundary. Because this area is planned for a residential density of 1.5 units/acre, it should be of most concern to Horsham Township in terms of floodplain protection. Elsewhere in Horsham Township, there exists undeveloped 100 year floodplain areas along a small tributary between Babylon and Privet Roads in subarea 5. The planned density for this area is 1.0 unit/acre and much of the area is not closely accessible to the proposed facilities, consequently there is a lesser probability of floodplain impact there. Finally, the Park Creek floodplain area extends north of Horsham Road through the Township where it is protected presently by recreational land uses. Also, this area is proposed for future planned densities of 0.5 units/acre, which should afford further protection.

In Warrington, the 100 year floodplain extends along the Little Neshaminy Creek and includes undeveloped land areas south of Street Road between the Neshaminy Gardens and Neshaminy Valley developments.

Issue 2

The US Department of Transportation has reviewed the Draft EIS and requested that the Final EIS specifically address the consistency between wastewater service alternatives and transportation plans.

Response to Issue 2

The PA Department of Transportation has reviewed the Draft EIS and advised US-EPA that there are no planned state transportation facilities which would be affected adversely by the various alternatives.

Issue 3

The Draft EIS projected a groundwater deficit in Warminster Township of 1.31 mgd for the year 2000. Given the need for adequate water supply for wastewater

disposal, drinking, and other domestic purposes, what is the availability of new or augmented water supplies to accomodate projected growth?

Response to Issue 3

The availability of groundwater in Warminster Township, as well as Warrington Township and other areas of Bucks County, has become even more severe since trichlorethylene was discovered in numerous municipal wells in 1979. The issue of groundwater contamination (and ultimately water supply depletion) in these areas is being investigated extensively by US-EPA independent of this EIS process. Additionally, in 1980, the Delaware River Basin Commission (DRBC) will act to delineate and declare a groundwater protected area encompassing Chester and Montgomery Counties and major portions of Bucks County. The Horsham-Warrington-Warminster planning area will be included. DRBC will designate protected areas and establish regulations for management of limited groundwater resources. It will be proposed that any project having a relationship to further depletion of groundwater in a protected area will be subject to special consideration and review beyond that given under Article 38 of the DRBC Compact.

Beyond further study and regulation, however, lies the continuing need for Warminster Township to augment its existing water supplies. As noted in the Draft EIS, Warminster currently is attempting to solve its water shortage by drilling additional wells in the Township and securing supplementary water when necessary from Upper Southampton Township. A long-range potential for water supply lies with the Point Pleasant pumpover from the Delaware River to the Schuylkill River for the Limerick Nuclear power station. If this project is approved and implemented, Warminster Township and other Bucks and Montgomery County municipalities would benefit by being able to receive water along the conveyance route.

In addition to its current program of securing additional water sources, Warminster Township should investigate carefully water demand reduction techniques as described in the Draft EIS.

Issue 4

As construction begins for wastewater treatment and conveyance systems, what are the temporary and permanent erosion and sediment control measures needed to stabilize the construction area?

Response to Issue 4

The proposed wastewater facilities should be made to fit the site with a minimum of clearing and grading. Existing cover should be retained and protected whenever possible. Critical areas, such as highly erodible soils, steep slopes, stream banks, and drainageways, should be identified and protected. When earth change and removal of vegetation are necessary, the area and duration of exposure should be kept to a minimum. In the case of conveyance systems, their construction can be phased in order to minimize exposed areas. All other disturbed construction areas should have a good cover of vegetation or mulch.

Disturbed areas may be stabilized by mechanical (or structural) methods and vegetative methods, or by combinations of these approaches. The removal of existing vegetative cover and the resulting increase in impermeable surface area during construction will increase both the volume and velocity of runoff. These increases must be considered when providing for erosion control. Slope changes should be designed to keep slope length and gradient to a minimum. Short slopes, low gradients, and the preservation of vegetative cover can keep runoff velocities low, minimizing erosion hazards.

Measures can be utilized to prevent water from entering and running over disturbed areas. Sediment can be retained by either filtering runoff as it flows, or by detaining sediment-laden runoff for a period of time so that the

soil particles settle out. The best way to control sediment, though, is to prevent erosion. Erosion control measures serve to:

- Divert runoff from exposed soils and other vulnerable areas;
- Safely convey runoff, either in surface or enclosed drainage systems by:
 - controlling runoff velocity
 - ensuring that all surface channels and outlet points are adequately drained;
- Control the volume and velocity of runoff discharge from the construction area.

These measures can be either vegetative or mechanical. Vegetative measures include the planting of grasses and other vegetation to stabilize inadequately protected soil surfaces. Mechanical measures include control techniques which involve the building of structures (for example, check dams, sediment basins, diversions) or the operation of equipment to achieve compaction or surface roughening. Vegetative and mechanical measures may be either temporary or permanent.

Sedimentation control serves to:

- Detain runoff for a period of time to allow soil particles which are in suspension to settle out;
- Filter runoff as it flows; and
- Intercept runoff containing sediment before it leaves the construction site.

Sedimentation control measures, like erosion control measures, may be either vegetative or mechanical.

Vegetative and mechanical erosion and sedimentation control measures may be classified either as temporary or permanent, depending on whether or not they will remain in use after construction. Annual grasses, mulches, and netting, for example, are temporary control measures, although they may remain in place after construction has been completed. The planting of perennial grasses, sod, shrubs, and trees are permanent vegetative control measures. Temporary measures generally serve for one year or less (US-EPA 1977).

Issue 5

The Draft EIS identified prime farmlands in the planning area, identifying such lands as being environmentally sensitive. What are the impacts of the alternatives on prime farmland?

Response to Issue 5

The amount of prime agricultural land which is undeveloped and adjacent to planned service areas is most extensive under implementation of alternative 1 and includes:

- Horsham Township - 101 hectares (249 acres)
- Warrington Township - 24 hectares (59 acres)
- Warminster Township - 0 hectares (0 acres)

The amount of prime agricultural land adjacent to proposed service areas under implementation of alternatives 2 through 5 is equal to that under alternative 1, with the exclusion of 23 hectares (57 acres) in Horsham Township. Alternative 6 (no-action) probably will have a short-term beneficial impact on the preservation of prime agricultural land.

US-EPA recognizes the significance of prime agricultural land as an environmental resource and consequently discourages the conversion of such land to other uses. The loss of prime agricultural land may result in greater

reliance on marginally-productive farmlands, more extensive soil erosion, increased fertilizer requirements, increased need for soil conservation measures, and increased environmental damage. Farmland conversions to non-agricultural uses also reduces the viability of farming units and cause secondary economic impacts on farming enterprises (US-EPA 1978).

Prime agricultural farmland comprises 19% of all undeveloped land adjacent to planned services under alternative 1 and 18% of undeveloped land under alternatives 2 through 5. The potential adverse effects of alternatives 1 through 5 probably are not significant in terms of the amount of prime agricultural land potentially affected by these wastewater service schemes. However, when it is further considered that significant amounts of adjacent undeveloped land exist, particularly in Horsham Township, and that the population carrying capacity of this land exceeds projected population, the need to preserve prime agricultural land becomes more apparent. For this reason, alternative 1 through 5 are considered to have a long-term adverse effect on the retention of prime agricultural land.

Issue 6

As part of the Neshaminy Creek Watershed Project, floodwater retarding dams PA-610 and PA-614 have been proposed and are to be located in the EIS planning area. What are the estimated effects of the proposed alternatives on these floodwater retarding structures?

Response to Issue 6

PA-610 is a proposed dam to be located in Horsham Township in the approximate area where Cedar Hill Road crosses Park Creek. This 39 foot dam will control runoff from a drainage area of 2.97 square miles.

PA-614 is a proposed dam to be located on Neshaminy Creek, approximately 1,000 feet upstream of Dark Hollow road in Warwick and Buckingham Townships (Bucks County). The 56 foot high dam will control runoff from a drainage area of 58.6 square miles.

As part of the Neshaminy Creek Watershed project, Dam PA-611 has been installed previously. This structure is a 45 foot high dam controlling runoff from a drainage area of 1,092 square miles. It is located on the Little Neshaminy Creek in Warrington Township on the outskirts and borders of the planning area.

The three dams are not expected to be impacted by the proposed alternatives. The proposed wastewater treatment facilities potentially would affect this watershed protection program in two ways:

1. Increase in flows from discharges of municipal sewage treatment plants and stream recharge from land based disposal systems
2. Increase in flows associated with increased urbanization (i.e. increased impervious surface, decreased recharge, and increased land runoff)

In both cases, increases in stream discharge and land runoff are direct functions of population increase. To ensure that the proposed alternatives were not adverse to the objectives of the Neshaminy Creek Watershed Project, the population projection used for both projects were compared (see Table 3-8). It was determined that population and land use future envisioned by the Draft EIS was substantially less urbanized (and less populated) than the estimated future envisioned by the Neshaminy project. Consequently US-EPA has assumed that the Neshaminy Creek floodwater retarding dams were designed consistent with these population projections, and that each of the alternative wastewater systems presented in the Draft EIS are compatible fully with flood prevention objectives of the Neshaminy Creek Watershed project.

Table 3-8. Comparison of Draft EIS population projections and Neshaminy Creek Watershed Project Population Projections, 1975-1990.

<u>Township</u>	Neshaminy Creek Watershed Project Population Projections ¹			
	1975	1980	1985	1990
Horsham	--	11,220	12,474	--
Warrington	10,750	--	--	18,200
Warminster	19,635	--	--	23,970

<u>Township</u>	Delaware Valley Regional Planning Commission Interim Projection (1977) ²			
	1975	1980	1985	1990
Horsham	--	4,966	5,461	5,956
Warrington	--	10,344	11,731	13,117
Warminster	--	17,368	17,443	17,566

¹Includes only that portion of the Township within the Neshaminy Creek Watershed.

²The DVRPC population projections for these watershed areas are consistent with projections used by US-EPA in the Horsham-Warrington-Warminster EIS. The actual EIS projections for these Townships and years are slightly less because they do not include all parts of the watershed within these municipalities.

Issue 7

The Draft EIS identified historic and archaeological sites which could be impacted potentially by the alternatives. What responsibility does US-EPA have in assuring the protection of these historic resources?

Response to Issue 7

In August 1978, at the request of the State Historic Preservation officer, WAPORA, Inc. performed for US-EPA a preliminary pedestrian archaeological reconnaissance of a 40 foot-wide, 23.5 mile corridor of the interceptor and collector system proposed by the grant applicants. As a result of the field survey, three locations in the planning area were identified where recovery of numerous prehistoric artifacts representative of several cultural groups verified human occupation and utilization of the area over a long time span of between 5,000 and 9,000 years in duration. Each of these three sites potentially could be adversely impacted by alternatives 1 through 5. Consequently US-EPA has recommended further tests by excavation of a series of 10 by 10 foot tests at these locations to determine whether prehistoric archaeological sites which are eligible for listing in the National Register of Historic places actually occur at these locations. US-EPA would require further testing after its final recommendations on alternatives is presented to the public.

On October 4, 1979, after review of the Draft EIS, the State Historic Preservation Officer advised US-EPA that "the EIS would seem to have adequately assessed the impact on known or potential areas of archaeological sites".

The Advisory Council on Historic Preservation has advised US-EPA that according to 36 CFR Section 800.4(a) of the Council's regulations, no historic structures or properties that are included in or that would be eligible for inclusion in the National Register of Historic Places are to be located within the area of

the proposed project's potential impact. The Draft EIS reported that no "primary" adverse impacts on these resources are anticipated as a result of construction or operation of facilities proposed in alternatives 1 through 5. One exception was the potential impact of a Park Creek STP on a potential historic district including 8 historic structures in the vicinity of Davis Grove Road and Keith Valley Road east of the Willow Grove NAS. Because the precise siting of a Park Creek STP was not undertaken in this EIS, specific detailed discussion of primary adverse effects could not be provided. Nevertheless, four historic structures in the approximate vicinity of the potential Park Creek STP were identified and two of these properties (the Mrs. Charles Heyer Smith House and the Kenderdine Mill) were described as possibly being eligible for the National Register of Historic Places.

Secondary impacts which would adversely affect historic structures and properties include population growth and the conversion of undeveloped land to developed uses. Such impacts are listed in the Criteria of Adverse Effect for structures eligible for the National Register as promulgated under ACHP regulations (36 CFR Section 800.9). Twelve historic properties in Horsham Township and 2 historic properties in Warrington Township would be impacted by secondary effects of alternative 1, 2, and 5. Of these properties, the Keith House at Graeme Park currently is listed on the National Registry.

As stated in the Draft EIS, it is difficult for US-EPA to provide adequate mitigation for secondary adverse effects of privately funded land development on historic properties. However, the US-EPA Regional Administrator will carefully consider unmitigated adverse effects of this type in the determination of fundable alternatives. When final alternatives are chosen by the Regional Administrator, ACHP will be informed of the specific effects of the selected undertakings on historic resources.

CHAPTER IV

Final Evaluation of Alternatives



CHAPTER IV FINAL EVALUATION OF ALTERNATIVES

Public Agency Preferences

Of the public agencies which have commented on the Draft EIS, only four agencies registered specific preferences on the selection of alternative wastewater service systems. The four agencies included the US Department of the Navy, PA Department of Environmental Resources, Delaware Valley Regional Planning Commission, and Montgomery County Planning Commission.

The US Department of the Navy recommends adoption of either Alternative 3 or 4. This conclusion was reached "in keeping with the findings of the DEIS, the goals and objectives of the Navy's Air Installation Compatible Use Zone (AICUZ) Plan, Federal guidelines, notably the General Services Administration's Federal Management Circular 75-2, and the Horsham Township Land Management Plan" (Department of the Navy, 1979). The Navy could not support Alternative 1 due to its inducement for development in highly sensitive areas around the Naval Air Station. Similarly, Alternative 5 would also induce growth in the vicinity of the Naval Air Station, although to a somewhat lesser degree than Alternative 1. The Navy has maintained a neutral position regarding the adoption of Alternative 2.

The PA Department of Environmental Resources is willing to support Alternatives 3, 2, and 4, in that order. The PA DER found Alternative 1 to be unacceptable because of its adverse impacts and Alternative 5 to be too costly.

The Delaware Valley Regional Planning Commission endorsed Alternatives 2, 3, and 4, stating that these alternatives best fulfill the requirements of the Federal Clean Water Act, the Pennsylvania Clean Streams Law, COWAMP/208, and county and local plans. Alternatives 1 and 5 could not be supported by DVRPC due to adverse environmental impacts and high cost.

Finally, the Montgomery County Planning Commission recommended selection of Alternatives 3 or 4 as the most cost/beneficial with least environmental impacts. According to the Planning Commission, these alternatives would be most consistent with Township comprehensive planning and zoning; could provide up to 85% Federal funding on alternative systems; and would solve the problems in a manner consistent with environmental and land use planning goals. Alternative 1 was described as a clearly unacceptable proposal; Alternatives 2 and 5 are considered potentially viable alternatives, but their environmental impacts and the possible inducement of growth in the more rural portions of Horsham Township make them less desirable alternatives.

Environmental Impact Adjustments

The environmental impacts of the alternative systems have been summarized in Chapter II. As the public comments in Chapter III indicate, questions involving environmental impacts centered upon these specific effects:

- flood plain encroachment
- availability of water supplies
- erosion and sedimentation
- loss of prime farmland.

Based on these comments, only minimal adjustments are required to the environmental impact assessment of the Draft EIS. As reported in the Draft EIS, the most adverse environmental effects of a severe nature are associated with Alternative 1, followed by Alternatives 5, 2, 3, and 4 (same), and 6, in descending order. The most beneficial environmental effects were reported to be associated with Alternatives 3 and 4, followed by 2, 1 and 5 (same) and 6, in descending order.

After responding to public comments concerning environmental impacts of the alternatives, the following clarification emerged. Alternatives 1 and 5 continue to be associated with the most adverse effects. Further examination of potential floodplain encroachment (both primary and secondary impacts) and loss of prime farmland (only secondary impacts) reinforced the probability of adverse effects of these two alternatives, particularly in subareas 4 and 5 in Horsham Township.

In Warrington and Warminster Townships, the problem of water supply availability has become even more acute since the issuance of the Draft EIS. Detection of TCE in Township wells, in concentrations beyond drinking water standards, has caused municipal officials to close some wells. Because long-range groundwater deficits were projected for both Warrington and Warminster Townships (the problem is more severe in Warminster), the need for augmented water supplies has become more immediate and less future-oriented.

Alternatives Recommended
by US-EPA

In recommending wastewater service alternatives to be funded by the Agency, US-EPA has considered individual and cumulative environmental effects, cost-effectiveness, public and governmental agency preferences, and potential for successful implementation. For Warrington and Warminster Township Municipal Authorities, the wastewater treatment and service system which they have proposed is considered to be environmentally sound, cost-effective, publicly supported and endorsed, and readily implementable. While certain grant requirements pertaining to analysis of infiltration and inflow have yet to be fulfilled, US-EPA has informed both grant applicants that their approach is eligible for 75% Federal funding and is recommended and encouraged by the Agency.

The wastewater service problems of Horsham Township have been the focus of attention of the EIS process since its inception in 1978. The Park Creek drainage area of Horsham Township offers more constraints than opportunities for the provision of wastewater facilities. Conventional on-lot disposal systems are unsuitable in many parts of the area due to shallow depth to bedrock, high water table, limited permeability of soils, and other factors. The constraints of on-lot system usage is attested to by problems identified with existing units of this type in the Township. Centralized treatment systems pose a broad range of other problems, however, including adverse impacts on prime agricultural land, floodplains, forestland, loss of wildlife habitats, downstream flooding, aesthetic values, and historic properties. Alternative 1 has the highest probability of inducing these effects followed by Alternative 5. In addition, both centralized treatment alternatives were determined to be incompatible with the continued operation of the Willow Grove Naval Air Station. For these reasons, Alternatives 1 and 5 are not recommended for funding eligibility.

Alternatives 2, 3, and 4 also require centralized treatment systems to varying extents. For these alternatives, however, centralized treatment is proposed at the Ambler Borough STP. Alternative 4 would require conveyance of flows from subareas 7 and 8 through Lower Gwynedd Township to the Ambler STP. Subareas 4 and 5 under this alternative were proposed to be serviced through a management district overseeing the use of conventional and alternative on-lot disposal systems. This alternative was not supported by PA-DER, which questioned the use of holding tanks on a long-term basis for lots unsuitable for septic tank-soil absorption systems and sand mound-soil absorption systems. Although this alternative ranked very high in terms of beneficial environmental effects, its lack of support by the State was grounds for elimination as a fundable alternative.

Alternative 3 addresses the needs of subareas 7 and 8 as described in Alternative 4. For subareas 4 and 5, the proposed community subsurface disposal systems serve as an alternative which has minimal adverse effects, conformity with municipal growth management objectives, and support of the US Navy. The

approach is relatively new and as an alternative technology is eligible for 85% Federal funding. US-EPA endorses this alternative and recommends that it be eligible for Federal construction grant assistance.

Alternative 2 also is endorsed and recommended by US-EPA as an eligible alternative. However this recommendation earmarks this alternative as the Agency's second choice behind Alternative 3. The recommendation of this alternative enables the Horsham Sewer Authority to have options in seeking an implementable wastewater service solution for the Park Creek area. However, Alternative 2 may have adverse effects in subareas 4 and 5 in terms of the induced conversion of undeveloped land to developed uses and marginal conformity with growth management objectives of Horsham Township. These effects are judged to be less severe than adverse effects projected under Alternatives 1 and 5 for subareas 4 and 5. US-EPA recommends that the Horsham Township Council, Planning Commission, and Sewer Authority carefully consider the ramification of its choice of alternative system with respect to previously adopted growth management objectives for this area.

The recommendation of two Horsham Township alternatives for funding consideration is considered purposeful and expedient in light of the complex circumstances which have impeded previous resolution of this issue. If other reasonable techniques would have been found suitable, more options would have been presented for the Township's consideration.

Cost of Recommended Alternatives

The estimated costs of Alternatives 2 and 3 are summarized in Tables 4-1 and 4-2. A more detailed account of each of these costs is presented in Appendix C. All costs are expressed as year 1980 dollars. The costs of alternatives as presented in those tables are higher than the 1978 dollar estimates in the Draft EIS, owing to the inflation of construction, operation and maintenance, engineering, and other costs during the period from 1978 to 1980.

Table 4-1. Comparison of cost for Alternative 2 and 3, Horsham Township share, in 1980 dollars.

	ALTERNATIVE	
	2	3
Total Construction Costs (000's)	4,865.7	4,657.5
Federal Share of Construction Costs (000's)	3,412.3	3,530.0
Local Share of Construction Costs (000's)	1,453.2	1,146.7
Total Salvage Value (000's)	2,183.0	1,836.6
Annual Operation and Maintenance (000's)	145.3	84.2
Total Present Worth (000's) of Construction, Salvage and Operation and Maintenance Costs	5,839.1	5,077.3
Annual Equivalent Cost (000's)	556.5	483.9
Annual Debt Service (000's) @ 7 1/8%, 40 years	98.3	81.5
Equivalent Dwelling Units, year 1980	637	637
Debt Service/EDU/year	154.3	128.0
Operation and Maintenance/EDU/year	142.2	111.0
Total Cost/EDU/year	296.5	239.0

Table 4-2. Costs for Alternatives 2 and 3 for Warrington and Warminster Townships, in 1980 dollars.

	<u>Warrington</u>	<u>Warminster</u>
Total Construction Costs (000's)	5,362.2	7,057.7
- Warminster STP Expansion	2,732.0	4,098.1
Federal Share	2,049.0	3,073.5
Local Share	683.0	1,024.5
- Warminster STP Upgrade	588.6	1,970.8
Federal Share	441.5	1,478.1
Local Share	147.2	492.7
- Warrington Collection Systems	2,041.6	--
Federal Share	1,348.9	--
Local Share	692.7	--
- Warminster Sewer Rehabilitation	--	988.8
Federal Share	--	741.6
Local Share	--	247.2
Federal Share of Construction Costs (000's)	3,839.4	5,293.3
Local Share of Construction Costs (000's)	1,522.9	1,764.4
Total Salvage Value (000's)	888.8	1,580.0
Annual Operation and Maintenance (000's)	412.5	720.1
Total Present Worth (000's)	9,465.7	14,214.0
Annual Equivalent Cost (000's)	902.2	1,354.8
Annual Debt Service	108.0	134.3
@ 7 1/8%, 40 years		
Equivalent Dwelling Units, year 1980	2,423	9,547
Debt Service/EDU/year	44.60	14.10
Operation and Maintenance/EDU/year	170.20	75.40
Total Cost/EDU/year	214.80	89.50

For Horsham Township, the total present worth cost of Alternative 3 is about 13% less than the cost of Alternative 2. This cost differential can be attributed primarily to the annual operation and maintenance costs estimated for Alternative 3, which are 42% less than for Alternative 2.

In terms of costs to be borne locally by Horsham Township, Alternative 3 offers additional cost savings because only 15%, rather than 25%, of the construction costs of community systems in subareas 4 and 5 must be paid by the local government. This savings is due to the financial incentive which US-EPA offers grant applicants to implement alternative wastewater treatment technologies. The total cost of systems per equivalent dwelling unit (EDU) per year is 19% less for Alternative 3 than Alternative 2, due primarily to the difference in levels of Federal assistance as well as system operating costs.

For Warrington and Warminster Townships, the costs of improvements (both expansion and upgrading) of the Warminster STP are estimated and allocated based on actual flow projections attributed to the contributing municipalities. The construction costs indicated in Table 4-2 for the Warminster STP do not include costs for dechlorination and denitrification facilities. These costs are presented as incremental values in Table 4-3. Addition of both processes to the expanded STP would add slightly more than \$1 million in total construction costs to the project. The local government share of these upgrading costs would be 25% of total construction costs. Of the additional upgrade processes examined, denitrification is almost 15 times as costly as dechlorination and represents almost 94% of the total upgrade construction costs.

Table 4-3. Incremental costs (000's) of adding dechlorination and denitrification facilities to the Warminster STP, apportioned by municipality.

	<u>Dechlorination</u>	<u>Denitrification</u>	<u>Both Dechlorination and Denitrification</u>
Total Construction Costs	69.7	1,033.3	1,103.1
Grant Eligible Costs	52.3	775.0	827.3
Local Share of Costs	17.5	258.4	275.8
Warminster Twp. Share	13.5	199.0	212.4
Warrington Twp. Share	4.0	59.4	63.4

The estimated costs per equivalent dwelling unit for each alternative does not include the cost of installing lateral drains from the dwelling unit to the street sewer. This cost, which must be borne by the property owner, is variable depending on factors such as lot size and slope. The cost of installing house drains is expected to vary between \$250 and \$1,000. This installation cost is required for all units connected to centralized systems. It does not pertain to community systems as proposed under Alternative 3. For these systems, on-lot facilities are considered an integral part of the community system and are eligible costs for Federal funding at the 85% level.

User Charges for Recommended Alternatives

The total cost per equivalent dwelling unit (EDU) identified in Tables 4-1 and 4-2 includes both annual debt service and annual operation and maintenance costs estimated on an EDU basis. The cost per EDU is not necessarily equal to the annual rate charged to system users. This is due to the variable methods by which sewer authorities and other management agencies finance construction programs and collect revenues from system users.

In determining user charges, the amount of debt service on borrowed funds is a factor which can be determined by the sewer authority. This amount can be variable due to:

- terms and length of the bond issue
- tap-in charges
- front-foot assessments
- future capital contributions.

For estimating the costs of alternative systems a 7 1/8% bond and 40 year maturity date was assumed. This interest rate is higher than that used to estimate costs in the Draft EIS (6 5/8%). The higher rate is recommended by the US Water Resources Council for Federal agencies in the formulation of plans for water and related land resources for the period October 1, 1979 through September 30, 1980 (US-EPA 1979).

In Horsham Township, annual user charges in the first year of system operation could be considerably less than \$297 per EDU (as in Alternative 2) if either a tap-in charge or front-foot assessment were applied to each property owner using the system. In presently sewered areas, the Horsham Sewer Authority currently assesses \$270 as a tap-in charge for each new connection. Such a charge, if paid for the initial 637 EDU's in the Park Creek drainage area, would amount to initial revenues of \$172,000 which could be earmarked for payment of debt service of the new system. In this manner, annual debt service payments per EDU could be reduced under Alternative 2 from \$154 to \$134.

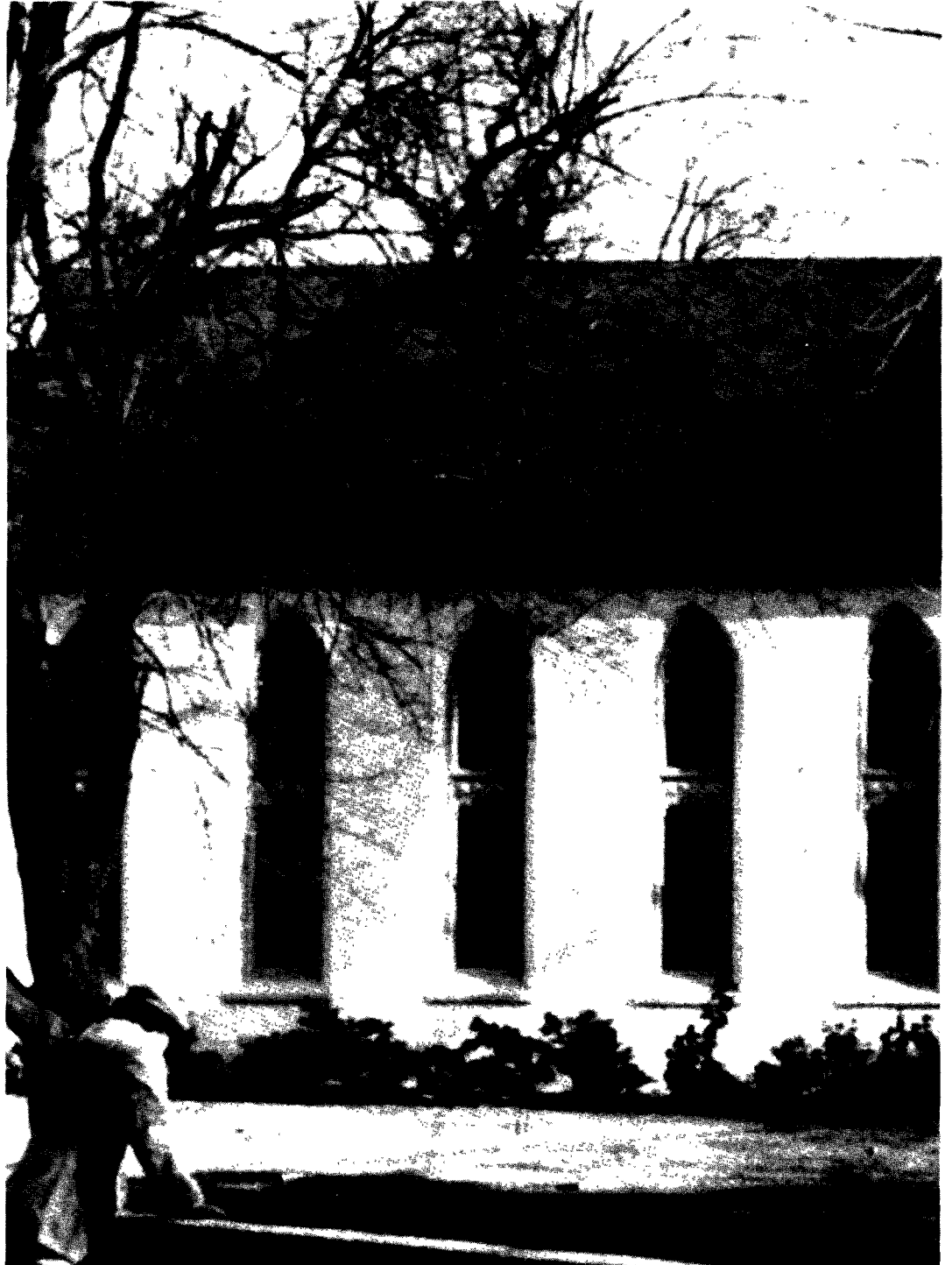
As a substitute for tap-in charges, the Authority could consider an assessment based on actual front footage of property to be serviced. This approach would yield variable initial payments from users dependent on their lot size.

Annualized debt service can be reduced in future years as new requests are made for connection to the system. In the case of proposed residential developments or industrial/commercial facilities, a lump sum capital contribution paid by the developer or industry could be requested in place of individual tap-in charges.

In Warrington Township, where the annual cost per EDU was estimated at \$215, the actual user charge will likely be determined by the Township Municipal Authority employing a tap-in fee or front-foot assessment. The Warrington Township Municipal Authority most recently has requested a tap-in fee of \$550 per EDU. Initial tap-in charges as well as capital contributions from future system users are expected to result over time in significantly reduced user charges.

CHAPTER V

Option Areas



CHAPTER V OPTION AREAS

This chapter addresses the interface between option areas, as described in Chapter V of the Draft EIS, and final recommended alternatives, as presented in Chapter IV of this Final EIS.

Wichard Sewer Company

US-EPA has concurred with the position of the Wichard Sewer Company that the solution to the wastewater service needs of the proposed Country Springs residential development should be accommodated by the Wichard Sewer Company independently of the service needs of Horsham Township. Consequently, Country Springs has been delineated in this Final EIS as an "option area".

The Wichard Sewer Company proposes to operate a .2268 mgd sewage treatment plant capable of tertiary treatment. At its full development potential of 648 dwelling units, the Country Springs development is estimated to contribute a wastewater flow to this plant of approximately .160 mgd (648 units x 3.5 persons/unit x 70 gallons per capita per day). This estimate is independent of any groundwater infiltration to the conveyance system. The Wichard Sewer Company STP is expected, then, to have excess treatment capacity of approximately .07 mgd to .10 mgd, beyond Country Springs' needs.

An agreement of August 28, 1978 between the Horsham Sewer Authority and the Wichard Sewer Company provides to the Authority, at any such time as the Authority shall request, 100,000 gpd of treatment capacity in the Wichard STP. Presently, no firm plans exist between the parties to specifically implement this element of the agreement.

US-EPA recognizes that according to this agreement, the Horsham Sewer Authority has an option, independent of alternatives recommended herein, for securing wastewater treatment service in the planning area in the vicinity of the Country Springs development. It is the position of US-EPA that the Agency should not interfere in the agreement between these parties by placing conditions on its funding grant tied to the use of the treatment capacity of the Wichard STP. All existing treatment needs as well as reasonable growth needs of Horsham Township in the planning area have been addressed solely by the recommended alternatives.

English Village

Subarea 15 is the designation for the English Village option area. English Village is a commercial and residential complex the wastewater disposal needs of which are met through its own collection and treatment system (0.12 mgd STP). The Horsham Sewer Authority and the ownership of English Village previously have consulted concerning sale of the system to the municipal authority. The two entities have been unable to reach an agreement.

As stated in the Draft EIS, the problems of the English Village System could be resolved either through upgrading of the facility by the present operator or through abandonment of the facility and transfer of the wastewater flow to a municipal service system. Because agreement between the Horsham Sewer Authority and English Village ownership is not imminent, and agreement between the Lower Gwynedd Township Authority and the Horsham Sewer Authority may be forthcoming, the likelihood of transferring English Village flows to the Ambler STP currently appears very remote.

Warrington Sewer Co.

The Warrington Sewer Company is a privately-owned public utility which collects and treats domestic wastewater from a residential community (subarea 13) in Warrington Township. The problems of the Warrington Sewer Company system has been detailed in the Draft EIS. Resolution of these problems could be achieved through purchase of the facilities by the Warrington Township Municipal Authority. Such purchase is under serious consideration by the Authority.

US-EPA recommends that, if feasible, agreement between the Warrington Sewer Company and the Authority be achieved. Sufficient time remains for making

grant eligible the construction costs which would be incurred in conveying flows from that system to the Warminster STP. This alteration in the Little Neshaminy interceptor project would alter the flow from that described in this document. However, the inclusion of expected flow of less than 20,000 gpd is not expected to disrupt seriously the existing plans and designs now intended by the Warrington and Warminster Authorities.

Willow Grove Naval
Air Station

The Willow Grove NAS operates a secondary STP (with trickling filter) which discharges to the Park Creek at a point south of County Line Road in Horsham Township. The plant serves only the NAS, which is identified as subarea 14. Because this plant produces a satisfactory effluent and probably could be operated by the NAS to the end of its design life, US-EPA does not recommend its participation in the recommended Horsham Township alternatives.

CHAPTER VI

Implementation of Recommended Alternatives



CHAPTER VI

Implementation of Recommended Alternatives



CHAPTER VI
IMPLEMENTATION OF
RECOMMENDED ALTERNATIVES

The alternatives recommended in this Final EIS by US-EPA represent the culmination of almost two full years of discussions between US-EPA, the grant applicants, county and regional planning agencies, State regulatory agencies, adjacent municipalities, and interested citizens and interest groups. US-EPA recognizes that a successful solution borne from this process is now more dependent on the actions of the grant applicants than on US-EPA and the previously involved parties.

This section addresses questions of implementation of the recommended alternatives. These questions concern the delineation of service areas, and the derivation of treatment capacity, funding levels, and priority points. The Agency has described also an implementation program which if followed would promote the successful completion of these projects.

Delineation of Service
Areas

Throughout the EIS process, the focus for proposed wastewater service has been on existing developed areas originally identified for collector sewer service by Horsham and Warrington Townships. US-EPA has endeavored in this EIS process to follow its own guidance, provided in Program Requirements Memorandum 78-9, concerning construction grant funding of sewage collection system projects. This memorandum sets forth guidance for rigorous review of grant applications to ensure that proposed projects meet the established requirements of the Federal Water Pollution Control Act and Clean Water Act Amendments.

US-EPA is only permitted to provide Federal construction grant funds for "eligible" areas. Eligibility for collector sewers is determined if each of the following criteria is met:

- Systems currently in use for disposal of wastes from the existing population (e.g. septic tanks or cesspools) are creating a public health problem, contaminating groundwater, or violating the point source discharge requirements of the Clean Water Act.
- The community for which service is proposed was in existence on October 18, 1972, and two-thirds of the flow design capacity through the sewer system is from the community in existence on that date.
- In areas of 2.94 households per acre or less alternatives to collection systems are found to be not cost-effective.

The responsibility for compliance with US-EPA collection system eligibility requirements rests with the Horsham Sewer Authority and the Warrington Township Municipal Authority.

In the course of the EIS process, both Horsham and Warrington Townships have considered the provision of wastewater services to areas in addition to those addressed by the Draft EIS. It is the position of US-EPA that future submissions of facility plans by the applicants should address primarily the areas originally intended for service. Other areas newly considered for service can be incorporated in such plans but should not be of such a magnitude as to be inconsistent with wastewater systems recommended by US-EPA in this document. All newly considered service areas are likewise subject to habitation, needs, and density requirements specified by US-EPA PRM 78-9.

Recommended Capacity

The design capacity of recommended wastewater conveyance and treatment systems should be based on population estimates used in the EIS process, and, where applicable, by infiltration estimates determined by sewer system evaluation surveys (SSES).

The proposed design capacity of the expanded Warminster STP was based in this document on EIS population estimates for Warminster and Warrington Townships as well as 50% removal of I/I from existing collection systems. US-EPA recognizes that the eventual design sizing for the expansion of the Warminster STP will be based on a different I/I removal goal established by future SSES studies.

Consequently, the proposed 7.97 mgd Warminster plant, which includes an expansion of 3.30 mgd, could be downsized by the grant applicant if I/I removal could cost-effectively be accomplished in excess of 50%.

The proposed capacity of community soil absorption systems in subareas 4 and 5 of Horsham Township were predicated on specific population estimates and dosage rates. As noted in the Draft EIS, the suitability of soils for community subsurface disposal systems must be field checked by the Authority as well as by PA-DER. Based on field checking, the capacity of community subsurface disposal systems could be altered to account for more liberal or conservative dosage rates.

Funding Levels

Eligible construction costs for conventional wastewater collection and treatment facilities are funded to a 75% level by US-EPA. The remaining 25% cost of eligible items, as well as non-eligible costs, must be paid by the grant applicant. All eligible costs for Alternative 2 facilities in the planning area, Lower Gwynedd Township, and Ambler Borough are recommended for funding at the 75% level.

Eligible construction costs for alternative wastewater facilities are funded to an 85% level by US-EPA. This applies specifically to elements of the community subsurface disposal systems proposed under Alternative 3 for subareas 4 and 5 in Horsham Township.

State Priority Points

The PA-DER is the responsible State agency for prioritizing official sewage facility plans submitted by local governments. Such prioritization is the basis for allocating Federal funds earmarked for wastewater facility construction; PA-DER assigns priority points based on a system which considers the distribution and density of population to be served (existing and future) environmental health factors, current and anticipated patterns of urban growth, and topographic and other natural features.

The issue of priority point allocations to Horsham, Warrington, and Warminster Townships has been of considerable concern to all parties actively engaged in this planning process. As of the October 23, 1979 Public Hearing on the Draft EIS, PA-DER reported that Warrington and Warminster Townships were rated at 73 priority points under all alternatives considered in the Draft EIS. For Alternatives 2 through 5, Horsham Township was rated at 72 priority points. If funding for these projects were to have been determined at that date, PA-DER reported that all three municipalities would have sufficient points to receive funding. However, monies for these projects will be subject instead to future funding. The probability of funding at these priority point levels in the future is dependent largely on the total allocation of Federal construction grant monies to the Commonwealth of Pennsylvania.

Remaining Implementation Steps

With the completion of this EIS process, the grant applicants and US-EPA must proceed to implement a recommended alternative according to regulations and requirements governing the US-EPA wastewater facilities construction grants program.

The next step for the respective sewer authorities is to prepare a STEP II (Design) grant application which must be submitted to PA-DER. Important elements of the STEP II grant application include letters from all parties which ultimately will enter into formal agreements as part of the selected solution. For Horsham Township, letters of intent are required from the Lower Gwynedd Township Authority and those entities from which treatment capacity will be purchased (such as Lower Gwynedd, Upper Dublin Township Authority, or Montgomery County).

It is the responsibility of PA-DER to review the application to determine if all application forms are in order, costs are fully substantiated, and sufficient priority points exist to qualify for funding. PA-DER then can certify the STEP II grant application for funding, after which it is submitted

to US-EPA for its review. US-EPA will check the application for conformance with the Draft and Final EIS and will review the engineering agreement. After its review, US-EPA can offer a STEP II grant to the applicant. After its formal acceptance of the grant, the applicant may then issue orders to its engineering consultant to begin its design.

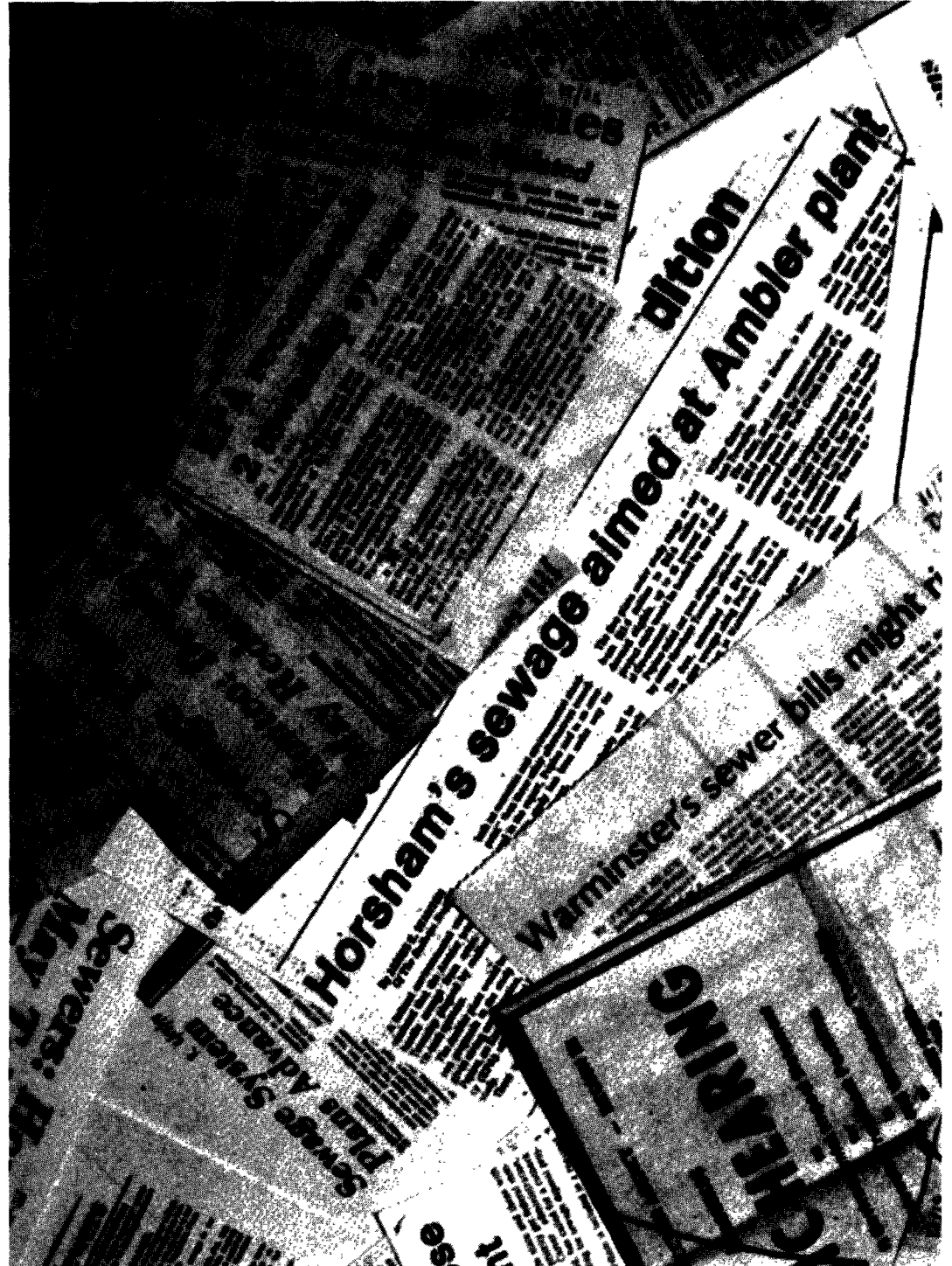
The time frame between completion of the EIS process and initiation of the design phase typically varies depending on:

- the time required by the grant applicant to prepare the application (1-3 months)
- the time required by PA-DER to certify the project (1-6 months)
- the time required for US-EPA to review the application and offer the STEP II grant (1-2 months).

The STEP II design phase can be expected to take from 6 months to 1 year duration. Upon completion, design plans and specifications are submitted to PA-DER, which reviews the material in terms of its NPDES discharge permit requirements. Other reviews at this stage are performed by the US Army Corps of Engineers, which checks plans and specifications for buildability and constructability, and US-EPA, which determines if all remaining Federal requirements are met. After STEP II approval by PA-DER and US-EPA, the applicant then submits a STEP III application for construction of facilities. Approval of the STEP III application results in a construction grant offer.

CHAPTER VII

Public Participation



CHAPTER VII
PUBLIC PARTICIPATION

History of Meetings

On January 13, 1978 US-EPA filed a Notice of Intent to prepare this Environmental Impact Statement. Since that decision was made, countless meetings have occurred involving the grant applicants, US-EPA, PA-DER, officials of neighboring municipalities, US Navy, Montgomery and Bucks County Planning Commissions, Delaware Valley Regional Planning Commission, and local residents.

The following key meetings were conducted concerning this project:

April 5, 1978	Public Meeting No. 1 at the Keith Valley Middle School in Horsham Township.
May 8, 1978	Central Contacts Committee Meeting No. 1 at US-EPA, Philadelphia PA. Central Contacts include representatives of US-EPA, PA-DER, Montgomery and Bucks County Planning Commissions, Delaware Valley Regional Planning Commission, and US Navy. Subject of discussion was planning area population estimates.
May 31, 1978	Public Meeting No. 2 at the Barclay Elementary School in Warrington Township. Subject of presentation was existing environmental conditions in planning area.
June 12, 1979	Central Contacts Committee Meeting No. 2 at US-EPA, Philadelphia PA. Subject of discussion was the working draft of the Draft EIS.
September 18, 1979	Official release of the Draft EIS by US-EPA.
October 11, 1979	Central Contacts Committee Meeting No. 3 at US-EPA, Philadelphia PA. Subject of discussion was alternative wastewater conveyance and treatment systems.
October 22, 1979	Central Contacts Committee Meeting No. 4, with Horsham Sewer Authority, at US-EPA, Philadelphia PA. Subject of discussion was specific objections to alternative systems proposed for Horsham Township.
October 23, 1979	Public Hearing on the Draft EIS at the Keith Valley Middle School in Horsham Township.
November 12, 1979	Close of Comment Period on Draft EIS.
March 20, 1980	Representatives of Horsham Sewer Authority and Lower Gwynedd Township Municipal Authority met to review costs associated with alternatives involving conveyance of flow through Lower Gwynedd Township.
April 1, 1980	Central Contacts Committee Meeting No. 5 at US-EPA, Philadelphia PA. Subject of discussion was the review of the contents of the Final EIS, particularly recommended alternatives. The Committee was dissolved at the adjournment of the meeting.

Final Public Meeting

A final public meeting to discuss the recommendations presented in the Final EIS will be held in the planning area approximately thirty days after issuance of this document. The site of the meeting will be the Keith Valley Middle School in Horsham Township.

Comments on Final EIS

Written comments on the Final EIS will be received by US-EPA during a 30 day period after issuance of the Final EIS.

**FINAL EIS
MAILING LIST**

Federal Agencies

Advisory Council on Historic Preservation
Council on Environmental Quality
Federal Emergency Management Agency
Office of Economic Opportunity
US Department of Agriculture
 Forest Service
 Soil Conservation Service
US Department of Commerce
US Department of Defense
 Army Corps of Engineers
 US Navy
 Philadelphia Naval Base
 Warminster Naval Air Development Center
 Willow Grove Naval Air Station
US Department of Energy
US Department of Housing and Urban Development
US Department of Health, Education and Welfare
 Public Health Service
US Department of the Interior
 Bureau of Outdoor Recreation
 Fish and Wildlife Service
 Geological Survey
 National Park Service
US Department of Transportation
 Federal Highway Administration
US Department of the Treasury
US General Services Administration

**Pennsylvania
State Agencies**

Department of Commerce
 Harrisburg, PA
Department of Community Affairs
 Philadelphia, PA
Department of Environmental Resources
 Norristown, PA
Department of Health
 Harrisburg, PA
Department of Transportation
 Harrisburg, PA
Historical & Museum Commission
 Harrisburg, PA
PA State Clearinghouse
Sewage Enforcement Officers
Fish Commission
Game Commission

Local Agencies

Horsham Township Council
Horsham Township Manager
Horsham Township Planning Commission
Horsham Township Sewer Authority
Horsham Township Solicitor

Ivyland Borough Council
Ivyland Borough Mayor
Ivyland Borough Planning Commission
Ivyland Borough Zoning Hearing Board
Ivyland Borough Zoning Officer

Local Agencies
(cont.)

Lower Gwynedd Township Board of Supervisors
Lower Gwynedd Township Municipal Authority
Lower Gwynedd Township Planning Commission

Upper Moreland-Hatboro Joint Sewer Authority

Warminster Township Board of Supervisors
Warminster Township Chamber of Commerce
Warminster Township Municipal Authority
Warminster Township Municipal Authority Solicitor
Warminster Township Planning Commission
Warminster Township Solicitor
Warminster Township Special Solicitor
Warminster Township Transportation Commission

Warrington Township Board of Supervisors
Warrington Township Ecology Board
Warrington Township Manager
Warrington Township Municipal Authority
Warrington Township Municipal Authority Solicitor
Warrington Township Planning Commission
Warrington Township Zoning Hearing Board

Warwick Township Board of Supervisors
Warwick Township Engineer
Warwick Township Manager
Warwick Township Planning Commission
Warwick Township Water and Sewer Authority

Bucks County Agricultural Extension Service
Bucks County Commissioners
Bucks County Health Department
Bucks County Historical Tourist Commission
Bucks County Planning Commission
Bucks County Water and Sewer Authority

Lower Bucks County Joint Municipal Authority

Montgomery County Commissioners
Montgomery County Engineer
Montgomery County Planning Commission
Montgomery County Sewer Authority

Delaware River Basin Commission
Trenton, NJ
Delaware Valley Regional Planning Commission
Philadelphia, PA

Upper Dublin Board of Commissioners
Upper Dublin Planning Commission
Upper Dublin Municipal Authority
Upper Dublin Township Manager
Upper Dublin Sewer Authority

Elected Officials

Honorable Richard Thornburgh
Governor of Pennsylvania
Honorable Richard S. Schweiker
United States Senator
Honorable John M. Heinz III
United States Senator
Honorable Peter H. Kostmayer
United States House of Representatives

Elected Officials
(cont.)

Honorable Lawrence Coughlin
United States House of Representatives
Honorable Richard T. Schulze
United States House of Representatives
Honorable Edward L. Howard
Senate of Pennsylvania, Doylestown
Honorable Margaret H. George
Pennsylvania House of Representatives, Doylestown
Honorable Vern Pyles
Pennsylvania House of Representatives, Dresher
Honorable Roy W. Cornell
Pennsylvania House of Representatives, Hatboro
Honorable Benjamin H. Wilson
Pennsylvania House of Representatives, Warminster
Honorable Stewart J. Greenleaf
Senate of Pennsylvania, Willow Grove

Newspapers

Intelligencer
Today's Spirit
Today's Post
Courier Times
Times Herald
Bulletin
Inquirer
Montgomery Publishing Co.
Evening Bulletin - Montgomery County Bureau

Libraries

Abington Free Library
Bucks County Free Library
Free Library of Warminster Township
Keith Valley Middle School
Melinda Cox Free Library
Montgomery County - Norristown
Union Library Company, Inc. of Hatboro
Upper Dublin Free Library
Upper Moreland Public Library
Wissahickon Valley Public Library

Citizens Groups

National Resources Defense Council, Inc.
Washington DC
America the Beautiful Fund
Washington DC
Audubon Naturalist Society of the Central Atlantic States, Inc.
Washington DC
National Parks & Conservation Association
Washington DC
Rachel Carson Trust for the Living Environment, Inc.
Washington DC
Water Pollution Control Federation
Washington DC
Wilderness Society
Washington DC
The Wildlife Society
Washington DC
Environmental Defense Fund
Washington DC
Montgomery County Historical Society
Norristown, PA
Pennypack Historical Society
Huntingdon Valley, PA

Citizens Groups
(cont.)

Wissahickon Valley Historical Society
Ambler, PA
Hatboro BPW Club
Horsham, PA
Pioneers Retirees Club
Horsham, PA
Hatboro-Horsham Jaycees
Hatboro, PA
Sunnycrest Civic Association
Willow Grove Q/A
Hideaway Hills Civic Association
Ambler, PA
Citizens' Civic Association of Willow Grove
Willow Grove PA
Morewood Civic Association
Hatboro, PA
Fifth District Civic Association
Hatboro, PA
Upper Moreland Homeowners
Willow Grove, PA
Hillside Estates Civic Association
Horsham, PA
Ward #1 Civic Association (Upper Dublin)
Ambler, PA
AAUW-Glenside Branch
Willow Grove, PA
Ambler Jaycettes
Ambler, PA
Sierra Club - Pennsylvania Chapter
Philadelphia, PA
Air and Water Pollution Control
Ambler, PA
Air Pollution Control Association
Pittsburgh, PA
Bucks County Audubon Society
Doylestown, PA
Citizens Advisory Council to PA Department of Environmental Resources
Harrisburg, PA
Citizens Committee for Environmental Control
Elkins Park, PA
Citizens Council of Montgomery County
Norristown, PA
Citizens Environmental Task Force
Pittsburgh, PA
League of Women Voters of Pennsylvania
Philadelphia, PA
National Audubon Society
Harrisburg, PA
Pennsylvania Environmental Council
Philadelphia, PA
The Pennsylvania Forestry Association
Mechanicsburg, PA
Pennsylvania Horticultural Society
Philadelphia, PA
Pennsylvania State Fish and Game Protective Association
Philadelphia, PA
Pennypack Watershed Association
Huntingdon Valley, PA
Project Kare
Blue Bell, PA
Tri-County Conservancy of the Brandywine, Inc.
Chadds Ford, PA
Trout Unlimited
Philadelphia, PA

Citizens Groups
(cont.)

Water Resources Association of the Delaware River Basin
Valley Forge, PA
Wissahickon Valley Watershed Association
Ambler, PA
Women's Political Caucus
Warrington, PA
Warminster Senior Citizens Association
Warminster, PA
Warrington Lions Club
Warrington, PA
Rotary Club of Warrington
Warrington, PA
Suburban Bucks Jaycees
Warminster, PA
Warrington Jaycees
Warrington, PA
Southampton Natural Resources Commission
Southampton, PA
Lower Bucks Canal Conservation
Bristol, PA
Churchville Outdoor Education Center
Southampton, PA
Bucks County Farmers Association
Ottsville, PA
Bucks County Fish and Game Association
Doylestown, PA
Bucks County Land Use Task Force
Buckingham, PA
Bucks County Historical Society
Doylestown, PA
Northampton Township Historical Society
Richboro, PA
Horsham Civic Association
Penllyn, PA

Citizens

Mr. and Mrs. Stuart Hughes
Mr. and Mrs. John Ruane
Mr. and Mrs. Canning
Mr. and Mrs. Tony Siott
Mr. and Mrs. Joseph Parker
Mr. and Mrs. Rich Richards
Marjory W. Richardson
Mr. and Mrs. Thomas McLaughlin
Mr. and Mrs. Paul Gianpa
Mrs. Doroth M. Vey
John E. Kauffeld
Mr. and Mrs. A. J. Vesneke
Mr. and Mrs. Jonathan Pera
Mr. and Mrs. Karl A. Isabel
Mr. and Mrs. William John, Jr.
Albert C. Barlow
Mrs. Alice Parker
Mr. Albert J. Keefe
Ms. Nellie Diehl
Mr. and Mrs. Albert McNeill
Mr. and Mrs. H. S. Glasby
Mr. and Mrs. D. Aley
Mr. Joseph Gigliotti
Mr. Thomas J. Timoney
Mr. Ronald Mintz
Mr. Eliot Glaser
Mr. Henry Bishop
Mr. Harry J. Nesbitt

Citizens
(cont.)

Mr. and Mrs. Daniel A. Whitman
Mr. Don Shapiro
Mr. Julius H. Olita
Mr. Richard Mancini
Mr. and Mrs. James Steele
Mr. George Schaffer
Mr. George Felbin
Mr. Al Korne
Mr. Michael H. Malin
Mr. Chet Bradley

Others

Carrol Engineers
Warminster, PA
Weldon C. Harris & Associates
Fountainville, PA
Unitech Engineers
Cornwells Heights, PA
Gilbert Associates
Reading, PA
Eastern Montgomery County Board of Realtors
Jenkintown, PA
Bucks County Board of Realtors
Doylestown, PA
Montgomery County Bankers Association
Harleysville, PA
Office of Congressman Kostmayer
Mr. Michael Tabas
Mr. John Seager
Homebuilders Association of Bucks and Montgomery Counties
Willow Grove, PA
Warrington Sewer Company
Hatboro, PA
Bucks County Industrial Development Corp.
Mr. Alan Heddon, Exec. Dir.
English Village Apartments
North Wales, PA
Hatboro-Horsham Schools
Dr. Clifford Hendrickson, Jr., Supt.
House Republican Legal Staff
Ms. Maryann Cohen
Montgomery Elementary School
North Wales, PA
Municipal Environmental Associates
Warminster, PA
Turner Airport
Ambler, PA
Upper Dublin Schools
Dr. C. G. Brown, Supt.
Warrington Airport
Warrington, PA
Wissahickon School District
Dr. Wm. H. Stoutenburgh, Supt.

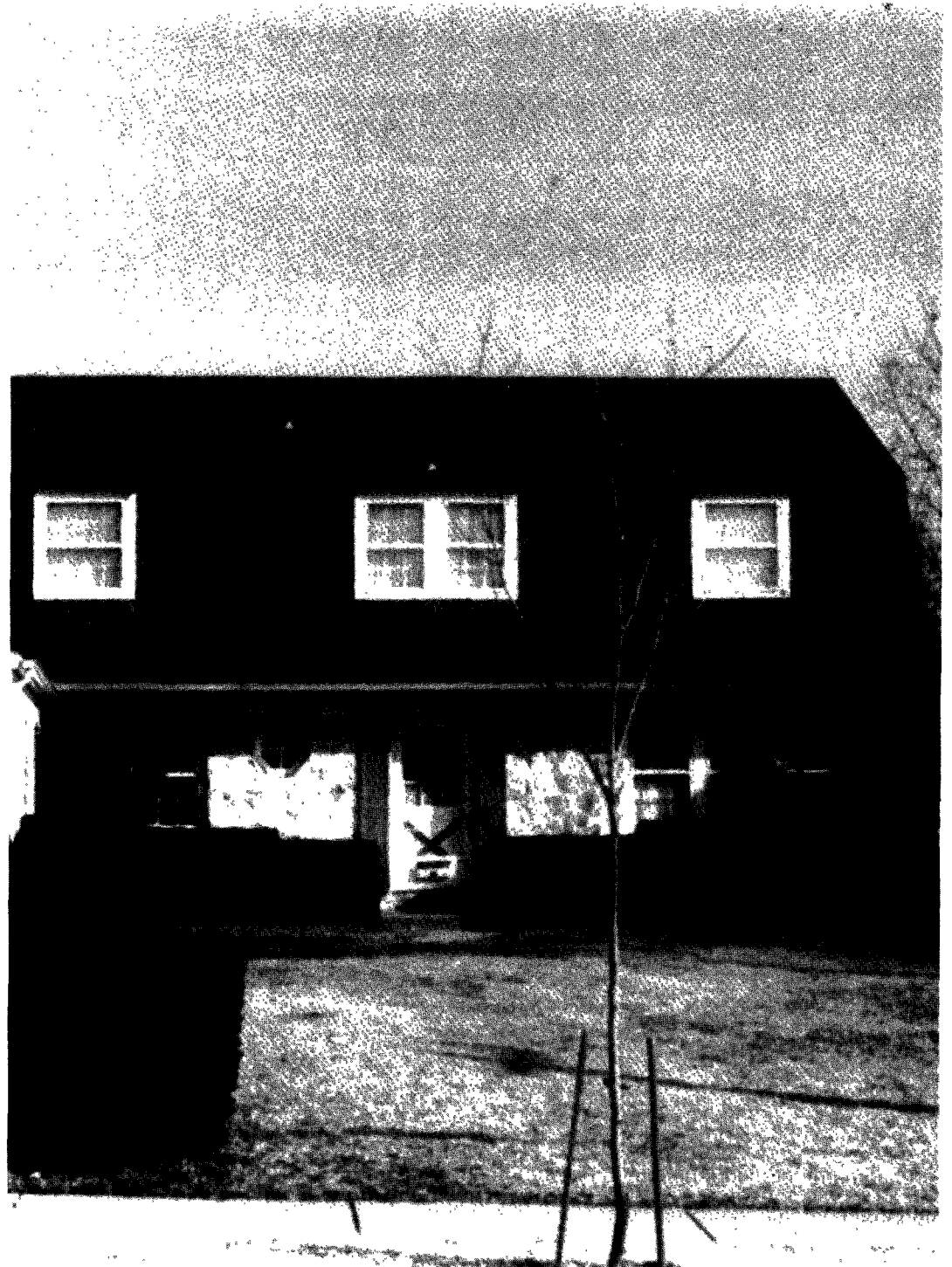
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- Runowski, Robert C., US-EPA. 1980. Memorandum to Richard Pepino, US-EPA EIS Preparation Section on contamination of groundwater in Bucks County, Philadelphia, PA, 2 p.
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- US Environmental Protection Agency (US-EPA). 1977. Alternatives for small wastewater treatment systems, pressure sewers/vacuum sewers. 97 p.
- US Environmental Protection Agency (US-EPA). 1977. Alternatives for small wastewater treatment systems, on-site disposal/septage treatment and disposal. 90 p.
- US Environmental Protection Agency (US-EPA). 1978. Less costly wastewater treatment systems for small communities. Washington DC, 113 p.
- US Environmental Protection Agency (US-EPA). 1977. Preventive approaches to stormwater management. Washington DC, 207 p.
- US Environmental Protection Agency (US-EPA). 1977. Process design manual for land treatment of municipal wastewater. Washington DC, variously paged.

-
- US Environmental Protection Agency (US-EPA). 1978. Innovative and alternative technology assessment manual (Draft). Office of Water Program Operations, Washington DC, variously paged.
- US Environmental Protection Agency (US-EPA). 1979. Draft environmental impact statement, Horsham-Warminster-Warrington, Pennsylvania wastewater treatment facilities. Philadelphia, PA, variously paged.
- US Environmental Protection Agency (US-EPA). 1979. Program Requirements Memorandum PRM No. 80-1. Washington DC. 2 p.

APPENDIX A

Draft EIS Included by Reference



APPENDIX B

Comment Letters



DEPARTMENT OF THE NAVY
NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PENNSYLVANIA 19112

TELEPHONE NO.
755-4807

Code 2021.2

Mr. Jack J. Schram
Regional Administrator
U. S. Environmental Protection Agency
Region III
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

30 OCT 1979

Dear Mr. Schram:

The following comments concern the findings of the Draft Environmental Impact Statement (DEIS) prepared for the Horsham, Warminster and Warrington, Pennsylvania, Wastewater Treatment Facilities.

The DEIS addressees the impacts of five alternative wastewater treatment systems. Since the Navy's foremost concern is the development potential in the areas immediately surrounding the Naval Air Station, Willow Grove in Horsham Township, and since all alternatives for wastewater treatment in Warrington and Warminster Townships are the same, our comments will be limited to the alternatives for wastewater treatment in Horsham Township.

The five alternatives presented in the DEIS include: Alternative 1, essentially the Park Creek Interceptor System; Alternative 2, with centralized treatment at the Ambler Sewage Treatment Plant (STP) for all sub-areas in Horsham; Alternative 3, with centralized treatment for sub-areas 7 and 8 at the Ambler STP and decentralized treatment (on-site community disposal systems) for sub-areas 4 and 5; Alternative 4, with centralized treatment at the Ambler STP for sub-areas 7 and 8 and individual on-site systems for sub-areas 4 and 5; and Alternative 5, with centralized treatment for all sub-areas in a STP to be constructed in Horsham Township with effluent discharging into Park Creek.

As noted, the Navy's primary concern with regard to the impacts of providing wastewater treatment facilities in Horsham Township is, and always has been, the potential of any solution to induce or foster incompatible (usually residential) growth in sensitive areas surrounding the Naval Air Station. The noise impacts associated with flight operations, particularly jet traffic, necessitate the retention of open space in these high noise zones surrounding the Air Station.

The retention of open space in the areas surrounding the Naval Air Station, particularly sub-areas 4 and 5, or the compatible development (with regard to flight operations) of these areas, is considered paramount for the Navy to continue its flight training and drills with minimum noise impact on the local community.

Aside from the noise impacts associated with operations conducted at the Station, the need to retain the current open space around the Naval Air Station can be demonstrated by three air crashes that have occurred in the vicinity of the Station over the last 12 months. These accidents are tragic reminders of the fact that, even though the Navy maintains the highest levels of flight safety, aircraft accidents can, and occasionally do, happen. Aircraft operations, by their very nature, involve a certain degree of risk both to the pilot and crew and to the general public that are, or could be, located in critical areas with regard to flight operations. Clearly then, to minimize these risks for all concerned, certain areas around the Air Station should be kept in an undeveloped state or, if developed, used for functions compatible with flight operations.

With regard to the proposal to install wastewater treatment facilities in Horsham Township, the Navy recognizes the need to solve existing health problems in the Township, and has suggested that the proposed solution; i.e., the Park Creek Interceptor System, would cause significant problems by fostering new population growth that might seriously affect Navy flight operations as well as having detrimental impacts in other areas.

The findings of the DEIS indeed supported the Navy's viewpoint by indicating that the most numerous adverse environmental effects are associated with Alternative 1, followed by Alternatives 5, 2, 3, 4 and 6 (no action) in descending order. Conversely, the most beneficial environmental effects are associated with Alternatives 3 and 4, followed by Alternatives 2, 1, 5 and 6 in descending order.

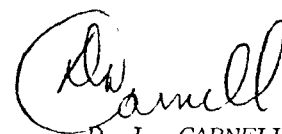
The Navy concurs with the findings that the most adverse impacts are associated with Alternative 1, particularly with regard to the inducement of development in highly sensitive areas around the Naval Air Station that would result from implementation of Alternative 1. Therefore, the Navy considers Alternative 1 as an unacceptable solution to the wastewater treatment needs of Horsham Township.

Similarly, Alternative 5 cannot be supported by the Navy as a viable plan to provide wastewater treatment facilities in Horsham because of its potential for induced growth in the vicinity of the Naval Air Station. As noted in the DEIS, Alternative 5 has the potential to induce the conversion of undeveloped land to developed uses although to a somewhat lesser degree than Alternative 1. Additionally, Alternative 5, like Alternative 1, has

the potential to induce population increases exceeding the levels projected for reasonable growth. Increases in population, in turn, increases the demand for housing and past experience has shown that housing developments inevitably are proposed and built in areas incompatible with aircraft operations. Comprehensive plans, zoning, ordinances, et cetera, in many cases, may not be effective in control of such developments.

Alternative 2, while also having the potential to foster conversion of undeveloped land to developed uses, differs from Alternative 5 in that the centralized STP is located in Ambler, Pennsylvania. As such, additional capacity to serve future developments in Horsham (beyond the projected population growth) presumably would be more difficult to obtain since two municipal authorities would be involved. Assuming that future growth in Horsham Township would be limited by the available capacity in the Ambler STP, this alternative would provide a reasonable solution to the wastewater treatment of Horsham Township. However, the Navy does not recommend or endorse this alternative, but merely does not object to this proposal.

In keeping with the findings of the DEIS, the goals and objectives of the Navy's Air Installation Compatible Use Zone (AICUZ) Plan, Federal guidelines, notably the General Services Administration's Federal Management Circular 75-2, and the Horsham Township Land Management Plan, the Navy supports and recommends adoption of either Alternative 3 or 4 as in the best interest of all concerned. Either alternative would provide an adequate solution to the wastewater treatment requirements of Horsham Township, provide means to support a reasonable level of population growth in the Township, and limit as far as practicable, incompatible developments in critical areas around the Naval Air Station. The Navy, therefore, encourages the Environmental Protection Agency to provide construction funds for either Alternative 3 or 4.



D. L. CARNELL
CDR, CEC, U.S. NAVY
Acting

FEDERAL EMERGENCY MANAGEMENT AGENCY
FEDERAL INSURANCE AND HAZARD MITIGATION

CURTIS BUILDING, SIXTH AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

November 1, 1979

REGION III

IN REPLY REFER TO:

3I
FLO-1

Mr. Richard V. Pepino
U.S. Environmental Protection
Agency, Region III
EIS Preparation Section
6th & Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Mr. Pepino:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Horsham-Warminster-Warrington, Pennsylvania Wastewater Treatment Facilities. In our review, we have focused on compliance with the National Flood Insurance Program (NFIP) and Executive Order 11988, Floodplain Management, dated May 24, 1977. Over the past year, the Insurance and Mitigation Division of the Federal Emergency Management Agency (FEMA) has been especially active in the implementation of Executive Order 11988. The FEMA has a key role in its implementation. FEMA's Flood Insurance Studies and maps are its foundation, and its regulations provide the Order's minimum standards for Federal construction and development. FEMA's shared consultation role (pursuant to Section 2(d) of the Order) is the basis for a major interagency effort. FEMA has participated in the preparation of over thirty agencies' procedures for implementing the Order. A major thrust of this activity has been clarifying the manner in which the Order applies to a specific agency's actions.

Executive Order 11988 distinguishes between primary and secondary impacts on floodplains. A primary impact would be one resulting directly from the siting of an action in a floodplain. Examples of actions with primary impacts would be the placing of treatment plants, collector systems or land application sites in floodplains. A secondary impact would be one flowing from an action that was made possible by another action located either in or out of a floodplain. An example, in this case, of an action with secondary impact would be the providing of infrastructure, i.e. central sewerage facilities, that can help stimulate growth in floodplains. The DEIS summary recognized the potential influence of this type of infrastructure on environmentally sensitive areas (sections 6.3 and 6.4).

Because of the lack of sufficient data, it is difficult for our office to ascertain whether there will be any primary impacts on the floodplain as a result of the proposed project. For example, it is unclear exactly where

the proposed expansion to the Warminster STP is going to take place or should a new Park Creek STP or additional lift stations be constructed, where they would be located. Our office is concerned as to whether these proposals would be taking place within either a 100 or 500 year floodplain or whether they would be located in a non-flood-prone area. If it is the former, have all attempts been made to establish the plant(s) outside the floodplain? If a floodplain location is the only practicable alternative, we would be interested in the floodproofing specifications (as you are well aware EPA requires STPs located in flood prone areas to be operational to the level of the 25-year flood and completely watertight to the 100-year flood elevation) and the impacts, if any, on the Little Neshaminy Creek, Park Creek (if applicable) and the adjacent floodway and floodway fringe.

It is also apparent that new, and possibly some replacement, sewer lines are planned under this project. We assume that portions of these lines would be located in flood hazard areas. If this is the case, once again the issues of the impact on the floodplain and floodproofing of utilities have not been adequately addressed.

The DEIS does address the issue of secondary impacts in Sections 2.8.3, 6.4.4 and 7.4.4. Although it is correct to state that all municipalities involved in the project do prohibit structural development in flood-prone areas as a permitted use, development could still occur by obtaining a variance, a special exception or a conditional use permit. In addition, it should be emphasized that as development pressures increase in the future, these land use regulations could be revised to reflect the NFIP's minimum floodplain management requirements and thus allow development to occur. We have seen this occur in other areas of our region in the past and thus we would like to raise this possibility for your consideration. We would suggest that a more detailed picture of existing and potential land use be developed in order to better assess the probable impacts of the planning alternatives in floodplain areas.

In the event that further analysis indicates that floodplain development would be supported by the various planning alternatives, strategies for avoidance of these impacts should be discussed.

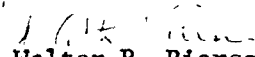
In summary, it is evident that the level of analysis of impacts relating to NFIP regulations and E.O. 11988 has been in keeping with the preliminary status of the DEIS. However, subsequent documents should include sufficiently detailed data to address the key requirements of the Executive Order: the identification of practicable alternatives that avoid floodplain impacts or support floodplain development. If it is found that there are no practicable alternatives to primary impacts, the documents should fully address the Order's provisions for minimization of harm to, or within, the floodplain and restoration and preservation of floodplain values. If secondary impacts are inevitable, or probable, without intervention,

Page 3

strategies for avoidance or minimization should be developed.

Please contact Richard Kinard of our office for any necessary clarifications of our position. We would be pleased to provide any possible assistance in addressing the requirements of the National Flood Insurance Program or the Executive Order.

Sincerely yours,


Walter P. Pierson
Acting Director
Insurance and Mitigation



DEPARTMENT OF TRANSPORTATION
REGIONAL REPRESENTATIVE OF THE SECRETARY
434 WALNUT STREET
PHILADELPHIA, PENNSYLVANIA 19106
November 6, 1979

MEMORANDUM TO: U.S. Environmental Protection Agency
Region III
6th and Walnut Streets
Philadelphia, PA 19106

Attn: EIS Preparation Section

SUBJECT: Draft Environmental Impact Statement for
Horsham-Warminster-Warrington, Pennsylvania
Wastewater Treatment Facilities

We have reviewed the subject draft EIS from the point of view that our agency's primary area of expertise and interest is the proposal's impact on the transportation system.

It is clear that development of the project is being guided by the local land use plans. Transportation improvements are similarly planned and developed based on local plans. It appears, by inference, that both the proposed project and the transportation plan are based on the same local plans, and hence are consistent with each other. However, it would be preferable for us if the relationship was specifically addressed in the Final EIS.

for Michael Hartman
Sally H. Cooper
Regional Representative
of the Secretary

cc: R. Davino, FHWA
J. Canny, US DOT, P-22





United States Department of the Interior

OFFICE OF THE SECRETARY

Northeast Region
15 State Street
Boston, Massachusetts 02109

ER-79/926

October 31, 1979

Mr. Jack J. Schramm
Regional Administrator
Environmental Protection Agency
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Mr. Schramm:

This responds to your September 12, 1979, letter requesting our comments on the draft environmental impact statement for Horsham-Warminster-Warrington Wastewater Treatment Facilities, Bucks and Montgomery Counties, Pennsylvania.

General Comments

The draft statement adequately describes existing fish and wildlife resources, and adequately discusses project-caused impacts to those resources.

Detailed Comments

6.3 and 7.3 Earth Resources

Although the geology of the area is briefly discussed and rocks in the area are not of major economic importance, we believe the report should include a brief statement acknowledging the commitment of in-the-ground mineral resources (stone, sand and gravel, shale) for the sewer line rights-of-way.

Summary Comments

Because of the high potential for adverse impacts to archeological and historic resources, we urge the Environmental Protection Agency (EPA) to fully comply with its responsibilities to protect these resources.


It is obvious that many of the historic sites located within the project area will be eligible for listing in the National Register. Thus, EPA

should immediately submit information on these sites to the State Historic Preservation Officer (SHPO) so that these determinations may be made. Pursuant to 36 CFR 800, EPA must allow the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the potential impacts that the wastewater facility will have on these sites. While some of the structures themselves may not be impacted by the project, loss of surrounding landscape may result in a loss of integrity for the site.

Secondly, pursuant to Executive Order 11593, the three areas cited as yielding potentially numerous archeological sites must also be surveyed and inventoried so that they may be considered for listing in the National Register for Historic Places. The draft states that there will be deep excavation work done for the installation of utilities. These areas must be carefully surveyed to assess what impacts this activity will have on archeological resources. Because the various conveyance systems may impact these areas, the ACHP must be afforded the opportunity to comment on these impacts.

Finally, because of the potential for visual impacts and the potential for impacts from future development, EPA must allow the ACHP to comment on these considerations.

Sincerely yours,

A handwritten signature in cursive script that reads "William Patterson".

William Patterson
Regional Environmental Officer



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION III
3535 MARKET STREET
PHILADELPHIA, PENNSYLVANIA

PUBLIC HEALTH SERVICE

October 23, 1979

MAILING ADDRESS
P.O. BOX 13716
PHILADELPHIA
PENNSYLVANIA 19101

Mr. Jack J. Schramm
Regional Administrator
Environmental Protection Agency
6th & Walnut Streets
Philadelphia, PA 19106

RE: DEIS on Horsham-Warminster-
Warrington, PA
Wastewater Treatment Facilities

Dear Mr. Schramm:

Thank you for the opportunity to review the Draft Environmental Impact Statement for the above referenced project.

It seems to us that the submission of the initial applications from the communities could have been more productive if the applicants were informed of the needed parameters. It is not clear what type of technical assistance was provided. Why were the applicants allowed to apply using unacceptable data (pages 3-7, 3-9) causing a delay of over two years between application and DEIS?

We offer the following comments for your consideration in the preparation of the Final EIS.

- What arrangements will be made to provide financial assistance to families that are unable to afford the costs of connecting to the wastewater system? Can HUD get involved through its community assistance programs?
- The EIS should include a statement addressed to the operation of the wastewater system. e.g., technical and administrative. Will it be administered by an umbrella institution that will enhance the opportunity of providing increased operational expertise?
- Recognizing the current escalating inflation and the relative minor differences in construction costs among the alternatives, we recommend that the selection of the alternative choice be influenced by the technical issues of: (1) capacity of the bodies of water to accept increase volumes of effluents; (2) ability to accommodate anticipated future population; (3) correction of the malfunctioning of the individual on-site septic systems; and (4) the control of new land use developments.

Mr. Jack J. Schramm

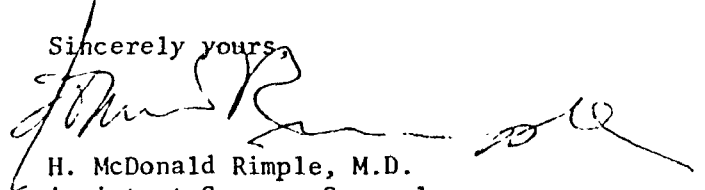
10/23/79

- The problem of the inadequate performance of the Warrington sewer system (page 5-4) needs to be addressed. Who has the responsibility for resolving the problems of excessive infiltration and the inadequate performance of its STP? Is it due to lack of expertise in operating the facility or obsolete equipment?
- The expected availability of an efficient wastewater system will require the municipalities to revise their zoning ordinances and growth management plans including responsibilities for thorough planning. It appears that new land use developments need to be controlled to minimize impact on forest lands. Local planners need to address the problems related to the further urbanization of the area and the issues of adequate water quality and supply.
- The Warminster STP should be upgraded to bring it in compliance with the most recent effluent limitations for total nitrogen (pages 6-25, 7-10). The techniques of dechlorinating with sulfur dioxide should be researched and analyzed.
- The role of the non-municipal treatment facilities in the planning region needs to be discussed. Their impact in the overall water quality in the area is obvious (page 2-25).
- Some of the mitigating measures for water quality/conversation seem difficult to implement (page 7-9). They require significant modifications of our societal modus vivendi. We agree and endorse those measures, but recognize that they are of a long range nature. They require extensive educational efforts and are difficult to enforce and monitor.

I am forwarding our copy of the DEIS to the Regional Office for Facilities Engineering Construction (ROFEC) for a technical review based on their expertise in the field of engineering. Should they decide to comment, they will write directly to you.

Please send us a copy of the Final EIS.

Sincerely yours,



H. McDonald Rimple, M.D.
Assistant Surgeon General
Regional Health Administrator

**Advisory
Council On
Historic
Preservation**

1522 K Street NW.
Washington D.C.
20005

October 30, 1979

Mr. Jack J. Schramm
Regional Administrator
Environmental Protection Agency
Region III, 6th & Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Mr. Schramm:

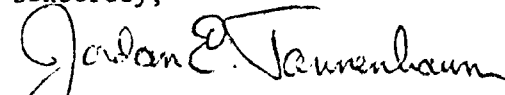
We have received your request for comments on the draft environmental impact statement for Horsham-Warminster-Warrington, Pennsylvania Wastewater Treatment Facilities pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969. The Council has determined that your draft environmental statement mentions properties of cultural and historical significance, but we need more information on the effects of the undertaking on these resources. Please furnish documentation that you have fulfilled the requirements set forth in 36 CFR Sec. 800.4(b) of the Council's regulations, "Protection of Historic and Cultural Properties" (Attached).

Please remember that compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f, as amended, 90 Stat. 1320); the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800); and Executive Order 11593 (May 13, 1971); are independent requirements of law that must be fulfilled unless it has been determined in accordance with 36 CFR Section 800.4(a) of the Council's regulations that no properties that are included in or that would be eligible for inclusion in the National Register of Historic Places are located within the area of the undertaking's potential impact and this finding is clearly set forth in the draft environmental impact statement. Accordingly, you should coordinate NEPA

compliance with these separate responsibilities as provided for in 36 CFR Section 800.9 of the Council's regulations and the final environmental impact statement should contain the comments of the Council obtained pursuant to 36 CFR Sec. 800.6 or 800.8 of the Council's regulations.

Should you have any questions or need assistance please call Charlene Dwin at 202-254-3967.

Sincerely,

A handwritten signature in dark ink, reading "Jordan E. Tannenbaum". The signature is fluid and cursive, with the first name "Jordan" being more prominent and the last name "Tannenbaum" following in a similar style.

Jordan E. Tannenbaum
Chief, Eastern Division
of Project Review

Enclosure



United States
Department of
Agriculture

Soil
Conservation
Service

P. O. Box 985
Federal Square Station
Harrisburg, Pennsylvania 17108

November 7, 1979

Mr. Jack J. Schramm
Attention: EIS Preparation Section
Regional Administrator
U. S. EPA, Region III
6th & Walnut Streets
Philadelphia, PA 19106

Dear Mr. Schramm:

The Soil Conservation Service has reviewed the draft environmental impact statement for the Horsham-Warminster-Warrington, Pennsylvania, Wastewater Treatment Facility. We suggest adding a discussion of each of the following items:

1. Both the temporary and permanent erosion and sediment control measures needed to stabilize the construction areas.
2. The impacts on the prime farmlands that are identified in the draft EIS.
3. The protection and redistribution of stockpiled topsoil.
4. The proposed project's effects on PA-610 and PA-614, flood-water retarding dams, within the Neshaminy Creek Watershed project.

All other items of concern to the Soil Conservation Service have been adequately addressed.

Sincerely,

Graham T. Munkittrick
G. T. Munkittrick

Graham T. Munkittrick
State Conservationist

cc:

Director, Office of Federal Activities (Mail Code A-104), EPA, Room 537,
West Tower, 401 M Street, SW, Washington, DC 20460 (5)
Norman Berg, Administrator, SCS, Washington, DC
Cletus J. Gillman, Director, SCS, NTSC, Broomall, PA





DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

September 26, 1979

Dear Mr. Schramm:

Thank you for forwarding a copy of the draft environmental impact statement for the Horsham-Warminster-Warrington, Pennsylvania Wastewater Treatment Facilities. This Department has no comment on the Statement.

Sincerely,

Anthony V. DiSilvestre
Assistant Director (Environmental Programs)
Office of Administrative Programs

Mr. Jack J. Schramm
Regional Administrator
U.S. Environmental Protection Agency
Region III
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

UNITED STATES OF AMERICA
GENERAL SERVICES ADMINISTRATION

Public Buildings Service
Washington, D.C. 20405



NOV - 2 1977

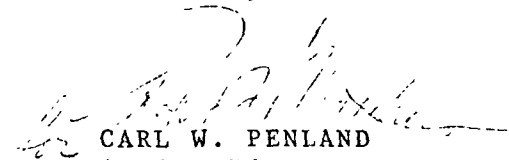
Mr. Jack J. Schramm
Regional Administrator
U.S. Environmental Protection Agency
Region III
6th and Walnut Streets
Philadelphia, PA 19106

Dear Mr. Schramm:

The General Services Administration has reviewed the draft environmental impact statement on Horsham-Warminster-Warrington, Pennsylvania, Wastewater Treatment Facilities, and have no substantive comments to make.

Thank you for the opportunity to comment.

Sincerely,


CARL W. PENLAND
Acting Director
Environmental Affairs Division

Keep Freedom in Your Future With U.S. Savings Bonds



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION
WILLIAM PENN MEMORIAL MUSEUM AND ARCHIVES BUILDING
BOX 1026
HARRISBURG, PENNSYLVANIA 17120

October 4, 1979

Jack J. Schramm
Regional Administrator
U.S. Environmental Protection Agency
Region III
6th and Walnut Streets
Philadelphia, PA 19106

Dear Mr. Schramm:

The Office of Historic Preservation has reviewed the Draft Environmental Statement on Horsham-Warminster Warrington, Bucks and Montgomery Counties, PA Wastewater Treatment Facilities Project.

Dr. Barry Kent states that he believes that the EIS would seem to have adequately assessed the impact on known or potential areas of archeological sites and no further comment is necessary.

Sincerely,

Barbara Philpott
Office of Historic Preservation
717-787-4363

BP:jek



Commonwealth
of
Pennsylvania

Pennsylvania State Clearinghouse

P.O. BOX 1323 -- HARRISBURG, PA. 17120 -- (717) 787-8046
783-3133

GOVERNOR'S OFFICE
OFFICE OF THE BUDGET

RE: PSC-SAI# 57909007

APPLICANT: Environmental Protection Agency

PROJECT: DEIS Hocking - Warmwater -
Warrington Treatment Plant

LOCATION: Butler Co. Pa

Enclosed with this letter please find the comments of the
following State Agencies relative to the project identified above:

*Transportation
Environmental Resources*

Please consider these the comments of the Pennsylvania State
Clearinghouse at this time.

Thank you for your cooperation.

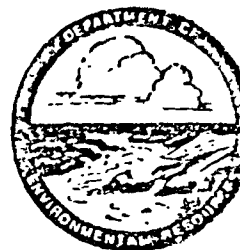
Sincerely,

Richard A. Heiss

Richard A. Heiss,
Supervisor



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES



The Secretary

October 30, 1979

SUBJECT: Review and Evaluation of PSCH No.: 5-79-09-007
DEIS Horsham-Warminster-Warrington
Wastewater Treatment Facilities
Bucks County

TO: Richard Heiss, Supervisor
Pennsylvania State Clearinghouse

FROM: CLIFFORD L. JONES
Secretary of Environmental Resources

The Pennsylvania Department of Environmental Resources has reviewed the above mentioned draft environmental impact statement. The Department wishes to offer the following comments on this report.

The Environmental Impact Statement appears to have addressed the main issues in sufficient detail to allow local officials and concerned citizens to prioritize the alternatives.

The Department encourages local governments in the project area to implement the recommendations in Section 7.1 (Conversion of Undeveloped Land), 7.3.1 (Loss of Prime Agricultural Land), 7.3.2 (Loss of Forest Land), and 7.3.3 (Loss of Wildlife Habitats). Recommendations in these sections will minimize the adverse secondary environmental impacts associated with the construction of wastewater treatment and collection facilities.

Alternatives 2, 3 and 4 involve the interbasin transfer of wastewater from a portion of the planning area in Horsham Township, Montgomery County, to the Ambler Sewage Treatment Plant. The Environmental Impact Statement should address the environmental effect of this transfer.

Permits will be required for all stream crossings and for facilities located in the 100-year floodplain. The applicant may contact Gilbert Kyle, Director, Bureau of Dams and Waterway Management, 407 South Cameron Street, Harrisburg, PA 17120, 717-783-1384 for further information.

Draft - EIS
Montgomery and Bucks Counties
Horsham-Warminster-Warrington
Wastewater Treatment
Facilities

FIRST STAGE REVIEW
Preapplication/Notification of Intent
AGENCY REVIEW COMMENTS

INSTRUCTIONS: To be completed by review agency and returned to State Clearinghouse. Check one or more appropriate boxes. Indicate comments below. Return copy 1, 2 and 3 to the State Clearinghouse. Retain copy 4 for your official records. Attach triplicate sheets if necessary.

PART I: Declaration of Interest

- ☐ No Interest Declared — Complete Part V and return copy 1 and copy 2 to State Clearinghouse.
- ☒ Interest Declared — Complete Parts II, III, IV and V and return copy 1 and copy 2 to State Clearinghouse.

PART II: Identification of Agency Review Criteria (Agency plans, programs, policies and/or laws)

Department of Transportation Policies and Plans

PART III: COMMENTS (Include results of preliminary contact made with applicant and suggestions for improving project proposal)

There are no planned state transportation facilities which would be adversely affected by the subject project. However, portions of the proposed project will involve construction activities on the right-of-way of state legislative routes. It will be necessary to coordinate the planned project with our Engineering District Office in St. Davids and obtain the proper permits before any work can be done.

PART IV: Recommended State Clearinghouse Action (This action will not be honored by the State Clearinghouse unless Part II and Part III above have been completed)

- ☒ Recommend Approval with the above conditions.
- ☐ Request the opportunity to review final application.
- ☐ Recommend Disapproval
- ☐ Request the opportunity to review environmental impact statement.

PART V: Certification

Authorized Agency Signature

RC Seaman

Agency

Department of
transportation

Date

Oct. 10, 1979



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
1875 New Hope Street
Norristown, PA 19401
215 631-2426



November 16, 1979

Mr. Richard Pepino
U.S. Environmental Protection Agency
Region III
EIS Preparation Section (3IR60)
Sixth and Walnut Streets
Philadelphia, PA 19106

Re: Horsham, Warminster and Warrington
Draft Environmental Impact Statement

Dear Rich:

The following are comments expressed by us concerning this Draft EIS. First, I do not understand the reference to the Warminster STP being upgraded to provide chlorination as both the existing and proposed treatment plants have this feature. The Current STP project (Contact Stabilization activated Sludge and Filtration) is not an upgrade but rather an expansion of the existing STP as previously proposed and approved by the DER. No nitrification or denitrification is included in the current project. Is it the recommendation of the Draft EIS to provide for nitrification-denitrification which would require complete redesign and increased costs? What level of treatment was used in the Cost Effectiveness Analysis? The Draft EIS indicates a need for dechlorination, while this may be true it would be a design change as it is not included in the original proposal.

According to the Draft EIS, under Alternative 1 the Warminster STP would be expanded by 3.8 mgd to 8.4 mgd. The current plant was originally rated at 3.8 mgd, but was temporarily rerated to 4.58 mgd pending its expansion. Any expansion to the plant should be on top of the 3.8 mgd that the plant was originally rated at.

The Phase II I/I work for Warminster and Warrington is yet to be done and is critical in arriving at the selected plant design for the Warminster STP, especially for the large Warminster Collection System. Can this Phase II program be the first component of the Step II work, or does it have to be done prior to Step II work? This could be important from the standpoint of the April 1, 1980 deadline for past planning funding.

What are the alternatives for the following existing STP's: English Village, Warrington Sewer Company, Christ's Home, Tamanend Jr. High School, Johnsville NADC and Willow Grove NAS?

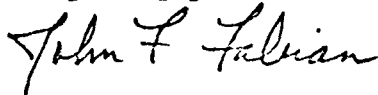
Is there adequate capacity in the Lower Gwynedd and/or Upper Dublin sewer lines to handle Horsham's flows for the extent of the planning period?

In section 4, certain costs figures do not appear to agree between Tables 4-9 and 4-11. For example under Alternative 4, Horsham's cost according to 4.9 would be \$1,445,000. Table 4-11 lists Horsham's federal and local shares as \$1,027,200 and \$1,119,200, respectively. This adds up to \$2,146,400. Using this \$2,146,400 figure this gives Horsham only a 48% federal grant according to 4-11.

Evaluating the alternatives, the Department would be willing to support Alternatives 3, 4 and 2, in that order. Alternative 1 is unacceptable because of its adverse impacts and Alternative 5 appears to be too costly. It should be noted here that before going ahead with any work under Alternatives 3 or 4 prior approval from our soil scientist and geologist should be obtained.

If you have any questions, please feel free to call me at 631-2426.

Very truly yours,



John F. Fabian
Project Manager

JFF:smc

cc: Wapora, Inc.
Montgomery County Planning Commission
Delaware Valley Regional Planning Commission
Bucks County Planning Commission
Horsham Township Sewer Authority
Warrington Township Sewer Authority
Warminster Township Sewer Authority
Willow Grove Naval Air Station
Grants File
Ce 30
W261/.1

TESTIMONY PRESENTED
BY THE
DELAWARE VALLEY REGIONAL PLANNING COMMISSION
ON THE
DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR WASTEWATER TREATMENT FACILITIES
IN
HORSHAM, WARMINSTER AND WARRINGTON TOWNSHIPS

I am J. Robert Gallagher, Chief, Water Resources Planning for the Delaware Valley Regional Planning Commission (DVRPC). I am here tonight to present testimony regarding the draft Environmental Impact Statement for Wastewater Treatment Facilities in Horsham, Warminster and Warrington townships.

DVRPC is the official regional planning agency for the Trenton-Camden-Philadelphia Metropolitan region, which encompasses Bucks, Chester, Delaware, Montgomery and Philadelphia counties in Pennsylvania and Burlington, Camden Gloucester and Mercer counties in New Jersey.

DVRPC, which began its existence in 1965 was established by an Interstate Compact enacted by the Legislatures and approved by the Governors of Pennsylvania and New Jersey. Its 18 member governing Board is appointed by the chief elected officials of the counties and cities of the region and the Governors of the two States. Mr. Blase Ravikio is currently the Chairman of the DVRPC Board.

DVRPC's present comprehensive planning program includes the following elements: land use, recreation and open space, water pollution control, water supply, storm drainage, flood control, highways, public transportation and housing. DVRPC's job is to prepare plans for needed facilities and to coordinate the many governmental actions that lead to implementation of those plans.

In addition, DVRPC is the officially recognized review agency for federal grants which fund local projects involving land acquisition or construction. We are required to review applications for such grants and advise federal officials as to whether these projects are consistent with regional plans and regional needs as determined by the DVRPC Board.

The DVRPC has adopted a series of plans for this region including a Water Supply and Water Pollution Control Plan, Land Use Plan, Transportation Plan, Open Space Plan and a Housing Allocation Plan. Our plans are subject to continuous refinement and amendment, and are updated each year. The purpose in all efforts is to achieve a better coordinated and more efficient and socially desirable pattern of development for the benefit of all five million residents of the region. All of the water pollution control planning we have accomplished to date has been undertaken within this context.

On July 1, 1975, DVRPC became the areawide waste treatment management planning agency for its nine-county planning area. Section 208 of the Water Pollution Control Act Amendments of 1972 (Public Law 92-500) requires that DVRPC investigate point and non-point sources of water pollution, evaluate wastewater treatment alternatives, and develop a 20-year waste treatment management plan for the region.

The 208 Plan for Bucks, Chester, Delaware, Montgomery and Philadelphia counties was officially adopted by the DVRPC Board on September 21, 1978 and is presently under review by DER pending certification by Governor Richard Thornburgh.

DVRPC's staff has been extensively involved in the planning process with the communities of Horsham, Warminster and Warrington to find a solution to their wastewater treatment and water quality problems. Our efforts have been undertaken in a spirit of cooperation to devise and implement a cost effective solution to the problems confronting these three townships while providing maximum protection for the environment. It is in this same spirit that we offer our comments tonight.

Planning for wastewater treatment facilities in Horsham, Warminster and Warrington was underway prior to the initiation of DVRPC's COWAMP/208 Plan and continued in parallel with our efforts. As such, it was the policy of COWAMP/208 to utilize the results of this local planning effort when it was completed and the associated Environmental Impact Statement (EIS) finalized.

The five alternatives presented in this EIS (barring the no action alternative which is unacceptable) all provide varying degrees of relief which will meet the wastewater management needs of these communities. DVRPC staff has thoroughly reviewed each of five alternatives and based on the availability of federal funds feels that Alternatives 2, 3, and 4 best fulfill the requirements of PL 92-500, the Pennsylvania Clean Stream Law, COWAMP/208 and county and local plans. We

would find difficulty in supporting Alternatives 1 or 5 based on the fact that the draft EIS rates Alternative 5 as the most costly with Alternative 1 as the second most costly. This fact coupled with the adverse environmental impacts associated with Alternatives 1 and 5 makes support of either of these alternatives questionable.

There are, however, other factors that have come to light since the initiation of the preparation of the draft EIS of which EPA should be cognizant and which should be addressed before the preparation of the final EIS. The recent application for a NPDES permit for the privately owned Wichard Sewer Company has serious consequences in terms of population served, availability of treatment capacity, and water quality for Park Creek.

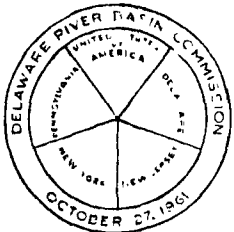
The questions surrounding the proposed 600 unit development to be served by the Wichard Sewer Company must be resolved before final approval of a wastewater treatment system for Horsham Township is given. By the same token, barring the possibility that Alternative 1 is selected, the treatment configuration for Warrington and Warminster recommending upgrading and expansion of the Warminster STP to service the needs of these two communities is common to all other alternatives. As such, satisfying the needs of Warrington and Warminster townships should proceed independently of any Horsham decision and application for federal funds made as soon as possible to get the Warminster expansion and upgrading underway.

Many long years and meetings have passed since planning for wastewater treatment was begun in this area of Bucks and Montgomery counties. During this time, there have been many hard decisions to be made, but the hardest decision is now before us. This decision will ultimately be made by the authority members and elected officials of Horsham, Warminster and Warrington townships.

The decision reached should provide the wastewater management solution that is the most cost effective and environmentally sound.

In closing, DVRPC would like to commend the EIS Branch of EPA and their consultant Wapora, Inc. for a fine draft EIS, for the attention given to this study and for the commitment to seeing it through to a final resolution.

Thank you.



GERALD M. HANSLER
EXECUTIVE DIRECTOR

DELAWARE RIVER BASIN COMMISSION
P. O. BOX 7360
WEST TRENTON, NEW JERSEY 08628
(609) 883-9500

November 2, 1979

HEADQUARTERS LOCATION
25 STATE POLICE DRIVE
WEST TRENTON, N. J.

Mr. Jack J. Schramm, Regional Administrator
United States Environmental Protection Agency, Region III
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Attention: EIS Preparation Section

Dear Mr. *Jack* Schramm:

Subject: Draft Environmental Impact Statement, Horsham-
Warminster-Warrington, Pennsylvania Wastewater
Treatment Facilities.

We have reviewed the subject DEIS with a primary focus on the relationship of the proposed regional sewage facilities to the water resources of the Delaware River Basin.

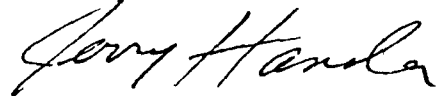
The Delaware River Basin Commission is concerned with existing and future ground-water quantity and quality conditions in Bucks and Montgomery Counties. We anticipate that soon after the first of the year, following public notice and hearing, the Commission will act to delineate and declare a ground water protected area encompassing Chester and Montgomery Counties, major portions of Bucks County, and portions of Berks County, Pennsylvania. (Also delineated will be portions of Hunterdon and Mercer Counties in New Jersey.) The Horsham-Warminster-Warrington study area would be included. This action is contemplated in response to a general consensus at public meetings that the Commission utilize its authority under Article 10 of the Delaware Basin Compact to designate protected areas and establish regulations for management of the limited ground-water resources. It will be proposed that any project having a relationship to further depletion of ground water in the protected area will be subject to special consideration and review beyond that given under Commission review under Article 3.8 of the Compact.

Related to this proposed action is the Commission's three-year ground water study which was initiated in May, 1979. The study purposes are to develop a sound basis for the management and allocation of ground-water resources to avoid over-commitment, environmental damage, and general controversy. The study will cover the entire Delaware Basin, but will focus on problem areas such as the Triassic and Carbonate geologic formation found in the Horsham-Warminster-Warrington sewage study area.

The foregoing indicates that while the Draft Environmental Impact Statement has identified and considered many of the environmental aspects of a proposed regional sewerage system, it has not fully considered the overall water resource problems. While we recognize that the DEIS cannot consider and resolve all water resources problems in the region, it seems inadequate to acknowledge known and probable ground-water deficits without consideration of availability of new or augmented water supplies to accommodate projected growth.

We appreciate the opportunity to review and comment on this DEIS.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gerald M. Hansler".

Gerald M. Hansler



MONTGOMERY COUNTY PLANNING COMMISSION
court house ■ norristown, pennsylvania 19404 ■ 215-278-3722

October 26, 1979

Mr. Richard V. Peppino
United States EPA - Region III
6th and Walnut Street
Philadelphia, Pennsylvania 19106

Dear Mr. Peppino:

Enclosed for your record is a copy of the Montgomery County Planning Commission statement regarding the Horsham-Warrington-Warminster EIS. This is the statement I gave at the public hearing on Tuesday.

Also enclosed, please find a list of technical comments on the EIS document prepared by staff. I trust you will find these two documents helpful in preparing the final EIS document.

Sincerely,

Gregory E. Prowant
Senior Planner

GEP/de

Enclosures

B-30

Offices. One Montgomery Plaza, Swede and Airy Streets, Norristown

MCPC Statement
to the EPA
Regarding the Park Creek EIS
October 23, 1979

My name is Gregory Prowant. I am a Senior Planner with the Montgomery County Planning Commission.

I would like to commend EPA and their consultant, Wapora, for preparing a very professional document on a very complex project.

The EIS: provides a good technical review of the issues; has allowed for input by the agencies, municipalities, and concerned individuals; and provided for a dialogue on the issues in meetings such as this one tonight.

In reviewing the original Park Creek interceptor proposal, our perspective was on the environmental and land use impacts. We feel the EIS has firmly documented that the environmental impacts of the Interceptor proposal (Alt. #1) are clearly unacceptable.

The EIS provides a series of viable alternatives to the interceptor and provides a comparison of the environmental impacts and fiscal costs of each alternative. We have reviewed the given alternatives and recommend the following:

1. Alt. #1.- The Park Creek Interceptor, should be rejected as unacceptable.
2. That Warminster and Warrington be allowed to proceed with their project without Horsham flows.
3. That Horsham proceed with an alternative to the interceptor that has the least environmental impacts and is most cost beneficial. The MCPC recommends that Alt. #3 and Alt. #4 are the most cost beneficial alternatives.

Alt. #3 and Alt. #4 are:

- A. Most consistent with township comprehensive planning and zoning.
- B. Would provide 85% federal funding on innovative systems.
- C. Would solve the problems in a way consistent with environmental and land use planning goals.

If the township is hesitant to accept alternatives with innovative systems we would point out that such systems are working elsewhere in this region.

We would be willing to discuss such innovative systems with representatives of the township.

MCPC Statement to the EPA - continued

Alternatives #2 and #5 are potentially viable alternatives, but their environmental impacts and the possible inducement of growth in the more rural portions of the township make them less desirable alternatives. In addition, Alternative #5 is financially a much more costly alternative to the township and the residents.

We, therefore, recommend selection of Alternatives #3 or #4 as the most cost/beneficial with least environmental impacts, and stand ready to assist the township in implementing the final alternative.

To conclude my statement I would like to point out one key issue that the EIS does not address: "The Wichard Sewer Co. Facility."

We feel it must be considered in the final EIS document because:

1. It has municipal approvals.
2. PUC order for franchise is complete.
3. It is now awaiting DER approvals for 537 and NPDES permit.
4. It will significantly impact the Park Creek solution.

Wichard Facility provides some obvious opportunities to the Township.

1. The developer will build a plant.
2. This could serve a significant portion of subarea 8, in addition to Country Springs.
3. The developer could turn the plant over to the Township.
4. The Township has a written agreement to the above. Unfortunately, this opportunity for Township may jeopardize any hope for a federal grant;
 - a private facility and anything it serves will not be fundable by EPA;
 - the project area population will be reduced thereby reducing the DER project priority points;
 - the reduced area and population will change all cost estimates.

We urge EPA to consider this important issue in the final EIS document, and DER consider it in reviewing the Wichard Sewer Facility Application.

Thank you!

GPmp



COUNTY OF BUCKS

BUCKS COUNTY PLANNING COMMISSION

Cross Keys Office Center Box 12 4259 Swamp Road
Doylestown, Pa. 18901 215-348-2911

County Commissioners
G. ROGER BOWERS, Esq., *Chairman*
GEORGE M. METZGER
JOHN T. WELSH

A. Katherine Lattomus
Vice Chairman
Harold O. Gross, Jr.
Ralph R. Pisani
Elinore R. Ridge

Daniel K. Cook
Chairman
Robert E. Moore
Executive Director

Michael S. Morrison
Secretary
Anna C. Simons
William R. Snyder
Frank B. Uphoff

October 24, 1979

Richard V. Pepino, Project Monitor
U.S. Environmental Protection Agency
6th & Walnut Streets
Philadelphia, PA 19106

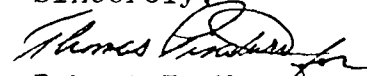
Dear Mr. Pepino:

The Bucks County Planning Commission has reviewed the Draft Environmental Impact Statement for the Horsham-Warminster-Warrington Wastewater Treatment Facilities. Our analysis indicates that with the exception of the no action alternative (alternative 6), all the alternatives propose relatively similar actions for Bucks County. In general, they propose a substantial upgrading and expansion of the Warminster Sewage Treatment Plant and that all areas in the Bucks County portion of the study area be sewered by that plant. Because of the similarity of the alternatives, there does not appear to be a substantial difference between the environmental advantages and disadvantages and the economic costs of the alternatives as they relate to Bucks County.

Because there are only small differences in the impacts of the alternatives on Bucks County, the Bucks County Planning Commission supports whichever alternative can be implemented with the minimum of delay. At the present time there are pressing needs in Bucks County in areas presently served by malfunctioning on-site systems and in areas served by small package treatment plants that have difficulty meeting stream discharge and plant operation standards. In addition, there are a number of proposed developments that have received all of the necessary municipal planning approvals but which cannot proceed because of a lack of sewage treatment capacity.

If the Bucks County Planning Commission can be of any assistance in moving this project toward completion, please do not hesitate to contact me.

Sincerely,


Robert E. Moore
Executive Director

REM/TK/tlm

PREPARED COMMENTS OF THE TOWNSHIP OF HORSHAM
SEWER AUTHORITY ON THE DRAFT ENVIRONMENTAL
IMPACT STATEMENT PREPARED BY THE UNITED
STATED ENVIRONMENTAL PROTECTION AGENCY, REGION III

On Page 5 of the Draft Environmental Impact Statement, under the heading "On-site Disposal System Failures", there is an all too brief summary of some of the reasons why a sanitary sewer system was proposed for construction in certain areas of Horsham Township. In addition to reports of on-site septic failures, confirmed cases of hepatitis and similar health problems were brought to the attention of the Township of Horsham Sewer Authority. In response to this, the Township of Horsham Sewer Authority, in 1967, submitted an application to construct a small Waste Water Treatment Plant on the Park Creek. Plans were submitted to appropriate review agencies and after considerable study, it was determined that the proper method of insuring high standards of sewage treatment for effluent to be discharged into the Neshaminy Creek was to formulate a regional plan of waste water treatment for the area in question. The Pennsylvania Department of Environmental Resources decreed that the Townships of Warminster, Warrington and Horsham should form a committee to develop a regional approach to waste water management. After many years of study and following many meetings which were attended by representatives from various planning and regulatory agencies, a regional plan, consistent with the then current Sewage Facilities Plan published by the Montgomery County Planning Commission, was devised whereby sewage would be conveyed from portions of Upper Dublin, Lower Gwynedd and Horsham Townships, through Warrington Township, into an expanded sewage plant to be constructed in Warminster Township. The Horsham portion of this proposal was certified by the Pennsylvania Department of Environmental Resources for federal assistance on May 22, 1977.

The original Park Creek Project consisted of a system of gravity sewage collectors and an interceptor transmitting flows to a small plant located on the Park Creek. The regional plan directed by the Department of Environmental Resources changed this concept to what has been commonly called "The Big Inch", a large interceptor designed to transmit sewage flows out of the Township of Horsham and into a Warminster Township Treatment Plant. Following directives of appropriate regulatory and planning agencies, the Township of Horsham Sewer Authority submitted what is now referred to as the "Proposed Action" or as Alternative I in the Draft Environmental Impact Statement.

Unfortunately, this "Proposed Action" appears no longer viable due to escalated construction costs and the likelihood of appeals from citizens' groups and the United States Navy, both groups seeking to prevent its implementation. In addition, the "about face" taken by state and federal agencies in looking toward innovative technology" instead of regional sewage treatment plants, would appear to militate against the proposed action. Fortunately, it appears that most, if not all, of the engineering design prepared

to implement a regional sewer system is still useful in implementing any of the other four alternatives. It is suggested that if Alternative I is not deemed fundable by the Environmental Protection Agency, that Agency should direct a redesign in order to implement any of the other fundable alternatives. If this is done, the maximum amount of engineering fees can be recovered through a federal grant.

In reviewing other alternatives, the Authority must first express its concern as to the feasibility of implementing what have been labeled Alternatives III and IV. An initial look at these two alternatives would seem to indicate that the cost factor is one consideration heavily weighing in their favor. After careful review, it appears that there are several cost factors which may not have been considered, including:

- A. Land Acquisition;
- B. Board of View;
- C. Source of Revenue for Maintenance and System Replacement;
- D. Items listed later in discussions of Alternative II.

Further study of both Alternatives III and IV generate additional questions and comments, such as:

- A. Do the proposed community systems utilize any gravity collection or will they be exclusively pressure systems requiring grinders, pumps, etc.;
- B. Has a method for providing a right-of-entry onto private property to insure maintenance and proper operation of the systems been discussed;
- C. Has possible adverse home owner reaction to a management group imposing "sewer rentals" in order to provide revenues for maintenance and operation of the system been evaluated;
- D. In suggesting the types of systems set forth in Alternatives III and IV, has the Environmental Protection Agency considered the possibility of unanticipated growth in other areas of the Township where soils may be equally suitable for this type of system;
- E. Have the costs of land acquisition, Boards of View, etc. been included in the Project Cost deemed eligible for funding;
- F. Has a source of revenue to replace the systems after the expiration of the "two year free replacement" period been included in the Project Cost;

- G. Does the Environmental Protection Agency consider Alternative IV a temporary solution, given the discussion contained in Paragraph 1 of Section 4.3.3.4 of the Draft Environmental Impact Statement;
- H. Since there have been many documented cases of TCE and PCE pollution of ground water supplies caused by discharges from on-site systems in the study area, and since a large number of home owners in sub-areas 4 and 5 make use of individual wells as a source of water supply, can the use of individual on-site or community on-site systems now be considered environmentally safe.

The Authority feels that Alternative IV is totally unworkable for reasons previously set forth. In addition, the Township of Horsham Sewer Authority must express great reservation as to the ultimate feasibility of Alternative III as well. Unless the questions concerning management, funding, maintenance, operation, and questions of potable ground water supply can be adequately answered, it would appear that Alternative III is as non-viable as is Alternative IV.

Alternative V suggests construction of a small treatment plant located on the Park Creek. In effect, this is almost "full circle" back to 1967. Rather than comment on this alternative, the Township of Horsham Sewer Authority prefers to raise the following questions, which it feels must be addressed by the Environmental Protection Agency prior to the Authority attempting to make comment on this alternative:

- A. What effluent criteria and process design data were used to compute the costs of this Alternative;
- B. Is the inclusion of certain sections of Upper Dublin Township realistic when evaluating this Alternative;
- C. It appears in suggesting a 500,000 g.p.d. plant, the Environmental Protection Agency has computed flows at 230 g.p.d. per equivalent dwelling unit. It should be noted that the Department of Environmental Resources requires design flows of 350 g.p.d. per equivalent dwelling unit. Assuming that the Department of Environmental Resources standards prevailed, it would seem that the plant capacity would be adequate to serve only 66% of the population projected as using it in the Draft Environmental Impact Statement.

If Alternative V is to be adequately evaluated, the final Environmental Impact Statement must consider the effect of the Wichard Sewage Treatment Plant and the proximity of the Country Springs Development. It should be noted that despite the language of Sections 2.8.1.1 of the Draft Environmental Impact Statement, the Township of Horsham Sewer Authority did not approve the Wichard Sewage Treatment Plant. There is an existing Agreement with the Wichard Sewer Company whereby the Township of Horsham

Sewer Authority has certain alternatives should a Certificate of Convenience be granted to the Wichard Sewer Company by the Pennsylvania Public Utility Commission. The Agreement between Wichard and the Township of Horsham Sewer Authority allows "purchase" of the plant after construction, and also provides the ability to purchase "treatment capacity" in that plant. Another avenue open to the Sewer Authority would be purchasing the Wichard plant design prior to construction and constructing the plant to service sub-areas 4 and 5 as delineated in the Draft Environmental Impact Statement.

Until the effects of the Country Springs Development and alternatives provided by the Agreement with the Wichard Sewer Company are included in the Environmental Impact Statement, the true viability of Alternative V's solution can not be adequately evaluated. Equally, if not more important, is the question of which Authority costs relating to the Wichard Sewage Treatment Plant would be eligible for federal funding should the Authority elect to build the plant, buy the plant or purchase plant capacity.

Alternative II, transmitting flows through Lower Gwynedd Township to the Ambler Sewage Treatment Plant, appears to be a reasonable approach, but still presents several unanswered questions, such as:

- A. Is sufficient capacity presently available in the Ambler Plant, Lower Gwynedd Force Main and Pump Station, to adequately serve Horsham's needs;
- B. Have costs of land acquisition, pump station, and a presumed capital contribution to both Ambler and Lower Gwynedd been included in determining the cost figures contained in the Draft Environmental Impact Statement;
- C. Is the capital contribution presumed necessary to acquire both plant and line capacity from Ambler and Lower Gwynedd respectively, eligible for funding;
- D. Can Horsham Township Treatment Areas 7 and 8 be separated from Treatment Areas 4 and 5 and set forth on a separate grant application in order to obtain immediate funding;
- E. Has the cost of presumably increasing the pipe size in Lower Gwynedd Township been included in the financial considerations comprising this Alternative.

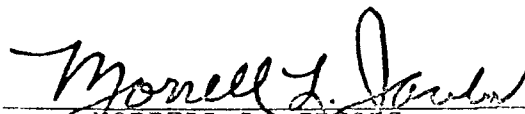
The Township of Horsham Sewer Authority notes in passing what appears to be great disparity in the population figures projected by the Horsham Township Planning Commission, Montgomery County Planning Commission, Delaware Valley Regional Planning Commission, and the existing 208 Study. It is requested that the answers to this and all questions raised in this Testimony be included in the final Environmental Impact Statement.

In conclusion, the Township of Horsham Sewer Authority urges the Environmental Protection Agency to fund alternatives which alleviate existing health problems, serve the greatest areas in need of service and can be implemented rapidly. The concern of the Township of Horsham Sewer Authority has always been, and is now, a desire to service areas which are drastically in need of sanitary sewer service. Recent rainfalls have more than amply demonstrated that the problem still exists and is only becoming worse as time passes. It is respectfully suggested that the time for gathering comment has long since passed, and the time to solve existing environmental problems is more than at hand.

Respectfully submitted,

TOWNSHIP OF HORSHAM SEWER AUTHORITY

By


MORRELL L. JACOBS
Chairman

1108 Limekiln Pike
Box 67
Maple Glen, PA 19002
November 14, 1979

U. S. Environmental Protection Authority
Region 3 (3IR60)
6th & Walnut Street
Philadelphia, PA 19106

ATTENTION: Mr. Richard V. Pepino
Project Monitor

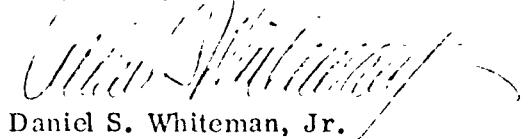
Gentlemen:

I have had a chance to review the draft environmental impact statement on Horsham-Warminster-Warrington, Pennsylvania and was an interested attendee at the public hearing held on October 23, 1979. At that time I did not testify but would like to make the following statements regarding my own situation.

I have lived in an old farmhouse on 36 acres on the southeast corner of Limekiln and Horsham Roads for 24 years and have had a constant problem with my sanitary system at this location. I called in a civil engineer 10 years ago, brought in a backhoe to do percolation tests, constructed a second septic tank and installed an extensive tile field in the supposed "best" depth and still have a severe problem with proper drainage of wastes. Fortunately, this area is downhill and downwind of my home which makes it fairly tenable.

I believe it is vitally important that you people recommend a solution which may not look economically feasible currently but which will solve the problems on a long term basis. Because of the buildup around this section of Horsham Township great pressures will develop for this area to be inhabited more densely and anything that we do at this time should be adequate to take care of this. In any event, the most important thing is to solve the myriad of problems that those living in the township have had for many years.

Very truly yours,


Daniel S. Whiteman, Jr.

It gives me great pleasure to praise the in depth study the EPA has presented to us in the form of the EIS. Either Alternatives 3 or 4 would be very acceptable means of caring for the sewer problems in Horsham Township. I realize this took a tremendous amount of work and cooperation of the various government agencies to compile this information. I, for one, am most appreciative of your efforts.

One section of the EIS deals with the proposed package sewer plant for Wichard Sewer Co. Some of the events leading up to the approval of this package plant fill me with grave concern regarding the legality and far reaching financial affects of actions taken by Horsham Council. It is ~~important to have on the record that~~ ~~It is necessary for the residents of Horsham to know what has transpired.~~

In 1978, Wichard-Miller applied for permission to erect a package sewer plant to service the proposed Country Springs Development. ~~Mr. Gerald Hinte, as their representative,~~ ^{and} applied to the PUC for approval. Five residents and the Montgomery County Planning Commission requested a public hearing to present testimony regarding why approval should not be granted. Basically we were worried about the affect this would have upon the end results of the EIS, the possibility of losing federal funding, not enough ground water to supply this projected growth, making an individual rather than a municipal sewer authority in charge of sewerage a large portion of western Horsham Area "D" Sewer District.

The Township Council & Sewer Authority were represented by Solicitor, Mark Jones, who stated the Township was remaining neutral.

DER Testified at the hearings and said that it was their feeling that in the event of a sewer intercept r by 1983 they saw nothing in the agreement between Wichard Sewer Co. & Horsham Sewer Authority that would make the developer hook into the interceptor at any time. This would leave a small number of people to find the interceptor and even with federal funding could be back. ~~and~~ ~~up~~.

No word was heard by the residents until July 1979, at which time the PUC granted approval of the Wichard Sewer Package Plant.

We felt hopeful that DER would deny this request in view of their past position, and it was not until September 1979 that I contacted DER to see if Wichard Sewer Co. had applied for approval, and found that DER had received the application in February 1979, but had not rendered a decision. Under the "right to know" law I received a copy of their file with the exception of the map showing the area to be included in the Wichard Sewer

System.

Included in the packet was a letter addressed ^{to} Mr. Richard Brown, Twp. Mgr. from the Department of Environmental Resources regarding the proposed Wichard Sewer Company package plant which reads:

dated 4/4/79

Dear Mr. Brown:

The advisory review has been completed for the copies of the planning modules for land development for the above referenced project.

The following items are provided for your information:

1. The P.U.C. approval was denied.
2. The Bureau of Water Quality Management questions the suitability of the water supply for this project.
3. Since your Township has not accepted this project for review and has forwarded no comments to that effect, the Department of Environmental Resources cannot accept this ~~project~~ ^{project} for review for approval or denial.

The developer should be notified of the Department's decision, by your Township.

If I can answer any questions, please feel free to contact me.

Xxxxxxxx Very truly yours,

Michael C. Duck, R.S.

Sanitarian

Montgomery County

MCB/JM

cc: Mr. James Rudolf

File *→ subsequently*

On May 8, 1979, by Resolution, the Horsham Council at only a public meeting voted to amend the sewer facilities map to allow Wichard Sewer Company to take over a portion of Area "D" with a package treatment plant to discharge into Park Creek. Hughes voted against - Nesbitt was absent.

This action of Council is of questionable legality, because they were amending an Ordinance with a mere resolution or motion..with no publication in the newspapers or public hearing. Horsham's Home Rule Charter mandates a public hearing and ordinance on land development and land use regulations.

Furthermore, Ordinance 201, changed to Ord. 6000, establishing a System of Sewers in Horsham and rules and regulations regarding them states in Section 3 "The location of sewers or any extension thereof shall be designated by ORDINANCE and said ordinance shall ^{by} incorporated by reference ~~thereto~~ ^{thereto} to the general provisions of this ordinance and any amendments thereto."

Every change in the Sewer Facilities Plan up until April 10, 1979, had been enacted by Ordinance after a public hearing had been held. Ordinance 6010, which defines Area "D" as a sewer district (which includes most of western Horsham from Norristown Rd. to Lower State- from Welsh Rd. to County Line Rd.) - clearly states in the heading of the Ordinance "To be served by an extension of the sewer system to be constructed by the TOWNSHIP OF HORSHAM SEWER AUTHORITY".

Wichard Sewer Company according to the resolution takes a section of Area "D" from under the protection of the Horsham Sewer Authority and puts it in the hands of an individual. Therefore, according to Ord. 6010, allowing an individual to construct a package sewer plant in Area "D" is WITHOUT AUTHORITY.

I have tried to secure a copy of the map showing the area taken out of Area "D" and placed under the jurisdiction of Wichard Sewer Co. without success. Normally it is attached as a map along with the Ordinance.

In order to secure approval from the PUC, Wichard Sewer Company had to show need. Obviously they could not show a problem on vacant ground. One member of a government branch told me that ^{the proposed package plant would} ~~it covered~~ Country Springs and the Fox Development. Should this be the case, and if the Resolution were legal, the Fox Development would be out of the jurisdiction of the EPA 's EIS for federal funding. It would then appear, in order to show need so that a developer could erect a package sewer plant..oww own citizens who have suffered with sewer difficulties will be made to pay FULL PRICE for sewers in accordance with costs and rates established by Wichard Sewer Company while other may pay only 25% of the cost for their sewers - assuming we get federal funding with this large segment of the area delated.

To the best of my knowledge DER has not voted on Wichard Sewer Plant. Now that they are aware of these irregularities..let us hope they will vote against this plant and the issue will be dead, ^{and during the EIS study, working on it}

It was after the DER letter of April 4, 1979, that Horsham Council changed its neutral position and took a positive stand by giving its approval to the Wichard Package Plant.

Wichard Sewer Package Plant complicates both the EPA solution and the federal funding ~~xxxxx~~ for sewer installations in Morsham.

It also indicates that explosive growth will occur and the danger of crowding the Naval Air Station out as well as not having enough ground water for our people will be very real.

The agreement of Morsham Authority with Wichard Sewer Co. is not in my opinion clearly worded in favor of the residents, in fact if the Wichard Plant is purchased by Morsham Sewer Authority there is the possibility that our people will pay twice for sewers.

Elizabeth H. Steele
Elizabeth H. Steele

721 Butler Pike
Maple Glen, Pa. 19002
MI 6-3873
Oct. 14, 1979

Mr. Richard Pepino, Project Monitor
EIS Preparation Section
U.S. EPA, Region III
6th and Walnut Streets
Phila., Pa. 19106

Dear Mr. Pepino:

In compliance with Mr. Schramm's requirements I am hereby submitting to you a copy of my proposed testimony to be presented at the Oct. 23rd hearing at the Keith Valley Middle School in regard to the Draft EIS.

I know you appreciate our sense of pleasure and relief to receive the long awaited Draft EIS after these years of anguish over the fear of imposed sewers and unresolved sewage problems. If rational and unselfish minds prevail there need be no further suffering.

As you know, I have studied the Draft EIS carefully just as I have studied all documents and articles relating to the proposal for the last four years. You will recall that I have attended all public meetings and several "closed" EPA and DER meetings relating to the proposal when few if any township officials bothered to do so. My study of the many scientific, technological and economic advances that have been made in on-site wastewater treatment in recent years gives me the confidence that I can make an informed analysis and evaluation of the Draft EIS.

My overall evaluation and comments will be brief because it is imperative that I concentrate on a single (readily correctible) flaw in this Draft version of the EIS.

Alternative number 1 may be immediately dismissed because it is so similar to the original proposal which brought about so much opposition from many quarters with volumes of documentation of its faults, that are unnecessary to repeat here. Most of us were confident that it would be shown not to be cost effective and highly environmentally and socially damaging.

Alternative 2 is only slightly better since it still includes far too many homes that should not be sewerred.

Alternative 6 would have been appropriate 10 years ago had Horsham and the DER vigorously pursued a program of upgrading on-site alternatives and improving drainage patterns. Today it is obviously unacceptable. Alternative 5 is far too costly.

Alternatives 3 and 4 will apparently meet with the least amount of citizen opposition in Horsham since the Draft EIS indicates them to be the most cost effective, least burdensome to the individual home-owner, and most environmentally sound while still adequately addressing the problems.

Alternative 3 would probably be acceptable (with modification) but I am disturbed that it would apparently cost almost twice as much in Horsham as alternative 4 even though the local share would be slightly less. Also, a typical family of four would pay \$304 in annual charges for alternative 3 but only \$182 for alternative 4.

Alternative 4 also appears more attractive because the emphasis is on the appropriate technology for each individual area or household, an approach more in keeping with modern EPA philosophy, energy conservation, congressional mandate and good environmental sense (Krishnan, 1978). Alternative 4 makes it implicit, though not stated, that over a 20 year planning horizon on-site technology and scientific testing will advance at an ever accelerating rate so that upgrading can proceed ever faster on an individual basis at less expense and more readily than on a community-wide basis. Certainly it would be unwise to limit the alternatives to only sandmounds or conventional types of septic systems when better and better approaches continue to be available. In that light, it seems unrealistic to expect much use of holding tanks. The enormous amount of experience of the last 30 years in all parts of the developed world with blackwaste separation and greywater treatment can be considered within the present DER regulations and in the required 4% set-aside for innovative alternatives. It provides an ideal opportunity for the DER to use the Horsham experience to initiate the district management agency concept which it is, after all, mandated to do at an 85% federal cost share.

As we all know, residents have in many cases delayed taking appropriate action to correct septic problems because of the threat of sewers. With that threat lifted, an enlightened, progressive and aggressive program of preventive maintenance may be instituted along with the remedial measures. The Horsham Sanitary Board will be freed of any constraints in aiding the Sewage Enforcement Officer in swift correction of septic problems. The district management body would function in education of the public in methods of maintenance, water conservation and grease and solids reduction. It would oversee periodic septage removal by various means such as a periodic permit renewal and inspections. (Kishnan, 1978).

The Horsham Sanitary Board would be particularly interested in the appropriate on-site solutions because "the home-site itself is a kind of self-quarantine and does not carry the health risks associated with multiple-home collection sewers" (Calif. State Water Resources Control Board, 1977).

The flaw in the Draft EIS to which I earlier alluded relates only to the Maple Glen triangle but most particularly Welsh Road (between Limekiln and Butler Pikes) and Butler Pike (between Welsh Rd. and Limekiln Pike). As you are aware, the people in this area have vigorously opposed their inclusion in any sewerage scheme from the first announcement of the original proposal while supporting rapid action for those desiring solution to septic problems. Enclosed is a copy of a petition requesting that all of the Maple Glen residences (including a part of Limekiln Pike) be excluded. However, my remarks will refer only to Welsh Road and Butler Pike. I will let the people of Limekiln Pike speak for themselves. The three fourths of a mile of these two roads has 15 houses. Four of the houses are beyond 150 feet from the road and would not have to hook into any sewer although they would have to pay front footage.

None of these residences have septic problems that could not be solved by conventional means. Unlike the areas where problems have arisen, e.g., the Fox development, the houses are widely spaced with considerable acreage and the drainage is reasonably good.

It should be noted that the 1978 aerial imagery survey indicated no problems there. Horsham Clinic gravity flows to Limekiln Pike or Tennis Avenue and is soon to be connected to the Upper Dublin sewer system.

What would an interceptor line along Welsh Road and Butler Pike accomplish?

1. It would not solve present septic problems if they don't exist. Many so-called failures are nothing of the kind. "The definition of on-site system failure has never been agreed upon by any administrative, regulatory, academic, or scientific authority" (Calif. State Water Resources Board, 1977). Any repairable drainfield that is simply neglected or temporarily broken is not a failure. Almost all reported "failures" in health department or private surveys are simply a matter of neglect or ignorance. Even though the "failure" is repairable, these surveys call them failures as if they could never again be made to work (Warshall, 1979). Symptoms indicate the need for repair or corrective action. Unfortunately, the threat of sewers has prevented corrective action in far too many instances.
2. The four homes beyond 150 feet would continue with their septic systems as usual and sewers would prevent no problems there should they ever be allowed to develop.
3. Cost to homeowners for sewers would vary greatly at \$10/foot + \$270 connection fee + cost of hook-up line to house (assuming also about \$10/foot), destruction to landscape, etc. Costs would probably range from \$2,000 to \$10,000 or more per household. As an example, the Hughes residence:

Front footage = 300 feet x \$10 =	\$3,000
Connection fee..... =	270
Pipe to house 145 ft x \$10+ =	1,500
First year sewage treatment fees (\$137-\$444) average \$230 =	230
	<u>\$5,000</u>

Other costs of "construction" of interceptor lines such as noise, inconvenience, pollution, erosion, and eventual stimulus of subdivision are not easily quantifiable. Uniform front footage fees which have been suggested would benefit those such as the Hughes' but would put an added burden on those with

less frontage and would probably not be sustained in court. It should be noted that since we own an adjoining lot, a sewer line would just make it easier to build on it and we would come out ahead financially. The interceptor costs could force us to sell out but further subdivision would not be in the best interests of the community.

4. Costs to other taxpayers would be unnecessarily greater if these streets were sewerred. For example, since the federal government pays 75% of the pipeline costs, taxpayers are actually paying an additional \$30 per front foot above what the residents pay.
5. These burdensome costs may have several social effects. There is a greater likelihood of subdivision. This would mean loss of forest or agriculture, more impervious surfaces, more flooding, more water withdrawn from wells, etc. Four of our families may be considered senior citizens on fixed incomes and may not be able to absorb this financial burden. Others may have to borrow and take years to pay back the loan with interest.
6. Tremendous energy will be wasted in "construction" and pumping and at the sewage treatment plant at a time when we desperately need to find ways to conserve all the energy we can.
7. The public law 92-500 requirements to investigate possible means of reuse and recycling of water on Butler Pike and Welsh Roads will not be satisfied since water there is presently being recycled and, to some extent, being reused after greywater treatment.

The total cost of the interceptor scheme along Welsh Road and Butler Pike will be at least \$40,000 front footage (\$40,000 x 4,000 feet of front footage) plus:

\$2,970	connection fees
10,000	hook-up costs
2,530	1st year fee (230 x 11)
<u>55,500</u>	
\$120,000	other taxpayer's share (\$30 x
<u>\$175,500</u>	4,000 ft. fnt. ftg only)

Thus it will cost approximately \$16,000 as an absolute minimum per household to reduce the quality of life for the residents with, on

balance, an environmental deterioration.

As a means of comparison, it cost only \$150,000 to construct the sewage treatment facility at Neshaminy Village in Montgomery Township for 600 homes!

In summation it would be a considerable saving of taxpayer's money, a further safeguarding of our environment and energy resources, and a salvation to our less affluent citizens if that portion of Welsh Road and Butler Pike were simply removed from all the alternatives. Since these roads are at the very beginning of the collection system, they are not needed for conveyance to other areas. To include these roads would only cause delay for those in need. To include them when much more cost-effective alternatives exist would be socially, environmentally and fiscally unconscionable.

Sincerely,

Stuart W. Hughes
Stuart W. Hughes

References

- California State Water Resources Control Board, Rural Wastewater Disposal Alternatives, Final Report - Phase 1, Sept., 1977, p.37
- Krishnan, S. Bala, EPA Sanitary Engineer, Washington D.C.,
"An Approach to Concept and Design of Wastewater Treatment Facilities for Rural and Semirural Communities and Fringe Areas of Cities," Individual Onsite Wastewater Systems, Proceedings of the Fifth National Conference 1978, Ann Arbor Science Pub. Inc., 1979, p. 74
- Warshall, Peter, Septic Tank Practices, Anchor Press, 1979, pp. 142-143

P.S. I assume you found the just-released DRBC water resources study quite interesting. In regard to their statement that water consumption in the four state area must be reduced by 15%, may I again point out that our highly successful composting toilet has saved us 40%. They also reiterate that one source of water waste has been regional sewage treatment plants supplanting the aquifer recharge from septic systems.

721 Butler Pike
Maple Glen, Pa. 19002
November 9, 1979

Mr. Richard Pepino
EIS Preparation Branch
U.S. Environmental Protection Agency
Region III
6th and Walnut Streets
Philadelphia, Pa. 19106

Dear Mr. Pepino:

As you well know, my immediate concern is the extrication from any of the alternatives, of the 14 residences on Butler Pike and Welsh Road. However, as a member of the Horsham Township Sanitary Board and because of my professional interests, I feel a responsibility to make a few final points about the prepared comments of the Horsham Sewer Authority which were not read by Mr. Maxwell at the hearing. You may wish to investigate who drafted the comments (I believe Mr. Maxwell) and determine whether it was approved before hand by all the Authority members.

It is the following paragraph which is most disconcerting and demands comment:

"The Authority feels that Alternative IV is totally unworkable for reasons previously set forth. In addition, the Township of Horsham Sewer Authority must express great reservation as to the ultimate feasibility of Alternative III as well...."

The statement claims to set forth reasons but is not preceded by reasons, only questions, each of which I would like to answer. It appears that Mr. Maxwell, and perhaps some members of the Authority, assume that if Alt. IV were recommended the responsibility for establishment of the Management District would necessarily fall to the Sewer Authority. I would question this on legal, technical and socially practical grounds.

If no sewerage is installed in the Mgt. Dist. and all solutions involve on-site methods, I suspect the Sewer Authority has, at present, no legal authorization to administer the program there. As you know, Pennsylvania has a rather unique system of state-local control over on-site wastewater treatment through state-certified sewage enforcement officers who are chosen and employed by the

township. He is authorized to perform site evaluations, system designs and installations, inspections and citations^{for} noncompliance. In Horsham his duties are legally reinforced by the Sanitary Board which must have at least one physician, and operates under the joint authorization of the DER and State Board of Health. The point of this is that it seems much more logical that the Mgt. Dist. would legally fall within the purview of the sewage enforcement officer and the Sanitary Board, not the Sewer Authority. I might add that I anticipate taking the sewage enforcement officer training program in order that I might better aid Mr. Fell (our s.e.o.).

The Horsham Sewer Authority cannot be expected to have the experience, expertise or motivation to make on-site systems work. Apparently, judging from the questions he posed, Mr. Maxwell is not familiar with some of the presently existing management district programs in Acton, Ma.; Marin Co., Ca.; Georgetown, Ca.; Stinson Beach, Ca.; Fairfax Co., Va.; Port Charlotte, Fl., etc.

The following comments refer specifically to the questions posed on pp. 2 and 3 of the prepared comments of the Sewer Authority. Question B. Right of entry procedures for the sewage enforcement officer are already in position. Homeowners are generally anxious to cooperate.

Question C. Maintenance financing may be worked out in various ways but with consultation of the involved residents. The Horsham Sewer Authority has yet to recognize the value of seeking public input. Costs will certainly be lower than sewer rates in neighboring areas, - another reason why residents should favor the management district concept.

Question D. Mr. Maxwell's comment about the possible stimulation of growth in other areas of the township is ludicrous. It's sewers that stimulate growth. Alt. IV proposes nothing that cannot presently be installed in the rest of the township. New construction would not be subsidized. There is no reduction in lot size requirements or zoning changes.

Question E. Alternative IV does not require land acquisition.

Question F. If the systems function well after the two year free replacement period, the cost of further maintenance would and should be the responsibility of the homeowners just as it is with any

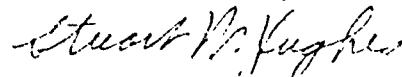
on-site system. The two year period should be sufficient to find a workable solution. Local revenue would certainly be needed to maintain sewers.

Question G. The 20 year planning horizon suggested for Alt. IV may be reasonable but the increasing use of holding tanks suggested in paragraph 2, p. 4-38 of the DEIS seems unrealistic when you consider that the Township will continue and probably accelerate drainage improvements which will alleviate many of the seasonal high water problems associated with most of Horsham's on-site problems. Most disturbing is the suggestion in the DEIS that the residents are limited to three options and apparently would not even be offered the best, most reliable, most pleasing blackwaste separation and greywater treatment and reuse systems. I hope this option may be provided in the final EIS. I am confident that, with education, some will opt for such systems.

Question H. I believe there are no bona fide cases of TCE or PCE pollution in the well water in subareas 3 and 4 (or 8). TCE use in septic systems and any such toxic or carcinogenic substance can be prevented from further contamination by a vigorous program of education in the care and feeding of on-site systems as would be undertaken by the management district.

With these thoughts in mind perhaps we can move forward with this opportunity to solve Horsham's problem with the most cost effective alternative.

Sincerely yours,



Stuart W. Hughes

The following residents of Butler Pike, Limekiln Pk.
 and Welsh Road ^{Norristown Rd.} feel it is Unfair and Unnecessary
 to be included as a Part of the Hockham
 Sewer System

Name	Address	Phone
Stuart & Elaine Hughes	721 Butler Pike	Mi 6-3873
George & Jean Shaffer	717 + 715 Butler Pike	646 0185
John & Maria Leone	929 Limekiln Pk	Mi 6-1819
Dennis & Nancy Fanning	725 BUTLER PIKE.	542-9239
Tony & Donna Ljott	713 Butler Pike	542-8191
Joseph W. & Ida Buckee	917 Limekiln Pk	643-12
Carl & Sylvia Richards	711 Butler PKE	542-8210
Harry J. Nesbitt Jr	708 Butler Pike	643-428
Margaret W. Richardson	923 Limekiln Pike	Mi. 6-7745
Patricia McLaughlin	921 Limekiln Pike	542-7859
Thomas J. McLaughlin	921 Limekiln Pike	542-7859
Paul Hony	913 Limekiln Pk.	643-3916
Lorraine Luriga	913 Limekiln Pk.	643-3991
Mr. Dominic R. Santino		Mi 6-1630
Mrs Dorothy M. Day	909 Limekiln Pk	643-373
Joseph B. Bortis	Limekiln Pike	Mi 6-4619

It is Unfair and Unnecessary to be Included in the Planned
Horsham Senior Project

John E. Kauffeld 643-4953
920 Limekiln Pike

Ann & Alfred Korn
924 Limekiln Pk MI 6 4757

Mrs. D. E. Moore 907 Limekiln Pike

Mr. & Mrs. A. J. Veenke

938 Limekiln Pike

Maple Glen Pa. 643-1018

Mr. & Mrs. George Felbin

950 Limekiln Pike

Maple Glen, Pa. MI 6-9198

Mr. & Mrs. D. Alex Limekiln Pk.

MI 6-5597

Mr. & Mrs. Jonathan Pera

918 Welsh Rd

Maple Glen, Pa MI 6, 8829

Mrs. & Mrs. Karl L. Stahl MI 6-0565 (912 Welsh Rd) ~~MI 6~~

Mrs. & Mrs. William John Jr MI 6 8351 (910 Welsh Rd)

Albert C. Barber - 739 Norristown Rd. Norristown

Mrs. Alice Parfey 726 Norristown Rd MI 6 6454
(on 4th. paid have to sell)

Mr. Albert J. Kuefe 737 Norristown Rd
~~737~~ Nellie Diehl 737-A Norristown Rd (646-7429)

Mr. & Mrs. Albert McNeill 936 Limekiln (MI 6 4048)

Mr. & Mrs. H. S. Glasby

MI 6 1 1:0 P.M.

MT 1-7181 B-54

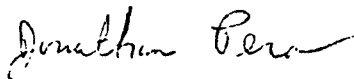
Jonathan Pera
918 Welsh Rd
Maple Glen, PA 19002
10/19/79

EIS Preparation Section
EPA Region III
6th & Walnut Sts
Phila Pa 19106

Gentlemen:

I'm writing this letter in hope that you will reconsider proposed plans for a sewer line along Welsh Rd. and Butler Pike North of Limekiln Pike. I'm a senior citizen living on a fixed income. The cost alone is enough to wipe out the meager savings I have. Only my wife and I live alone with no children, so the amount of waste produced from our household is minimal. During the last twenty years that we have lived at 918 Welsh Rd our spetic system had to be cleaned only twice. This would indicate that our system is certainly capable of handling our needs. Should this sewer system be installed, I would probably have to explore the possibility of subdividing my present lot so I could realize the needed money to pay for the sewer line. I fervently hope that you will consider my plan, as I feel that the benefit to me and my neighbors would be minimal.

Sincerely,


Jonathan Pera

cc: Mr. Hughs
721 Butler Pike
Maple Glen, Pa 19002

717 Butler Pike
Maple Glen, Pa. 19002
October 17, 1979

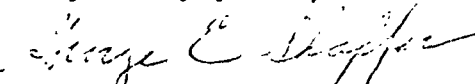
EIS Preparation Section
EPA, Region III
6th and Walnut Street
Philadelphia, Pa. 19106

Gentlemen:

We are enclosing a copy of a letter which we have sent to Stuart Hughes regarding the sewer project for Horsham Township.

The letter is self explanatory but we would like to know why Butler Pike is being included in your recommendations?

Very truly yours,


George E. Shaffer

717 Butler Pike
Maple Glen, Pa. 19002
October 15, 1979

Mr. Stuart Hughes
721 Butler Pike
Maple Glen, Pa. 19002

Dear Stuart:

Grace and I would like to thank you for the many hours you have spent studying the sewerage problems in our area. We know that you are more qualified along these lines than anyone else in this area and it means a great deal to us to have you looking after all our interests.

As you know, we have lived here for over twenty-five years and never have had any trouble with our cesspool.

There are only six homes along Butler Pike that would be tying into the sewer and the cost of providing sewerage for these six homes would be prohibitive. Of these six homes, we do not know of any that are having cesspool problems. We all have good drainage and you never see signs of water laying around except after a heavy rain. If there was a real need for sewers along Butler Pike we could understand it but why should we have to suffer when there really isn't any problem in our area? I grant you, there are some sections in the township that really have problems and we are in accord that something should be done to take care of them but we cannot understand why the large outlay of money where it is not warranted both to the individual homeowner and to all the other taxpayers in the township?

As you realize, we have 315 feet on Butler Pike which is only a headache for us. We cannot do anything with this ground as our lot is only three sided and we cannot build or sell off any of this frontage. I am over 72 years of age, working part time in order to try to maintain our standard of living without drawing on our savings. The cost of putting in sewerage would be ^{be} more than I get a year from Social Security. What does the township expect you to live on? The cost of living has gone sky high - we try to conserve on fuel, electricity and food. Where else can you cut corners in order to make ends meet? To borrow money for this sewerage project would be ridiculous. If we have trouble making ends meet now, how can we ever expect to pay off a loan, plus sewerage rent, etc? We have tried to live within our income and felt reasonably sure that we would be able to keep on living in our home but with this in mind now, we really don't know which way to turn. There seems to be no solution as we can't live anywhere any cheaper than where we are.

Again let us say thank you for all that you have done for the community and we trust that someone along the line will listen to you.

Sincerely,

B-57

George and Grace Shaffer

HIDEAWAY HILLS CIVIC ASSOCIATION

HORSHAM TOWNSHIP

AMBLER, PENNSYLVANIA 19002

12 Oct. 1979

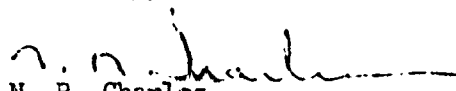
EPA-Region III
6th & Walnut Streets
Philadelphia, Pa.

Dear Sirs:

As President of the Hideaway Hills Civic Association, Horsham Township, Montgomery County, Pa., I wish to testify at the Public Hearing scheduled for 7:30 PM on 23 October 1979. My presentation will not exceed the five minute time limit and will be limited to statements concerning the following:

1. A statement to the effect that a need for public sewer service has existed in Hideaway Hills for many years and that this need has become even more critical in recent years.
2. That because of our neighborhood topography and poor soil conditions many of the On-Site disposal systems do not function properly. This condition adversely effects the health, safety and welfare of all the residents.
3. That for a period of approximately ten years, the residents of Hideaway Hills has appealed to the appropriate governmental officials for the construction of a public wastewater collection system. That because of this lengthy delay, the residents have been exposed to a very unhealthy environment. Furthermore, property values are declining as the situation becomes worse and worse.
4. We, the residents, therefore most strongly urge a prompt and favorable decision for the construction of a public wastewater collection system. We further request that this system be financed at the minimum possible cost to the property owner.

Sincerely,


N. R. Charles
1221 Joseph Road
Ambler, Pa. 19002
616-5170

APPENDIX C

Cost of Alternatives



Table C-1.

Summary of Alternative 2 costs apportioned by municipality, adjusted to 1980.

<u>Municipality</u>		<u>Total Construction Costs</u>	<u>Federal Share</u>	<u>Local Share</u>
Horsham		4,865.5	3,412.3	1,453.2
Warminster	(1)	7,057.7	5,293.3	1,764.4
	(2)	7,111.4	5,333.5	1,777.9
	(3)	7,853.3	5,889.9	1,963.4
	(4)	7,907.1	5,930.3	1,976.8
Warrington	(1)	5,362.2	3,839.4	1,522.9
	(2)	5,378.3	3,851.4	1,526.9
	(3)	5,600.0	4,017.7	1,582.3
	(4)	5,616.0	4,029.7	1,586.3
Total	(1)	17,285.4	12,545.0	4,740.5
	(2)	17,355.2	12,597.2	4,758.0
	(3)	18,318.8	13,319.9	4,998.9
	(4)	18,388.6	13,372.3	5,016.3

- (1) baseline STP expansion only
 (2) baseline STP expansion with dechlorination facilities
 (3) baseline STP expansion with denitrification facilities
 (4) baseline STP expansion with dechlorination and denitrification facilities

Table C-2.

Summary of Alternative 3 costs apportioned by municipality, adjusted to 1980.

<u>Municipality</u>		<u>Total Construction Costs</u>	<u>Federal Share</u>	<u>Local Share</u>
Horsham		4,657.5	3,530.0	1,146.7
Warminster	(1)	7,057.7	5,293.3	1,764.4
	(2)	7,111.4	5,333.5	1,777.9
	(3)	7,853.3	5,889.9	1,963.4
	(4)	7,907.1	5,930.3	1,976.8
Warrington	(1)	5,362.2	3,839.4	1,522.9
	(2)	5,378.3	3,851.4	1,526.9
	(3)	5,600.0	4,017.7	1,582.3
	(4)	5,616.0	4,029.7	1,586.3
Total	(1)	17,077.4	12,622.7	4,414.7
	(2)	17,147.2	12,714.9	4,432.3
	(3)	18,110.8	13,437.6	4,673.2
	(4)	18,180.6	13,490.0	4,690.6

- (1) baseline STP expansion only
 (2) baseline STP expansion with dechlorination facilities
 (3) baseline STP expansion with denitrification facilities
 (4) baseline STP expansion with dechlorination and denitrification facilities

Table C-3.

Cost of Alternative 2 wastewater facilities to be located in Horsham Township, by subarea, adjusted to 1980. GS indicates gravity sewer. Costs are in thousands of dollars.

<u>Subarea</u>	<u>Cost Item</u>	<u>Capital</u>	<u>Grant Eligible Capital</u>	<u>Local Share</u>
4	21,540'-8"GS	577.8	433.4	
	6,540'-6"GS	84.2	23.2	
	0.2 mgd lift station	66.1	49.6	
	5,800'-8"force main	161.8	121.4	
5	9,721'-8"GS	260.7	195.5	
	2,400'-6"GS	31.0	8.5	
7	12,700'-8"GS	340.7	255.5	
	5,500'-6"GS	70.8	29.2	
	0.4 mgd lift station	107.6	80.7	
	2,500'-6"force main	59.0	44.3	
	4,700'-10"force main	161.4	121.0	
8	17,000'-8"GS	456.0	342.1	
	5,480'-6"GS	70.6	29.1	
	0.075 mgd lift station	33.0	24.8	
	2,500'-6"force main	59.0	44.3	
Engineering, Administration, and Contingencies		<u>685.8</u>	<u>486.7</u>	
Total Costs		3,225.5	2,289.3	936.2

Table C-4.

Cost of Alternative 2 wastewater facilities to be located in Lower Gwynedd Township, adjusted to 1980. Capital costs indicated are that portion of total capital costs assigned to Horsham Township. Costs are in thousands of dollars.

<u>Cost Item</u>	<u>Capital</u>	<u>Grant Eligible Capital</u>	<u>Horsham Twp. Local Share</u>
10,000'-10" force main	383.0	287.3	
12,600'-10", 12", 21"GS	707.0	530.3	
7,500'-24"GS	129.0	96.8	
Engineering, Administration, and Contingencies	<u>421.0</u>	<u>208.6</u>	
Total Costs	1,640.0	1,123.0	546.0 ^a

^aIncludes capital contribution for Wissahickon Interceptor.

Table C-5.

Cost of Alternative 3 wastewater facilities to be located in Horsham Township by subarea, adjusted to 1980. Costs are in thousands of dollars.

<u>Subarea</u>	<u>Cost Item</u>	<u>Capital</u>	<u>Grant Eligible Capital</u>	<u>Local Share</u>
4	21,540' pressure sewer system	492.1	418.3	
	0.16 mgd community soil absorption systems	717.8	610.2	
5	12,121' pressure sewer system	206.4	175.5	
7	12,700'-8"GS	340.7	255.5	
	5,500'-6"GS	70.8	29.2	
	0.17 mgd lift station	56.2	42.2	
	2,500'-6"force main	59.0	44.3	
	4,700'-8"force main	131.1	98.3	
8	17,000'-8"GS	456.0	342.0	
	5,480'-6"GS	70.6	29.1	
	0.075 mgd lift station	33.0	24.8	
	2,500'-6"force main	59.0	44.3	
Engineering, Administration, & Contingencies		<u>727.1</u>	<u>570.7</u>	
Total Costs		3,419.8	2,684.3	735.5

Table C-6.

Cost of Alternative 3 wastewater facilities to be located in Lower Gwynedd Township, adjusted to 1980. Capital costs indicated are that portion of total capital costs assigned to Horsham Township. Costs are in thousands of dollars.

<u>Cost Item</u>	<u>Capital</u>	<u>Grant Eligible Capital</u>	<u>Horsham Twp. Local Share</u>
10,000'-8" force main	260.0	195.0	
59.0% Share of Cost of Willow Run Relief Sewer	592.7	444.5	
7.4% Share of Cost of Lower Wissahickon Relief Sewer	63.7	47.8	
Engineering, Administration, and Contingencies	<u>321.3</u>	<u>158.4</u>	
Total Costs	1,237.7	845.7	411.2 ^a

^aIncludes capital contribution for Wissahickon Interceptor.

Table C-7.

Cost of Alternative 2/3 wastewater facilities to be located in Warminster Township, by subarea, adjusted to 1980. Costs are in thousands of dollars.

Subarea	Cost Item	Capital	Grant Eligible Capital	Local Share	
				Warrington	Warminster
11	4.1 mgd Expansion of the Warminster STP:				
	- Preliminary Treatment	106.6	79.9		
	- Aeration	1,202.7	902.0		
	- Final Clarification	442.8	332.1		
	- Activated Carbon:				
	storage, feed, mix and floc.	178.8	134.1		
	- Filtration	897.9	673.5		
	- Aerobic Digestion	964	723.0		
	- Sludge Dewatering	531.7	398.8		
	- Electrical Instrumentation and Controls	1,053.4	790.1		
		<u>5,378.0</u>	<u>4,033.5</u>	<u>537.8</u>	<u>806.7</u>
	7.9 mgd Upgrading of the Warminster STP:				
	- Chlorination	187.8	140.9		
	- Biological Nitrification	1,627.3	1,220.4		
	- Lab Facilities	200.3	150.2		
		<u>2,015.3</u>	<u>1,511.5</u>	<u>115.9</u>	<u>387.9</u>
	50% I/I Reduction (Warminster Sewer System)	778.6	583.9	--	194.6
	Engineering, Administration and Contingencies	<u>2,206.4</u>	<u>1,654.8</u>	<u>176.5</u>	<u>375.1</u>
	Total Costs	10,378.3	7,783.7	830.2	1,764.3

Table C-8.

Cost of Alternative 2/3 wastewater facilities to be located in Warrington Township by subarea, adjusted to 1980. GS indicates gravity sewer. Costs are in thousands of dollars.

Subarea	Cost Item	Capital	Grant Eligible Capital	Local Share
2	3,493'-20"GS	228.7	171.5	
	7,373'-12"GS	261.1	195.8	
	4,459'-18"GS	224.9	168.7	
	20,960'-8"GS	562.3	421.7	
	15,200'-6"GS	195.7	80.7	
11	80% I/I Reduction (Valley Road STP Sewer System)	135.0	101.3	
	Engineering, Administration, and Contingencies	<u>434.0</u>	<u>325.5</u>	
	Total Costs	2,041.6	1,465.2	576.4

**Sewers: Horsham
May Take Plunge**

Horsham's sewage aimed at Ambler plant
Condition

Warminster's sewer bills

Soup Sues

[illegible]

**Some Warrington
water rates
will increase**

PUBLIC HEARING

Discovery Of THE Pollution Termed Fortunate

Document Due In Fall

Sewage Plant