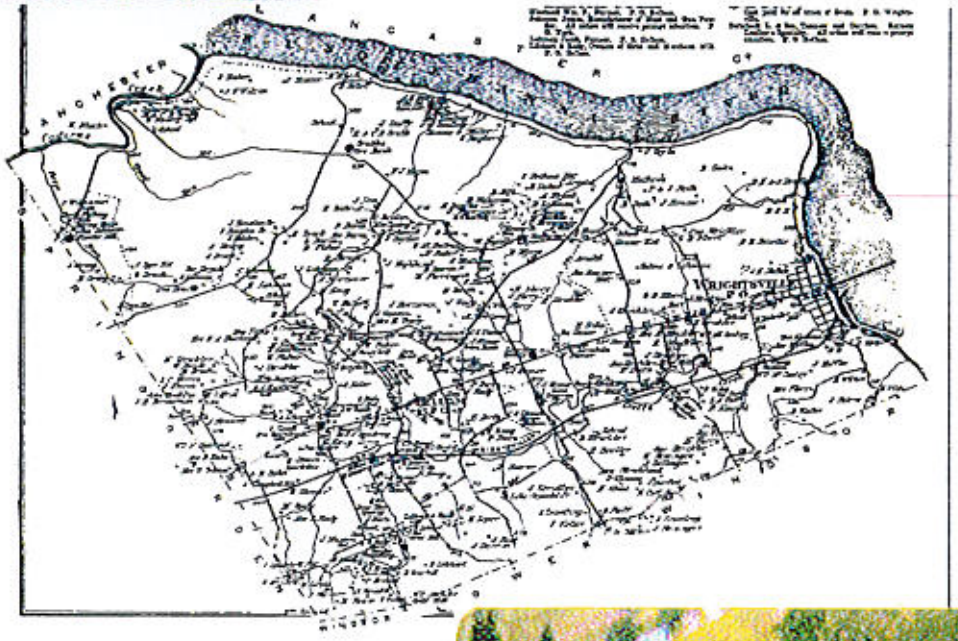
Hellam Township
Comprehensive Plan Update



Adopted
May 16, 2002

Print date January 9, 2004

RESOLUTION NO. 2005-11

TOWNSHIP OF HELLAM
YORK COUNTY, PENNSYLVANIA

A RESOLUTION OF THE TOWNSHIP OF HELLAM, YORK COUNTY, PENNSYLVANIA, AMENDING THE HELLAM TOWNHSIP COMPREHENSIVE PLAN TO REVISE THE GROWTH AREA BOUNDARIES AS SHOWN ON EXHIBIT P AND EXHIBIT T, AND TO AMEND THE FUTURE LAND USE MAP TO BE CONSISTENT WITH PROPOSED ZONING MAP CHANGES

WHEREAS, Hellam Township, by Resolution dated May 16, 2002 adopted a Comprehensive Plan for Hellam Township; and

WHEREAS, Section 302 of the Pennsylvania Municipalities Planning Code authorizes amendments to the Comprehensive Plan by resolution; and

WHEREAS, following due and proper notice and advertisement, the Board of Supervisors of Hellam Township held a public hearing to receive public comment and recommendation concerning the proposed amendment on April 7, 2005; and

NOW, THEREFORE, BE IT RESOLVED, by the Board of Supervisors of the Township of Hellam, and it is hereby resolved, in lawful session assembled, that the Hellam Township Comprehensive Plan is amended as follows:

1. Exhibit P. is hereby amended to revise the Future Growth Area Boundary and Interim Growth Area Boundary to reflect the boundaries as set forth on Exhibit "A", attached hereto.

2. Exhibit T. is hereby amended to revise the Growth Boundary as set forth on Exhibit "A" attached hereto.

3. The following changes are hereby made to the future land use map of the Township of Hellam shown on Exhibit P:

   A. Parcels No. 31000KK00100000000, 31000KK00110000000, 31000KK00120000000 and 31000KK00130000000 as set forth on Exhibit "B" attached hereto, are hereby changed from Residential to Rural Agriculture.

   B. Parcels No. 31000060001A000000 and 31000060001F000000 as set forth on Exhibit "C" attached hereto, are hereby changed from Residential to Commercial/Industrial.

   C. Parcels No. 31000LL00460000000, 31000LL00470000000 31000LL0047D000000, 31000LL00480000000, and 31000LL00490000000, as set forth on Exhibit "D" attached hereto, are hereby changed from Commercial/Industrial to Rural Agriculture.

4. The land and percentages shown on Exhibit P are hereby changed To read as follows:

Commercial/Industrial 494.96 acres/ 2.9%	Quarry 266.9 acres / 1.6%
Interchange 95.8 acres/ 0.6%	Residential 348.76 acres / 2.0%
Mixed Use 1 410.7 acres/ 2.4%	Rural Agriculture 15236.9 acres/ 89.0%
Mixed Use 2 264.1 acres / 1.5%	

ADOPTED, by the Board of Supervisors of the Township of Hellam, County of York, Pennsylvania, at a regular public meeting this 7th day of April, 2005, at which a quorum was present.

BOARD OF SUPERVISORS OF
HELLAM TOWNSHIP

BY: _____
Chairman

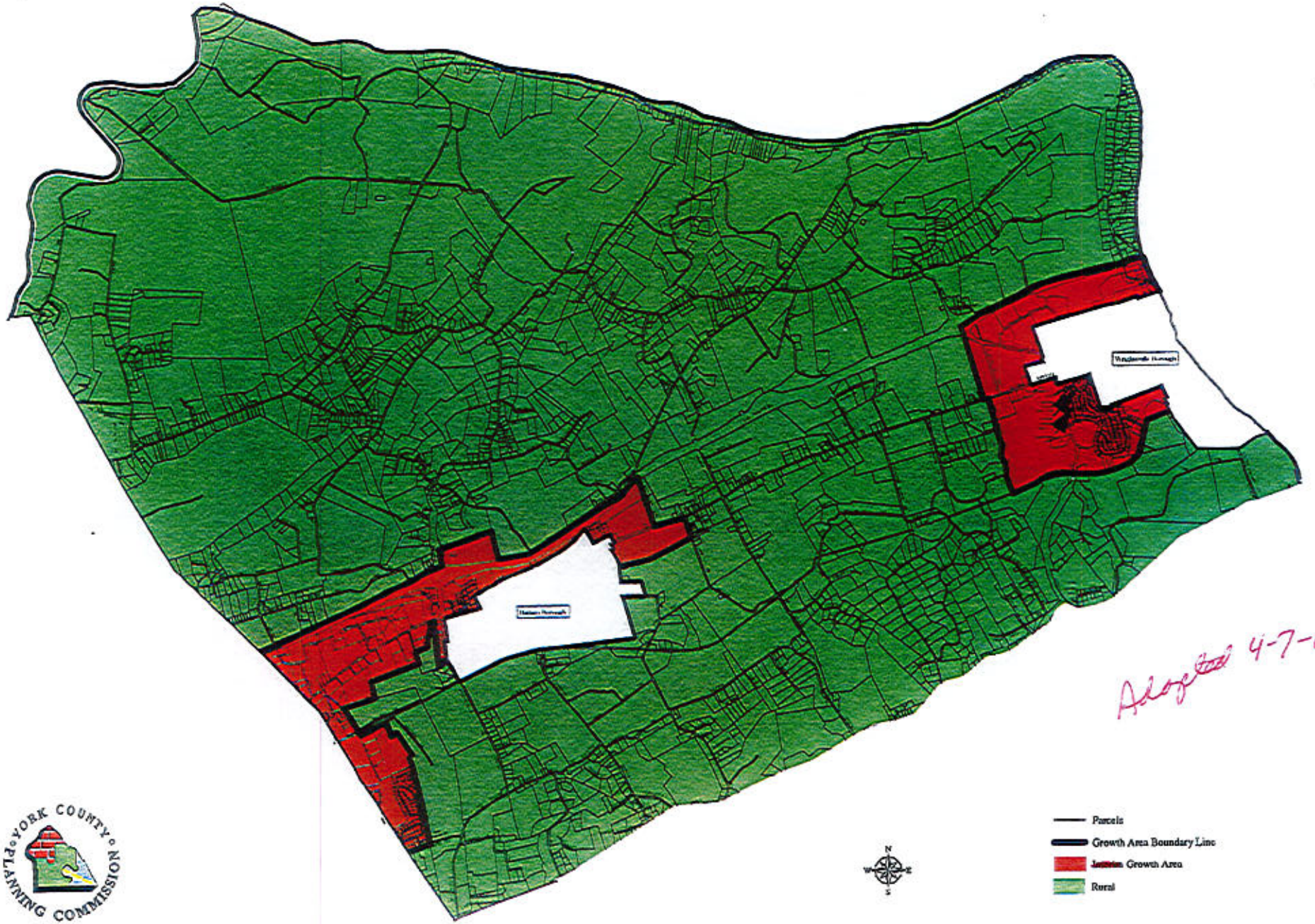
ATTEST:

_____
Secretary

CERTIFIED & SEALED
SECRETARY

Hellam Township Proposed Growth Areas and Boundary

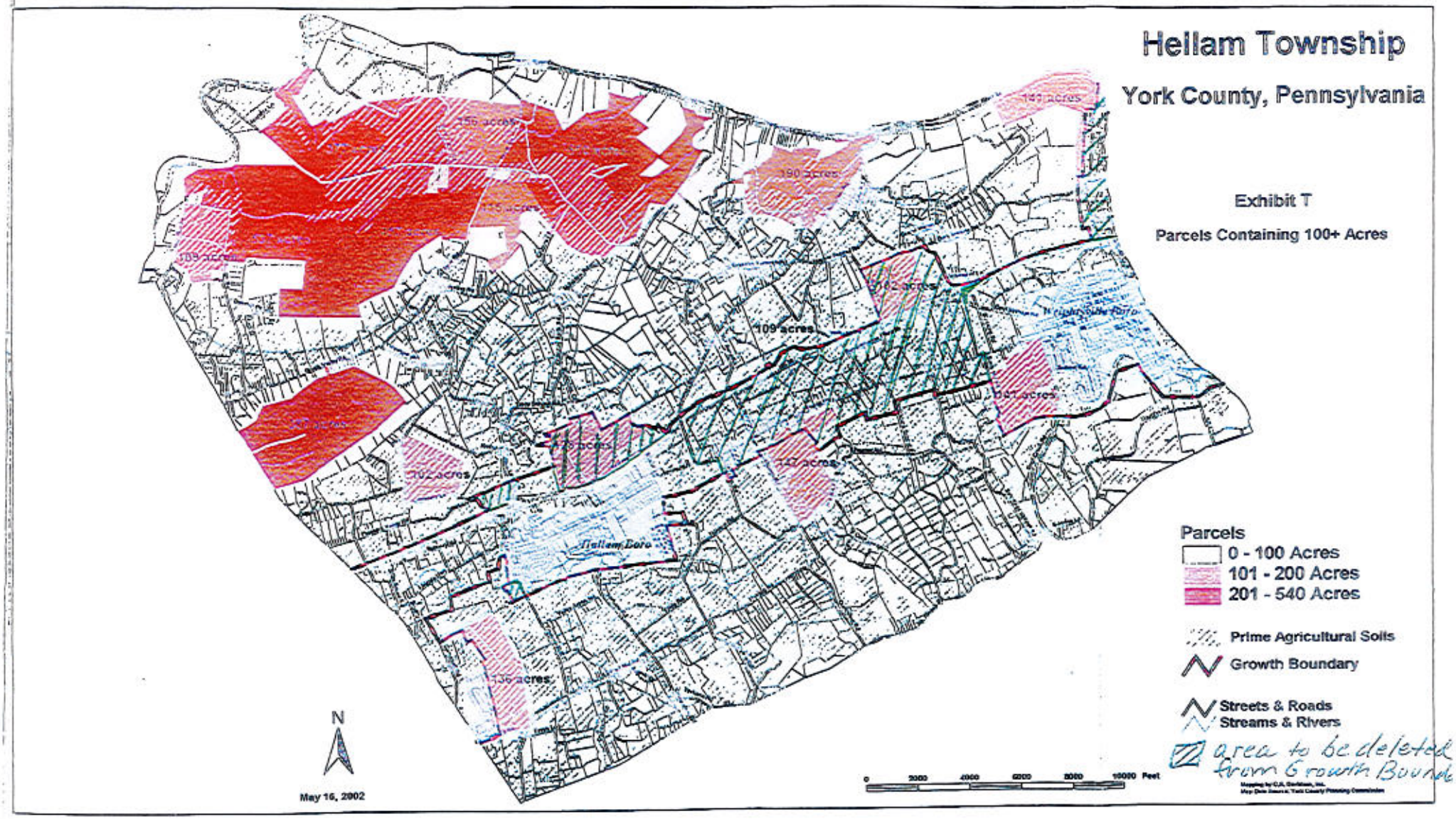
Exhibit A



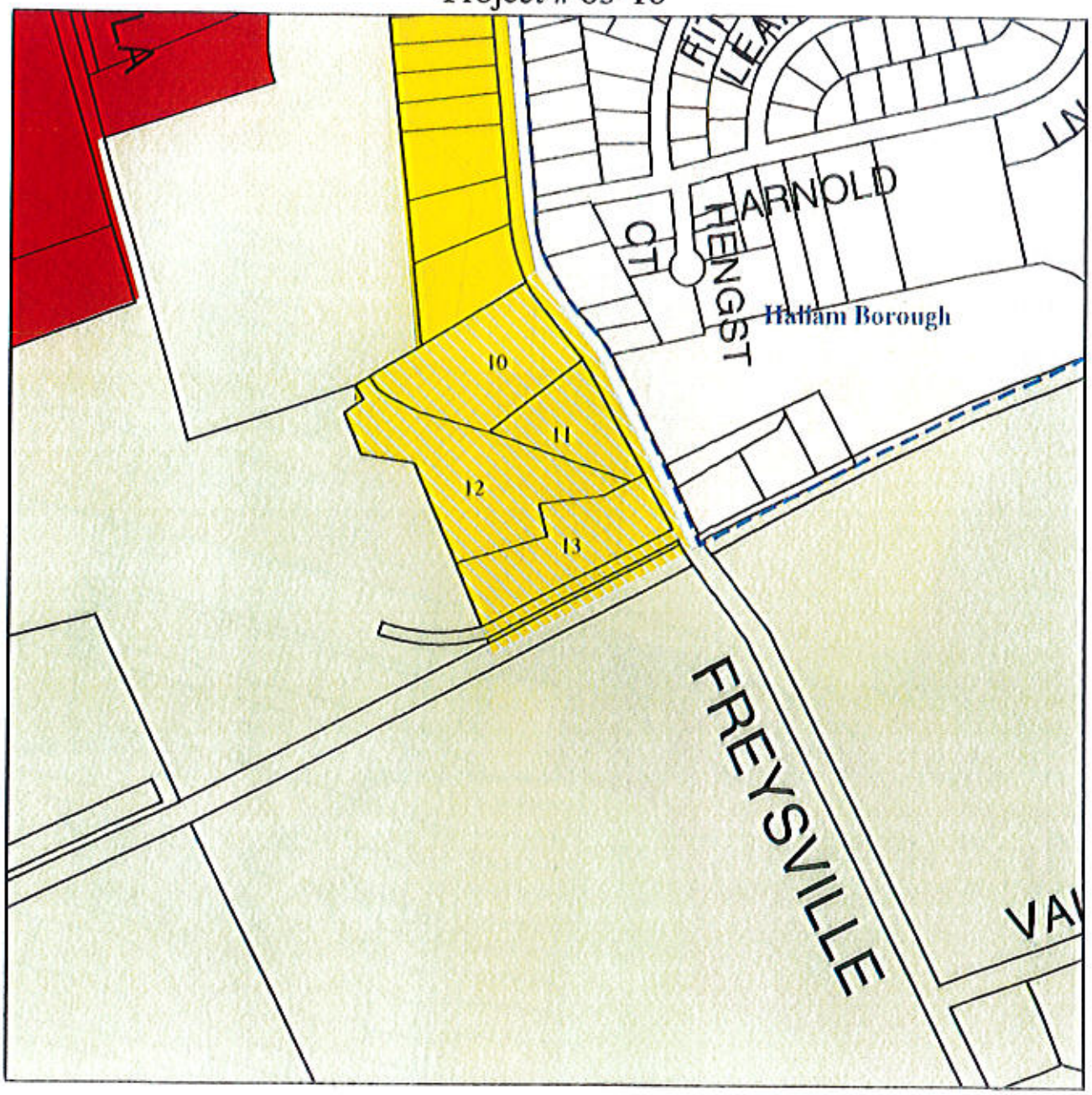
Adopted 4-7-07

YORK COUNTY PLANNING COMMISSION

Map created on
February 11, 2005


Hellam Township
York County, Pennsylvania
Exhibit T
Parcels Containing 100+ Acres
109 acres
Parcels
0 - 100 Acres
101 - 200 Acres
201 - 540 Acres
Prime Agricultural Soils
Growth Boundary
Streets & Roads
Streams & Rivers
area to be deleted from Growth Bound
N
May 16, 2002
0 2000 4000 6000 8000 10000 Feet

Hellam Township: R (Residential) to RA (Rural Agriculture)
Project # 05-16



This map is for review purposes only and is not an official future land use map.

Map Features

- Municipal Boundary
- Parcel Boundary
- Area of Land Use Change (R to RA)

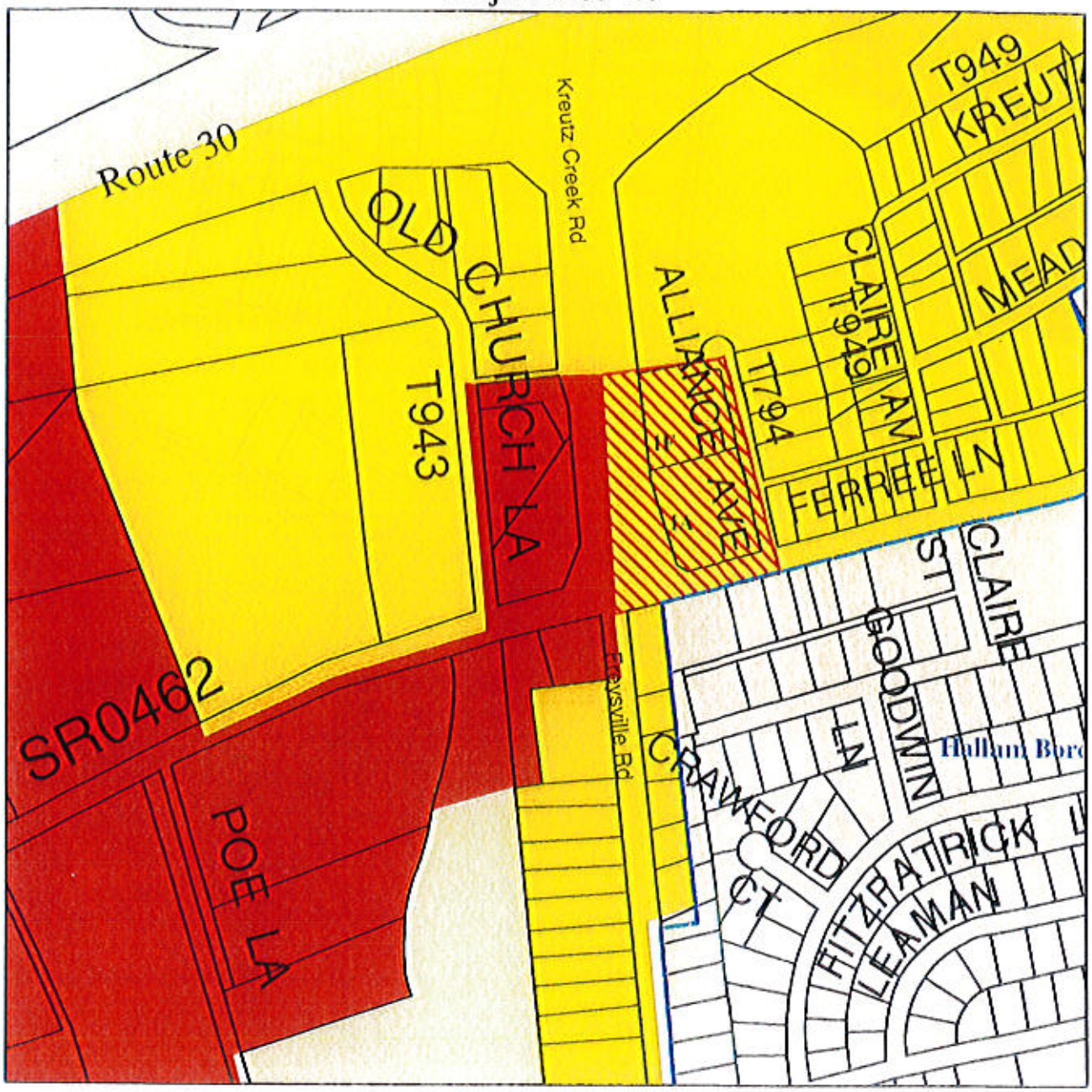
Hellam Township
Future Land Use

- C/I: Commercial / Industrial
- RA : Rural Agriculture
- R: Residential

Exhibit B

Map Created on February 10, 2005

Hellam Township: R (Residential) to C/I (Commercial / Industrial)
Project # 05-17



This map is for review purposes only and is not an official zoning map.

future landuse

Map Features

- Municipal Boundary
- Parcel Boundary
- Area of Rezoning (R to C/I) — Land use change

Hellam Township

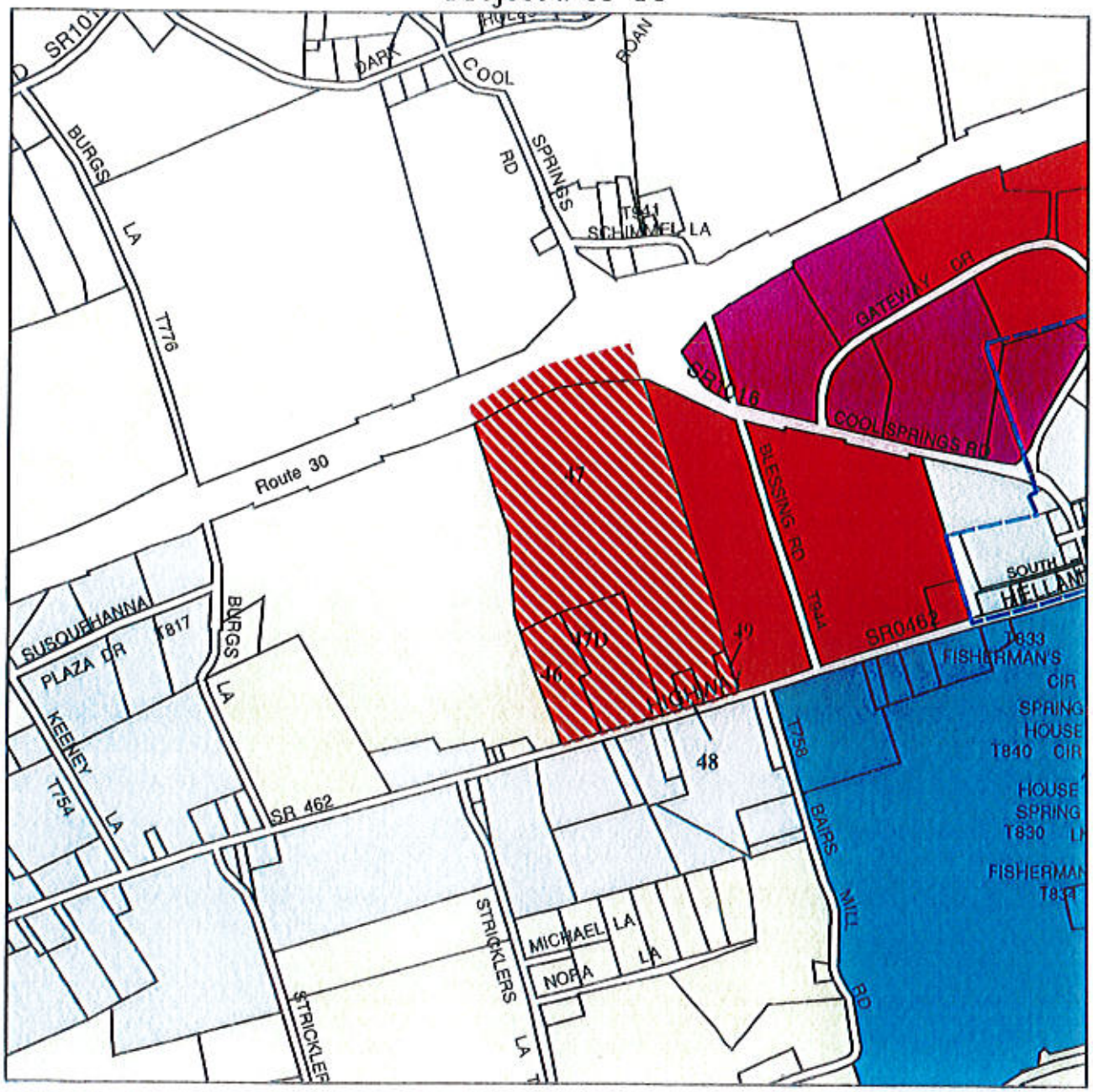
Zoning Code

- C/I: Commercial / Industrial
- RA : Rural / Agriculture
- R: Residential

Exhibit C

Map Created on February 10, 2005

Hellam Township: C/I (Commercial / Industrial) to RA (Rural Agriculture)
Project # 05-16



This map is for review purposes only and is not an official future land use map.

Map Features

- Municipal Boundary
- Parcel Boundary
- Area of Land Use Change (C/I to RA)

Hellam Township
Future Land Use

- C/I: Commercial / Industrial
- I: Interchange
- MU 1: Mixed Use 1
- MU 2: Mixed Use 2
- RA : Rural / Agriculture

Exhibit D

Map Created on February 10, 2005

RESOLUTION NO. 2017-09

TOWNSHIP OF HELLAM
YORK COUNTY, PENNSYLVANIA

A RESOLUTION OF THE TOWNSHIP OF HELLAM, YORK COUNTY, PENNSYLVANIA, AMENDING THE HELLAM TOWNHSIP COMPREHENSIVE PLAN TO AMEND THE FUTURE LAND USE MAP ON EXHIBIT P TO BE CONSISTENT WITH ZONING MAP CHANGES

WHEREAS, Hellam Township, by Resolution dated May 16, 2002 adopted a Comprehensive Plan for Hellam Township; and

WHEREAS, Section 302 of the Pennsylvania Municipalities Planning Code authorizes amendments to the Comprehensive Plan by resolution; and

WHEREAS, following due and proper notice and advertisement, the Board of Supervisors of Hellam Township held a public hearing to receive public comment and recommendation concerning the proposed amendment on May 18, 2017; and

NOW, THEREFORE, BE IT RESOLVED, by the Board of Supervisors of the Township of Hellam, and it is hereby resolved, in lawful session assembled, that the Hellam Township Comprehensive Plan is amended as follows:

1. The following change is hereby made to the future land use map of the Township of Hellam shown on Exhibit P:

    A. Parcel No. 31000KK00090000000 as set forth on Exhibit "A" attached hereto, is hereby changed from Residential to Commercial/Industrial.

2. The land and percentages shown on Exhibit P are hereby changed to read as follows:

Commercial/Industrial 496.32 acres/ 2.9%	Quarry 266.9 acres / 1.6%
Interchange 95.8 acres/ 0.6%	Residential 347.4 acres / 2.0%
Mixed Use 1 410.7 acres/ 2.4%	Rural Agriculture 15236.9 acres/ 89.0%
Mixed Use 2 264.1 acres / 1.5%	

ADOPTED, by the Board of Supervisors of the Township of Hellam, County of York, Pennsylvania, at a regular public meeting this 18th day of May, 2017, at which a quorum was present.

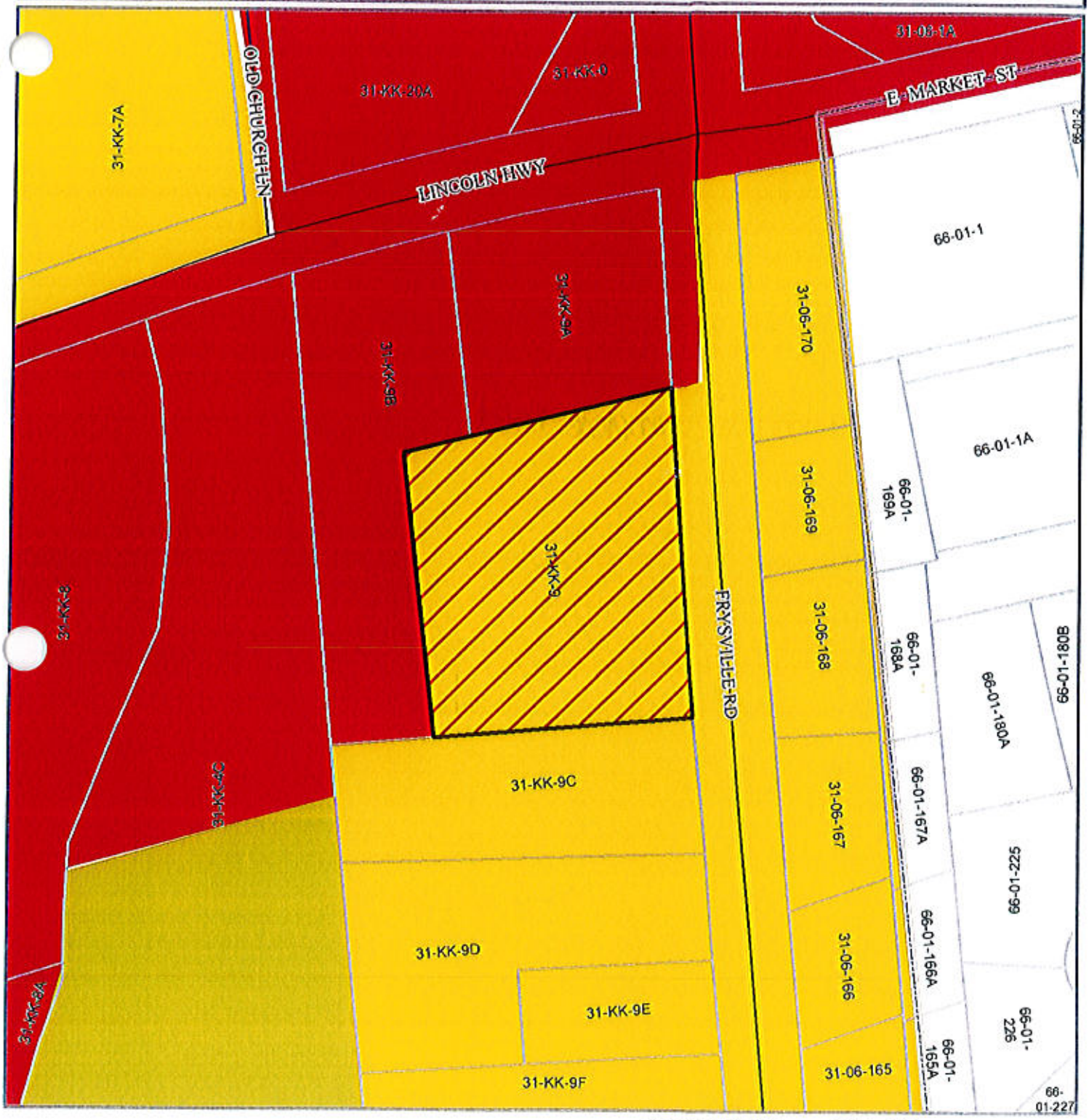
BOARD OF SUPERVISORS OF
HELLAM TOWNSHIP

BY: _____
Chairman

ATTEST:

_____
Secretary

HELLAM TOWNSHIP



R (Residential) to C/I (Commercial/Industrial)

Legend:

- Municipal Boundary
- Selected Parcels
- Parcels
- Proposed area to be changed from a R to a C/I future land use designation

Hellam Township Future Land Use Designations

- Commercial/Industrial
- Interchange
- Mixed Use (1)
- Mixed Use (2)
- Quarry
- Residential
- Rural Agricultural

0 0.05 0.1 0.15 0.2 0.25 Miles

0 30 60 90 120 150 Feet

1:1,200

Exhibit A

RESOLUTION NO. 2017-14

TOWNSHIP OF HELLAM
YORK COUNTY, PENNSYLVANIA

A RESOLUTION OF THE TOWNSHIP OF HELLAM, YORK COUNTY, PENNSYLVANIA, AMENDING THE HELLAM TOWNHSIP COMPREHENSIVE PLAN TO AMEND THE FUTURE LAND USE MAP ON EXHBIT P TO BE CONSISTENT WITH ZONING MAP CHANGES

WHEREAS, Hellam Township, by Resolution dated May 16, 2002 adopted a Comprehensive Plan for Hellam Township; and

WHEREAS, Section 302 of the Pennsylvania Municipalities Planning Code authorizes amendments to the Comprehensive Plan by resolution; and

WHEREAS, following due and proper notice and advertisement, the Board of Supervisors of Hellam Township held a public hearing to receive public comment and recommendation concerning the proposed amendment on December 21, 2017; and

NOW, THEREFORE, BE IT RESOLVED, by the Board of Supervisors of the Township of Hellam, and it is hereby resolved, in lawful session assembled, that the Hellam Township Comprehensive Plan is amended as follows:

1. The following change is hereby made to the future land use map of the Township of Hellam shown on Exhibit P:

   A. Part of Parcel No. 31000KK00010000000 (27.23 acres) as set forth on Exhibit "A" attached hereto, is hereby changed from Residential to Rural Agricultural.

2. The land and percentages tabulation along with the pie chart shown on Exhibit P are hereby removed.

ADOPTED, by the Board of Supervisors of the Township of Hellam, County of York, Pennsylvania, at a regular public meeting this 21st[th] day of December, 2017, at which a quorum was present.

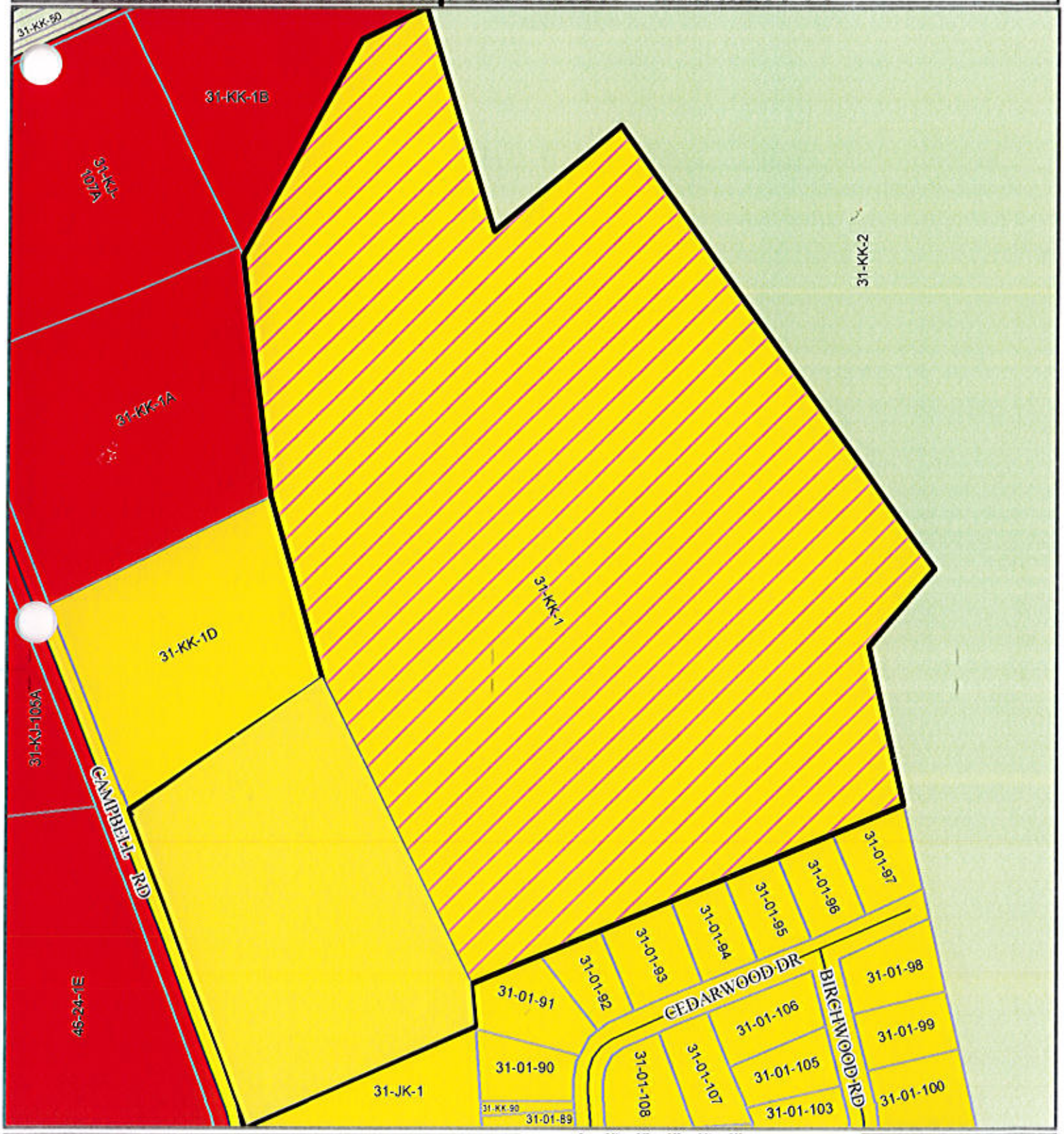
BOARD OF SUPERVISORS OF
HELLAM TOWNSHIP

ATTEST:

Corina L. Maus
Secretary

BY: John H. Wibley
Chairman

Hellam Township Comprehensive Plan Amendment
Future Land Use Map Revision - EXHIBIT A



Legend:

- Municipal Boundary
- Parcels
- Selected Parcels
- Proposed Area to be rezoned from R to RA

Hellam Township Zoning

- Commercial/Industrial
- Interchange
- Mixed Use (1)
- Mixed Use (2)
- Quarry
- Residential
- Rural Agricultural

0 0.01 0.02 0.03 0.04 0.05
Miles
0 80 160 240 320 400
Feet

1:2,697

Hellam Township
44 Walnut Springs Road
York, PA 17406

Map Printed on 1/11/2018

HELLAM TOWNSHIP
Est. 1729 First in York County

HELLAM TOWNSHIP
MUNICIPAL DIRECTORY
2002

Board of Supervisors
Phil Smith, Chairman
Richard Cloney, Vice-Chairman
Paul Dellinger
Martin Reed
Steward Leland

Township Manager
Norman B. Meiskey, III

Solicitor
Frank Countess, Esquire
Countess•Gilbert•Andrews

Planning Commission
Wayne Blessing, Chair
Barry Lehman, Vice-Chair
James Bair
Evamae Crist
John Eifert
Marge Franek
Jay Bair

Engineer
Mark Hilson
ARRO Group

Zoning Officer
James Baugh

HELLAM TOWNSHIP MUNICIPAL OFFICE
44 Walnut Springs Road
York, Pennsylvania 17406

Telephone: (717) 252-2623
FAX: (717) 252-1917

Hours: 8:00 A.M.– 4:30 P.M. (Monday — Friday)

Plan Prepared by:

GEHRINGER-ROTH ASSOCIATES
22-E East Roseville Road, Lancaster, PA 17601
Phone - (717)560-2022 / Fax - (717)560-2023
Email – gra1@dejazzd.com

Plan Updated by:

C.S.Davidson, Inc.
Excellence in Civil Engineering

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PREFACE

The late 1990s saw the development of a detailed Comprehensive Plan and a stringent Zoning Ordinance for Hellam Township. Soon after the 1996 Zoning Ordinance was completed, the Township began to receive complaints regarding the restrictions on private property rights generated by the Ordinance. C.S. Davidson, Inc. was hired in 2000 to do a partial update of this Comprehensive Plan, which was originally prepared by Gehringer-Roth Associates. This update is consistent in all respects with the requirements of the Pennsylvania Municipalities Planning Code, which empowers Townships to plan their development. Equally important, however, the Plan is a product of community commitment and involvement.

Public input was received during a series of rewrite committee meetings, which began on April 10, 2000 and continued until March 26, 2001. The Hellam Township Board of Supervisors wishes to thank the members of the Rewrite Committee for their time and effort put forth during those public meetings. Due to their help, this Plan is a sound and innovative planning document that provides a clear vision into the 21st century.

I. INTRODUCTION

A. PURPOSE OF THE PLAN

Though Hellam Township lies between the 2 major urban-suburban settings of the cities of York and Lancaster, and is surrounded by areas experiencing rapid growth, the rural, abundant open space character of the Township still remains its predominant feature. The greenness of its wooded hillsides and stream valleys, its many farmsteads with their patch-work of rich agricultural lands, its location in the Susquehanna River drainage basin, the presence of the neighboring small towns of Hallam and Wrightsville Boroughs, and the location of Routes 30 and 462 through the Township all provide an attractive diversity in its landscape that makes the Township a desirable place in which to live and work.

The responsible stewardship of land use is one of the most significant issues Hellam Township residents will face in the 21st century. This stewardship promotes environmental quality and sustainability which are critical to the economic vitality of Hellam Township. In addition, this stewardship impacts water quality, farm protection, and land development. Leadership in this area will require vision that is both local and regional. Thoughtful land use planning can provide a rational and sound factual basis for local decision-makers to encourage the maintenance of the traditional rural landscape pattern, the diversity and quality of lifestyles and livelihood, and the rich natural and historical heritage that are uniquely Hellam Township. This Comprehensive Plan is designed to assist the elected officials and residents of Hellam Township to properly allocate the Township's resources toward the attainment of the Township's stated goals and objectives.

Some of the many benefits that Hellam Township citizens might reasonably expect from sound planning and management of growth and development in their township are as follows:

Residents - a more stable tax rate, higher quality environment, reduced traffic congestion, more convenient pedestrian-oriented communities, and improved community services and facilities

Developers - better knowledge as to where development is allowed, adequate infrastructure availability, lower development costs, greater assurance that the natural environment around their developments will be of high quality, making it easier to sell lots and houses

Business people - more predictability of return on investments because of location in an appreciating market, better use of existing transportation infrastructure

Property owners - greater stability and appreciation of property values

In summary, it can be stated that the main purpose of the Comprehensive Plan is to enable the decision-makers and residents of Hellam Township to direct and control the location, character and timing of growth and development in their community so that such development is environmentally sensitive to both ecological and aesthetic concerns and economically beneficial to both public and private interests.

B. MPC REQUIREMENTS

Pennsylvania's Constitution gives the General Assembly the power to enact laws that protect the public health, safety and general welfare of its citizens. The General Assembly has, in turn, given local municipalities primary responsibility for community comprehensive planning. Townships of the first and second classes in Pennsylvania are empowered by the Pennsylvania Municipalities Planning Code (MPC), Act 247 of 1968, to prepare and adopt comprehensive plans according to specified requirements and procedures. Revisions to the MPC made by Act 170 of 1988 expanded the subject matter and goals of comprehensive planning to enable municipalities to manage growth more effectively, and to provide greater protection for valuable farmland, environmentally sensitive lands and important cultural sites. These revisions also provide for transfer of development rights (TDR) from preservation areas to areas open for more intense development. Furthermore, Act 170 also requires that all counties in Pennsylvania prepare and adopt comprehensive plans and that municipal plans be generally consistent with the adopted county plans. Additional power is given to municipalities by this Act to carry out joint planning with each other. Additional extensive revisions to the MPC made by Acts 67 and 68 of 2000 involve a broad array of changes that affect counties, as well as townships and boroughs. The primary focus of the amendments is resource protection, consistency, cooperation, coordination, and multimunicipal planning all of which are intended to promote sound land use and improve or maintain the quality of life.

According to the most recent amendments to the MPC, Article III, Section 301 states that "the **municipal, multimunicipal or county** comprehensive plan, consisting of maps, charts and textual matter, shall include, but need not be limited to, the following related basic elements:

"(1) A statement of objectives of the municipality concerning its future development, including, but not limited to, the location, character and timing of future development, that may also serve as a statement of community development objectives as provided in Section 606.

"(2) A plan for land use, which may include provisions for the amount, intensity, character, and timing of land use proposed for residence, industry, business, agriculture, major traffic facilities, utilities, community facilities, public grounds, parks and recreation, preservation of prime agricultural lands, floodplains, and other areas of special hazard and other similar uses.

"(2.1) A plan to meet the housing needs of present residents and of those individuals and families anticipated to reside in the municipality, which may include conservation of presently sound housing, rehabilitation of housing in declining neighborhoods, and the accommodation of expected new housing in different dwelling types and at appropriate densities for households of all income levels.

"(3) A plan for movement of people and goods, which may include expressways, highways, local street systems, parking facilities, pedestrian and bikeway systems, public transit routes, terminals, airfields, port facilities, railroad facilities, and other similar facilities or uses.

"(4) A plan for community facilities and utilities, which may include public and private education, recreation, municipal buildings, fire and police stations, libraries, hospitals, water supply and distribution, sewage and waste treatment, solid waste management, storm drainage, and floodplain management, utility corridors and associated facilities, and other similar facilities or uses.

"(4.1) A statement of the interrelationships among the various plan components, which may include an estimate of the environmental, energy conservation, fiscal, economic development, and social consequences on the municipality.

"(4.2) A discussion of short- and long-range plan implementation strategies, which may include implications for capital improvements programming, new or updated development regulations, and identification of public funds potentially available.

"(5) A statement indicating that the existing and proposed development of the municipality is compatible with the existing and proposed development and plans in contiguous portions of neighboring municipalities, or a statement indicating measures which have been taken to provide buffers or other transitional devices between disparate uses, and a statement indicating that the existing and proposed development of the municipality is generally consistent with the objectives and plans of the county comprehensive plan."

"(6) A plan for the protection of natural and historic resources to the extent not preempted by federal or state law. This clause includes, but is not limited to, wetlands and aquifer recharge zones, woodlands, steep slopes, prime agricultural land, flood plains, unique natural areas and historic sites. The plan shall be consistent with any may not exceed those requirements imposed under the following:

(i) Act of June 22, 1937 (P.L. 1987, No. 394), known as "The Clean Streams Law";

(ii) Act of May 31, 1945 (P.L. 1198, No. 418), known as the "Surface Mining Conservation and Reclamation Act";

(iii) Act of April 27, 1966 (1st Sp.Sess., P.L.31, No.1), known as "The Bituminous Mine Subsidence and Land Conservation Act";

(iv) Act of September 24, 1968 (P.L.1040, No.318), known as the "Coal Refuse Disposal Control Act";

(v) Act of December 19, 1984 (P.L.1140, No.223), known as the "Oil and Gas Act";

(vi) Act of December 19, 1984 (P.L. 1093, No.219), known as the "Noncoal Surface Mining Conservation and Reclamation Act";

(vii) Act of June 30, 1981 (P.L.128, No.43, known as the "Agricultural Area Security Law";

(viii) Act of June 10, 1982 (P.L.454, No.133), entitled "An Act Protecting Agricultural Operations from Nuisance Suits and Ordinance Under Certain Circumstances"; and

(ix) Act of May 20, 1993 (P.L.12, No.6), known as the "Nutrient Management Act," Regardless of whether any agricultural operation within the area to be affected by the plan is a concentrated animal operation as defined under the act."

"(7) The comprehensive plan shall include a plan for the reliable supply of water, considering current and future water resources availability, uses and limitations, including provisions adequate to protect water supply sources. Any such plan shall be generally consistent with the State Water Plan and any applicable water resources plan adopted by a river basin commission. It shall also contain a statement recognizing that:

(i) Lawful activities such as extraction of minerals may impact water supply sources and such activities are governed by statutes regulating mineral extraction that specify replacement and restoration of water supplies affected by such activities.

(ii) Commercial agricultural production may impact water supply sources.

"(8) The municipal or multimunicipal comprehensive plan shall be reviewed at least every ten years. The municipal or multimunicipal comprehensive plan shall be sent to the governing bodies of contiguous municipalities for review and comment and shall also be sent to the Center for Local Government Services for information purposes. The municipal or multimunicipal comprehensive plan shall also be sent to the County Planning Commissions or, upon request of a County Planning Commission, a regional planning commission when the comprehensive plan is updated or at ten year intervals, whichever comes first, for review and comment on whether the municipal or multimunicipal comprehensive plan remains generally consistent with the county comprehensive plan and to indicate where the local plan may deviate from the county comprehensive plan.

"(9) The municipal, multimunicipal or county comprehensive plan may identify those areas where growth and development shall occur so that a full range of public infrastructure

services, including sewer, water, highways, police and fire protection, public schools, parks, open space and other services can be adequately planned and provided as needed to accommodate growth."

One of the most important elements of the Hellam Township Comprehensive Plan that is required by Section 301 (1) of Act 170 is the statement of community objectives which must include "the location, character and timing of future development." These objectives can then serve as the statement of community objectives that municipalities are required, under Section 606 of Act 170, to adopt and to implement by means of zoning regulations. The Comprehensive Plan also plays a critical role in guiding community development by providing a careful analysis and consideration of the facilities, needs and resources of the community which can serve as a sound basis for these zoning regulations.

In addition to providing a sound legal basis for zoning and land use regulations, the statement of objectives can also provide specific directions for guiding the location, character and timing of land use, if the statement of objectives is presented in the form of "a vision of desired future" for the municipality. This "vision" can be organized under two broad headings: 1. Focusing Growth, and 2. Protecting Resource Lands. This vision of a desirable future must be carefully written, for it will be closely examined by the courts as a statement of goals, objectives and policies of the Township in the event that its land use decisions should be challenged.

C. HOW TO USE THIS PLAN

This Comprehensive Plan has been assembled to serve several important purposes. Principally, the Plan is aimed at informing Township residents what the Township's vision for future development will be. Secondly, it is designed to assist Township officials in the administration of the Township's land use planning program. The Township's planning vision and major goals are set forth in Chapter II and repeated at the beginning of each applicable Plan chapter. Action-oriented policy recommendations intended to fulfill these goals have been expressed throughout the Plan text; these recommendations have been ***italicized*** and printed in ***bold letters*** so that the decision-maker's attention is immediately drawn to them. These recommendations include both those intended to guide the development of the Comprehensive Plan, termed "policy implications," and those intended to guide local decision-making after the adoption of the Comprehensive Plan, termed "implementation tasks." At the end of each chapter, all identified policy implications and implementation tasks set forth within the chapter are listed as a summary to the chapter. In addition, the Plan's major implementation tasks are summarized in the Implementation chapter. The several maps within the Plan have also been carefully prepared and colored so that the information can be easily visualized. The many analyses utilized throughout the study were devised to maximize utility of the findings. Step-by-step descriptions of these methodologies have been furnished to enable the reader to gain a better understanding of the issue, and its planning implications. Finally, a detailed table of contents appears at the beginning of the text which provides quick reference to the appropriate sections of the study. All of these features will aid local decision-makers in their evaluation of future planning proposals.

Another function of this Plan is its collection of important information. The term "Comprehensive Plan" accurately describes the composition of this report; its contents are quite comprehensive. Accordingly, the Plan provides convenient access to a wealth of up-to-date information concerning its many interrelated factors. This information will serve not only Township officials, but also public agencies, property owners, residents, business leaders, and prospective developers. The cataloging of existing conditions will also provide the groundwork upon which future Plan updates can be more easily accomplished.

Finally, the Plan conveys a set of policies regarding future development within the Township. These policies are based upon the community's vision for a desirable future and related objectives, and can be useful to many landowners. For example, residents can get a glimpse of land use that is projected around their homes. Prospective developers can use the Plan to package development proposals that conform to the Township's goals, thereby ensuring a smooth development review process. Business leaders can glean a sense of secure investment climate from the municipality's organized government administration and future land use scheme. In all, the Plan considers many competing interests and devises a strategy to assure their relative harmonious coexistence.

In summary, it is important for all of those persons involved and/or interested in the future of Hellam Township to read and understand this entire Plan, at least once. Then, local decision-makers should keep it handy when evaluating future development proposals, service adjustments, or public investments. The Plan's format will avail considerable information, analysis and expertise without requiring its complete rereading. In the end, it is hoped that the Plan will become a powerful yet practical tool in local decision-making.

D. PLAN FORMAT

The following sections of this Comprehensive Plan provide a framework of information that can be used by Hellam Township officials and citizens to make future decisions regarding those functions of local government that affect the health, safety and economic vitality of the lives of the people living and working in this township. The format of this Plan essentially follows that given in Article III, Section 301 of the MPC, as described in Part B of this chapter.

The Hellam Township Comprehensive Plan first provides a panoramic view of the regional setting of Hellam Township and a brief journey into the past to discover the historical roots that underlie its present rural character and cultural features. The unique setting, character and cultural pattern of this community largely define the values Hellam Township residents desire to see embodied in the expression of their local government's actions.

The Township's vision of a desirable future is presented in Chapter II. Here, the community's overall land use goals are discussed in terms of specific objectives. Chapter III contains inventories, maps and descriptions of the sensitive natural and cultural features of the Township which are irreplaceable and must be preserved to protect the economic vitality of the community and its heritage for future generations.

The remaining components of this Comprehensive Plan are presented by functional planning elements. The following outline identifies each chapter and specific planning element it focuses on:

Chapter IV - Demographic Analysis
Chapter V - Housing
Chapter VI - Economics Analysis
Chapter VII - Existing Land Use
Chapter VIII - Adjacent and Regional Planning
Chapter IX - Public Facilities and Services
Chapter X - Public Utilities
Chapter XI - Transportation System
Chapter XII - Future Land Use Plan
Chapter XIII - Implementation

Chapter XII, entitled Future Land Use, describes the Township's future development scenario as it relates to the Township's "vision for a desirable future," the Township's goals and objectives, and the policy recommendations identified in the previous chapters. Finally, Chapter XIII, Implementation, lists the important steps that need to be taken after the adoption of the Comprehensive Plan in order to fully implement the Township's "vision" and the Plan's policy recommendations.

E. REGIONAL SETTING

The future development of Hellam Township depends in many ways upon the rate of development of the larger region in which it is an integral part. For this reason, it is necessary to recognize the relationship of the Township to its larger regional context.

Hellam Township is centrally located on the eastern boundary of York County along the Susquehanna River in southcentral Pennsylvania. The Township is roughly 5 miles wide and 5 miles long at its longest dimensions and contains a total area of 27.9 square miles. It is bordered by East Manchester Township to the north, Springettsbury Township on the west, and Windsor and Lower Windsor Townships on the south (see Exhibit A). Wrightsville and Hallam Boroughs are both nearly surrounded by Hellam Township at the eastern and western ends of the Township, respectively.

U.S. Route 30 connects Hellam Township to the City of York, the county seat of government located approximately 5 miles to the west, and to the City of Lancaster, the county seat of government of Lancaster County, about 20 miles to the east. The capital of Pennsylvania, Harrisburg, is about 30 miles north-northwest of Hellam Township. Many other large metropolitan cities, such as Philadelphia, Baltimore, New York, Wilmington, Pittsburgh, and Washington, D.C. are within easy driving distance of Hellam Township. Because it is close in terms of travel time to these expanding urban centers, Hellam Township has experienced, and will continue to experience, accelerating pressures for new development. Through sound and responsible planning, however, it is possible to allow growth to occur in the Township, while, at the same time, providing the opportunity to preserve the generally rural character of this community.

F. HISTORICAL SKETCH

1. THE 1700s

The 1700s were a turning point in the history of the land that would become Hellam Township. Before that time, the land was inhabited by native Indian tribes and a handful of fur traders. But its fertile valley, abundant streams, and thick forests filled with game proved irresistible to settlers pushing west from Lancaster County and north from Maryland.

Pressure to settle the land west of the Susquehanna began when squatters moved in. An Englishman named John Grist settled in the area illegally in 1720 and began to grow crops. Grist was ordered off the land by 1722 following complaints by the Indians, but others would take his place.

Authorized settlement of the area began when John Wright, Joshua Minshall, and John and James Hendricks were granted land by the Penn family in 1728. Two years later, in 1780, John Wright received a charter to operate a ferry from Columbia in Lancaster County to the western shore of the Susquehanna, and a foothold to the west was established. Legal titles to the land were not finally negotiated with the 5 Indian nations of New York state until 1736.

The Penn family appointed Samuel Blunston, a Quaker, to act as their agent and authorized him to grant permits for settlement of the new territory. He set up his office at the Columbia Landing of Wright's Ferry. Blunston named this new land after his birthplace, the Township of Hallam, in England's York County, and for the next 30 years, the name was officially written as Hallam. The first settlers were English, but German farmers would quickly outnumber them.

Soon, more ferries were operating to transport settlers to their new homes. Anderson's Ferry opened upstream from Wright's Ferry around 1730. (This would later be known as the Glatz Ferry, docking at the Accomac Inn.) Another crossing, known as the Vinegar Ferry, was also nearby upstream.

Once across the river, many settlers headed for destinations farther west. They followed Monacacy Road, an old Indian trail that ran from Wright's Ferry, through the Hellam Valley, and across York and Adams Counties.

Others stayed, attracted by opportunities in the Kreutz Creek Valley. The creek's plentiful water and the valley's underlying limestone belt made the land ideal for farming—they found the land as rich as that of neighboring Lancaster County. What's more, wood and stone were available for homes, and forests provided plenty of meat for their tables.

By 1739, the Provincial Assembly of Pennsylvania authorized the Lancaster County Court to establish townships in the land west of the Susquehanna. An area roughly equal in size to today's York County was called Hellam Township. However, the boundaries of the Township at that time included parts of what is currently Adams, Cumberland and York Counties.

Because the Township was still part of Lancaster County, those Lancaster County citizens west of the Susquehanna River had to travel to Lancaster County Court for settlement of grievances and official actions. Because the population in the new area west of the Susquehanna River was growing

rapidly, and it was difficult to travel to Lancaster County Court, the citizens petitioned to form a new county in 1746. York became the first county west of the Susquehanna River.

One of the earliest industries in the Township was the Codorus Furnace located on the south side of Codorus Creek at the Susquehanna. The forge and furnace was opened in 1765 and operated until 1850. The thick woods of the Hellam Hills furnished charcoal for the forge which produced iron bars and cannonballs, pots, pans, and cast iron.

2. The 1800s

Transportation improvements mark the history of Hellam Township during the 19th century. The movement of people and products improved through major undertakings in the area. Although a primary thoroughfare through the Township from Wrightsville to York was always evident, in 1818 it became a macadam toll road, known as the York-Wrightsville Turnpike (currently PA Route 462).

The 1800s saw 4 successive bridges constructed across the Susquehanna between Wrightsville and Columbia. The crossings promoted the growth of Wrightsville and Columbia, and increased traffic through Hellam Township to York. For many years, this was the only bridge crossing along the river between Maryland and Harrisburg.

The Susquehanna and Tidewater Canal running along the Susquehanna River had opened in 1839 and was used to transport coal, lumber, iron, fertilizers, and grain. Passengers traveling to Liverpool, England, could also buy tickets in Wrightsville for travel down the canal and Susquehanna River to Havre de Grace and Baltimore, Maryland, with connections to ocean liner voyages. At its peak in 1855, 8,000 boats used the canal. However, it was abandoned in 1894, because the railroads offered more convenient service.

The railroad is cited as a primary reason for the growth of the Borough of Hallam in the 1850s. The York-Wrightsville Railroad had a station in Hallam on South Broad Street. The York-Wrightsville Turnpike, now known as the York-Susquehanna Turnpike, and Kreutz Creek added to Hallam's appeal as a center for commerce, and by 1880, there were 20 structures in the Borough, located primarily along the Turnpike (currently PA Route 462).

The railroad probably also accounted for a new industry that took hold in Hellam Township in the middle of the century. While iron ore had been discovered in the Township as early as 1762, it wasn't until the years between 1850 and 1852 that many companies began to mine the ore. At one time, Hellam Township had more ore banks than any other township in the County.

Farming was, and continues to be, an industry in Hellam Township. Around 1828, in an orchard owned by John Kline, the apple variety that would become known worldwide as the "York Imperial" was perfected. And, tobacco became a profitable crop in the area around 1855.

The early 1800s were also a time when many of Hellam's families built solid new homes on their land. The primary building materials were log, limestone and brick. Architectural styles ranged from Medieval Germanic to Georgian, to more elaborate Federal and Victorian varieties.

Funding by the Dutch in the late 1700s established the first school operated at the Kreutz Creek Church. At least in the early years, the language used at the school was Pennsylvania Dutch and German. Between 1870 and 1900, at least 6 public schools were constructed around the Township.

Hellam Township's present boundaries were established by the creation of Windsor Township in 1758, Lower Windsor in 1838, Springettsbury in 1891, and the boroughs of Wrightsville in 1834 and Hallam in 1908.

3. THE 1900s

The pressure for development of land within the Township increased steadily throughout the 1900s. Hellam Township continued to grow, with access between Wrightsville and York becoming more convenient.

The York-Wrightsville trolley line, completed in 1904, brought more newcomers to the area. By the year 1939, when the trolley was discontinued, the population had grown to 1,765.

In 1912, plans began for York County's section of the country's first transcontinental highway, known as the Lincoln Highway (currently Route 462). As money was raised, roads were gradually improved across the County. In Hellam Township, improvements were made to the York-Susquehanna Turnpike, and it became part of the Lincoln Highway network. From 1904 until 1920, tolls were collected for the York Borough and Susquehanna Turnpike Company.

In 1930, a fifth bridge at Wrightsville was completed to extend the Lincoln Highway across the Susquehanna. Now called the Veterans Memorial Bridge, it remains the longest multiple-arch reinforced concrete bridge in the world.

After World War II, the automobile changed commuting habits dramatically. Suburbanites moved into the area, bringing with them increased traffic as they traveled outside the Township to work. Many manufacturing jobs were created in neighboring Springettsbury Township when large industries built factories there.

In the late 1960s, a bypass was built to relieve congestion in the York urban area. The new U.S. Route 30 caused construction of an additional bridge at Wrightsville across the Susquehanna named the Wright's Ferry Bridge and was completed in 1972.

General zoning was implemented in the Township in 1965. The 1970s and 1980s saw the Township's population double. Small developments, such as Little Farms, Laurel Estates, Grand Manor, Cool Creek, and Crestwood East, were created. The first apartment complexes also went up in the Township, and small commercial and industrial ventures were established.

In the 1990s, the Township continued to grow but still retained its rural open space character as its predominant feature. This Comprehensive Plan will largely determine what the 21st century brings.

Source: 1996 Hellam Township Comprehensive Plan prepared by Gehringer-Roth Associates. Municipalities Planning Code Section updated to include Acts 67 and 68.

II COMMUNITY PLANNING VISION AND GOALS

A. THE STATEMENT OF COMMUNITY GOALS AND OBJECTIVES

Growth areas that function effectively promote the safety and health of the community and make possible a wide variety of economic and social activities that enhance the lives of residents. The following goals have been articulated to help Township residents realize their vision of a desirable future which seeks to provide focused, high-quality, cost-effective growth and development in appropriate areas of Hellam Township and all due consideration to recent court rulings on individual property rights and compliance with the Municipalities Planning Code:

1. Designate areas for higher intensity commercial and/or industrial uses in areas of the Township close to major collectors and away from rural/agricultural areas. Those commercial and industrial uses developed along the Route 30 and 462 corridor should enhance, while giving due consideration to preserving, the existing, rural community character of Hellam Township.

2. Buffer the agricultural community and its associated sights and smells from higher density residential development adjacent to farming activities.

3. Enhance agricultural opportunities while protecting farmers and their land.

4. Direct new high density residential, commercial and industrial development away from environmentally sensitive areas such as areas with steep slopes, woodlands, hazardous geology, wetlands, and floodplains.

5. Provide a land use plan to accommodate future growth and development of the Township. The plan will provide areas for agricultural, residential, commercial, industrial, institutional, recreational, public and natural uses.

6. Provide an adequate supply of housing opportunities for families of all income levels based on the projected needs of the Township.

7. Identify the locations of, and develop design guidelines for, village-type neighborhoods that will contain both moderately dense residential development with a wide range of housing options and neighborhood-oriented commercial and community facilities. These areas will offer residents a variety of choices for housing, shopping, and social activities. This type of focused growth will also make it possible for many residents to walk or bicycle to schools, shops, work, and community facilities so that automobile use can be significantly reduced. Innovative site design will encourage the use of walkways and common areas that promote interaction among community members. Because development will be compact, it will be possible to provide public

utilities and community services, such as trash collection, fire and police protection and recreational programs more efficiently while minimizing costs.

8. Preserve prime agricultural soils for farming activities by limiting non-agriculture development activities in the rural/agricultural areas by establishing growth areas and encouraging the development of agricultural security areas.

9. Encourage preservation of prime agricultural soils through innovative programs, including Transferrable Development Rights, Act 153 Open Space Preservation, and other legislative initiatives regarding farmland and open space preservation.

10. Link commercial centers and activities to other activities in the Township through a system of sidewalks and/or pedestrian paths and trails where possible.

11. Provide growth boundaries as necessary and buffer the growth area from surrounding agricultural uses.

12. Provide adequate community facilities and services to meet the needs of current and future Township residents and to protect the general health, safety and welfare of the citizenry.

13. Give high priority to protecting the quality and quantity of water in aquifers serving the Township and to resolving sewage disposal need areas and implementation of the Township's Act 537 Plan.

14. Ensure enforcement of Pennsylvania's uniform building code for buildings so that they will meet standards for safety in construction.

15. Create and enforce strict standards for storm water management for all developments to protect the Township's soils and water supply and prevent flash flood damage to private and public property.

16. Adequately and efficiently provide for needed and necessary public facilities and services to accommodate anticipated growth within the designated areas.

17. Periodically analyze and determine the future needs for both public water and public sewer within the Township, and plan for additional facilities, capacity and services if needed.

18. Periodically analyze and coordinate future land use scenarios with the Township's roadway functions in order to maximize efficient use of the Township's existing roadway network, reduce congestion and enhance safety.

19. Minimize the adverse impact of residential growth on the natural environment and protect agricultural and environmentally sensitive lands from incompatible adjacent land use.

20. Preserve the Township's historic architectural and archaeological resources.

21. Create a groundwater policy that protects water quality and quantity.

22. Protect the farmer's ability to farm free from adverse impacts due to the intrusion of non-farm uses in agricultural areas.

23. Direct new commercial and industrial development primarily to areas in the Township where sewer, water, roads and other public services can be provided. Analyze and determine the future need for both public water and public sewer within the Township, and plan for additional facilities, capacity and services as needed.

24. While we advocate the right of a property owner to use his or her property as they see fit, we also recognize that property owner's rights do not allow a property owner damage the environment we all share. Nor does a property owner's rights allow an owner to conduct activity on their property that is illegal, detrimental to the public welfare, or otherwise infringes on the rights of other property owners.

25. Promote, protect and facilitate any or all of the following: the public health, safety, morals, and the general welfare, as defined by the Pennsylvania Municipalities Planning Code.

Source: 1996 Hellam Township Comprehensive Plan with revisions

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III. NATURAL AND CULTURAL FEATURES

NATURAL AND CULTURAL FEATURES-RELATED GOALS

- Minimize the adverse impact of residential growth on the natural environment and agricultural and environmentally sensitive lands from incompatible adjacent land uses;
- Create and enforce strict standards for storm water management for all developments to protect the Township's soils and water supply and prevent flash flood damage to private and public property;
- Preserve the Township's historic architectural and archaeological resources; and,
- Create a groundwater policy that protects water quality and quantity.

A. INTRODUCTION

Hellam Township contains many important natural and cultural features that are an essential part of the heritage that belongs not only to the present generation of Township residents, but also to future generations. This section of the Comprehensive Plan will inventory, describe and map the Township's important natural and cultural features and will serve as a useful background and guide for Chapter XII of the Comprehensive Plan which deals with future land use planning. This information should assist local officials in developing future land use designs that promote the protection and preservation of the Township's important natural and cultural features so that they will remain a lasting heritage for future generations.

B. NATURAL FEATURES

1. PHYSIOGRAPHY AND TOPOGRAPHY

Hellam Township lies entirely within the Piedmont physiographic province of the Appalachian Mountains belt and consists of 3 main parts: the Hellam Hills, the York-Wrightsville Valley (or Conestoga Valley) and the South Hills. Both the Hellam Hills and the South Hills are part of the Southeastern Piedmont Uplands.

Hellam Township is included on the York Haven, Columbia West, York, and Red Lion 7.5 minute U.S.G.S. topographic quadrangle maps (1:62,500 scale). It is also included in its entirety on the U.S.G.S. York County, PA (East Hall) topographic map (1:50,000 scale). Elevations in Hellam Township range from 228 feet above sea level at Lake Clarke in the Susquehanna River, to 1,054 feet above sea level in the Hellam Hills in the north-central part of the Township.

The Hellam Hills cross the northern part of the Township, extending southwest from the Susquehanna River toward the City of York. Their highest point, site of the WGAL transmission towers, is 1,054 feet above sea level. Other high points include a summit at the eastern end of Rocky Ridge County Park with attains 1,017 feet, as well as several smaller rises attaining 700–1,000 feet. Along the Susquehanna River and Codorus Creek, the Hellam Hills have steep, rugged slopes and cliffs, while their southern slopes are more gentle, dropping in a series of foothills down into the York-Wrightsville Valley. Several small tributaries of Kreutz Creek on the south of the hills bisect the surrounding countryside, forming prominent ridges and deep narrow stream valleys.

The York-Wrightsville Valley is a 2-mile wide limestone valley, bisected by Routes 30 and 462, an extension of the broader Conestoga Valley which crosses the Susquehanna from Lancaster County. With an average elevation of 340 feet above sea level, this broad, fertile, gently rolling valley is etched by branches of the Kreutz Creek, which empties into the Susquehanna at the southern end of Wrightsville Borough. Hallam Borough is located near the center of the valley at the western end of Hellam Township.

The South Hills are part of the broad Southeastern Piedmont Uplands area that covers the southern third of York County and rises up from the York-Wrightsville Valley in the southern part of Hellam Township. The topography of the South Hills is moderately sloping to steep. Immediately south of the Hellam Township line, in Lower Windsor Township, the slopes attain an elevation of 863 feet above sea level on Mount Pisgah, site of the Samuel S. Lewis State Park.

a. Implications of Steep Slopes on Land Use

Slope conditions, or the steepness of slopes, determine possibilities for urban or agricultural uses - the steeper the slope, the more difficulty in building or farming. Steeper lands present problems for excavations and septic system operation due to thin soil cover underlain by bedrock, soil erosion due to rapid storm water runoff, and transportation access. Land in most slope categories can be used for farming or grazing, provided erosion is controlled and the types of soils are suitable.

Slopes are indicated as percent, measuring the vertical rise in feet for each 100 feet of horizontal distance. Land with slopes between 0-15% is generally suitable for nearly all types of residential, commercial and industrial uses with some limitations on commercial and industrial uses as the slope reaches 8-15%. Slopes between 15-25% are generally suitable for low density residential development. Slopes in excess of 25% are generally best left as undeveloped preservation areas. Development in steeply sloped areas can also lead to costly environmental degradation, such as soil erosion, stream and river sedimentation, and reduction of area groundwater supplies, resulting from removal of forest cover. Steep slopes in the Township are reflected, on the Areas Containing Steep Slopes map (Exhibit E). Slope considerations are also described under the discussion of development constraints in Section 3.d.

2. Geology

The geology of an area plays an important role in determining the surface structure of the environment. Throughout the ages, underlying rock is subjected to natural weathering forces that chemically erode its original shape. These weathered materials then form soils which can remain stationary or be transported to another area.

Underlying geology is also an important factor to consider in planning for development, since it provides the parent material for soils in various areas and determines the quality, quantity and reliability of groundwater supplies. Of particular concern are those bedrock and soil conditions that may cause construction problems or have an adverse effect on groundwater supplies.

The Piedmont physiographic province of the lower Susquehanna River basin, in which Hellam Township is located, is characterized by gently rolling hills and valleys and is underlain by a mix of igneous, metamorphic and sedimentary geologic formations. Due to the tremendous stress imparted on these rock formations by several mountain-building episodes throughout geological history, the structural geology of this section is a complex array of folds, faults and displaced blocks.

a. Geologic Structure

It is believed that the sedimentary rocks of Hellam Township were first deposited in more or less horizontal layers over a flooded landscape of older volcanic rock. These rock formations were highly folded, faulted and metamorphosed during the process of mountain-building which formed the Appalachians during a series of tectonic continental collisions approximately 300 million years ago. Now exposed by erosion, the rocks of Hellam Township were originally buried deep within a mountain chain similar to today's Alps or Himalayas. Structures found in the rocks include large and small-scale folds and faults. Several over-thrust faults were first proposed by Stose and Jonas (1939) within the region, including the Stoner over-thrust along the southern border of the York-Wrightsville Valley, and the Highmount, Glades, and Chickies over-thrusts within the Hellam Hills. These faults are interpreted as the borders of individual slices of rock, composed of essentially the same unit of rock formations, which were thrust up and over one another by the compressive force of tectonic mountain building. The geologic information provided in this chapter is general, site specific checks are needed to determine the exact geology of an area.

b. Geologic Formations

The geologic formations of Hellam Township comprise a column of Precambrian metavolcanic rocks overlain by late Precambrian to Ordovician age clastic and carbonate sedimentary rocks. The thickness of individual formations varies considerably, with younger units eroded to expose deeper layers throughout the region. These rocks are crosscut by dikes of Triassic age diabase and overlain by both ancient and recent alluvium.

The Township's geologic formations, a description of which follows, are identified on the Geology Map (Exhibit B).

Precambrian Metavolcanics: The Precambrian (greater than 600 million years old) rocks of Hellam Township are all found in the Hellam Hills. These rocks were formed during a period of volcanic activity which marked the breakup of an early version of the North American continent about 800 million years ago. The volcanic rocks of Hellam Township are structurally related to similar rocks making up the Pigeon Hills 9 miles to the southwest, as well as South Mountain, located in Adams County, and to the rocks of the Catoctin Mountain and Blue Ridge, which stretch southward through Maryland, Virginia, North Carolina, and Tennessee. The ***Catoctin Formation*** (mb) is the name given to this related group of volcanic rocks, which consists of:

> **Metabasalt (mb):** Best exposed in the Accomac gorge, metabasalt is a fine-grained, gray-green crystalline rock containing the minerals hornblende and epidote. The rock is very hard to drill or excavate, but may be used for decorative building stone, riprap or embankment facing. Small amounts of asbestos and native copper have been found in Catoctin metabasalts.

Metarhyolite (mrb, mrh): Metarhyolite is another volcanic rock associated with the continental rifting event of the Precambrian period. A hard, purple rock containing small crystals of pink feldspar and veins of blue and white quartz, it outcrops in a small area north of Highmount.

Volcanic slate (vs): A unit of limited extent, blue black volcanic slate is found with metabasalt in the area just north of the Hallam interchange of U.S. Route 30. This rock was formed from fine volcanic ash which settled in shallow waters, and contains the minerals serecite and hematite, with bands of chlorite.

Hellam conglomerate, Chickies quartzite and slate: As the continental rifting which produced the volcanic rocks of the Catoctin Formation subsided, a slow rise in sea level took place which flooded the eroding landscape of barren volcanic ash and lava. A series of clastic sedimentary rocks were deposited in river channels and shallow-to- deep offshore waters, which were formed by this flooding.

In Hellam Township, rocks of the ***Chickies Formation (€ch)*** are divided into 2 units which occur in the Hellam Hills and the Southeastern Piedmont Uplands, respectively. In the Hellam Hills, the Chickies rocks consist of conglomerates and quartzites. The Hellam conglomerate member of the formation is a coarse quartz conglomerate best exposed at Rocky Ridge County Park and at several locations along Furnace Road. The Hellam conglomerate has been interpreted as the remains of a river delta system similar to today's Mississippi River delta and is the oldest sedimentary rock in Pennsylvania. The smooth, rounded condition of its quartz pebbles indicates that they were transported over long distances, probably from the interior of the continent, before being deposited. The Hellam conglomerate (€h, €hc, €hs) also contains small fragments of metarhyolite, linking it to the Catoctin Formation. The Chickies Vitreous White Quartzite (€c) lies north of the Stoner Overthrust. The average thickness of the Chickies Formation has been estimated at 900-1,000 feet.

The ***Harpers Formation (€hP)*** is a greenish-gray to reddish-brown phyllite, a rock which splits into irregular sheets due to internal cleavage imposed by metamorphic processes. Suitable only for random fill, the Harpers phyllite occurs along the southeastern slopes of the Hellam Hills and in the area of Deep Run and the Codorus gorge. Its estimated thickness is 800 feet.

A hard quartzite similar to the older Chickies rocks, the ***Antietam Formation (€a)*** occurs in bands parallel to the York-Wrightsville Valley along the lower slopes of the Hellam Hills and the Southeastern Piedmont Uplands. The youngest of the clastic sedimentary rocks present in Hellam Township, the Antietam Formation, varies in composition at different localities. The estimated thickness of the Antietam Formation is 200 feet.

Cambrian and Ordovician Carbonate Rocks (limestones and dolomites): Following the deposition of the clastic sedimentary rocks discussed above, all of which were formed through the erosion of pre-existing rocks, over 10,000 feet of carbonate rocks, limestone

and dolomites, were deposited under the conditions of a tropical environment similar to today's Caribbean Sea. The deposition of carbonate limestones and dolomites took place in deeper waters through the precipitation of calcium from sea water and the shells of coral and other calcareous organisms which appeared at this time. As these creatures died, they sank to the sea floor and disintegrated into calcareous ooze, which was slowly transformed into limestone. Dolomites were formed when magnesium was chemically added to the limestones in formation.

Dolomites, limestones and marbles of the ***Vintage Formation (Ꞓv)*** occur in 2 narrow bands which flank the lowland of the York-Wrightsville Valley and underlies the roadbed of U.S. Route 30 into Springettsbury Township. The Vintage rocks represent a transition from the basal clastic rocks of the Chickies, Harpers and Antietam Formations to a sequence of carbonate rocks which formed the edge of the North American continental shelf during the early Cambrian Period (600 million years ago). The rock itself makes for high quality concrete and aggregate, crushed stone and road base. The formation averages 500 feet in thickness.

Rocks of the ***Kinzers Formation (Ꞓk)*** have been divided into 3 members in eastern York County: a basal shale member (Ꞓks), a middle pure limestone member (Ꞓkl), and an 4upper impure buff limestone member (Ꞓkss). All 3 members occur in a narrow band that stretches southwest from the northern end of Wrightsville Borough, through Hallam Borough, and into Springettsbury Township. The rock provides excellent water resources, while the middle limestone member is a valuable potential source of high-calcium limestone used in cement manufacture and other uses. The total thickness of the Kinzers Formation averages about 200 feet.

Dolomites assigned to the ***Ledger Formation (Ꞓl)*** occur in 2 narrow lenses just southeast and to the north of Hallam Borough, trending southwest to east York. This formation is highly susceptible to the development of sinkholes, particularly along its contact with the Kinzers Formation. Often brittle and highly fractured, the Ledger Formation demands careful foundation design and construction to meet variable bedrock conditions. Consisting of pure dolomite, the Ledger Formation is about 1,000 feet thick.

Underlying roughly 80% of the York-Wrightsville Valley, the impure limestone of the ***Conestoga Formation (Oc)*** is parent to the rich Conestoga series of soils, highly prized for their agricultural yields. The Conestoga limestones have been structurally folded into many tight folds, and have been problematic in terms of determining their relationship to the area's other carbonate rocks. A variety of factors have led recent investigators to assign the origin of the Conestoga Formation to the lower portion of the early North American continental slope, where periodic debris-flows poured down into a deep water basin flanking the continental shelf. The Conestoga Formation is thought to have developed contemporaneously with the other carbonate rocks discussed so far, but in a setting farther out to sea.

c. Surface Deposits

High terrace gravels (Ql): Remnants of river gravels are preserved on several high terraces in the Hellam Hills. These small deposits of rounded, iron-stained pebbles and sand are the remnants of earlier stages of the Susquehanna River as it cut its way down through the surrounding landscape over approximately the last 50 million years. Each terrace represents the development of a broad flat floodplain over which the Susquehanna flowed, depositing the gravels now found high above the present river level. Terrace gravel deposits produce a rocky, well-drained soil having poor stability for foundations and a limited use as random fill.

Alluvium: Geologically, recent stream deposits of silt, sand, gravel, cobbles, and boulders are found over much of the York-Wrightsville Valley and floodplain of the Susquehanna River. Usually coincident with floodplains and wetlands, alluvium makes for fertile soils when derived from carbonate bedrock.

d. Mineral Resources

The earliest exploration of the mineral resources of York County took place in Hellam Township in 1722, when Pennsylvania Colonial Governor Sir William Kieth surveyed an area in the Hellam Hills in search of copper deposits. Though no commercially valuable copper was found, Kieth's prospecting was tenable in light of the fact that copper is sometimes present in basaltic rocks of the Catoctin Formation. The survey of "Kieth's Mine Tract" led directly to the Treaty of Conestoga, at which local Indians officially permitted settlement of lands west of the Susquehanna.

Throughout the 18th and 19th centuries, limestones and dolomites of the York-Wrightsville Valley were quarried for use as building stone, road fill, whitewash, and lime. Marble was quarried in the area north of Wrightsville.

Rich in iron compounds, the contact between the Antietam quartzite and the younger Vintage dolomite was the site of a line of iron mines which began 2 miles west of Wrightsville and continued almost to York during the 18th and 19th centuries. Iron ore was shipped by rail and canal boat to furnaces in Marietta and Columbia, Lancaster County. None of these mines has been active since about 1900, when large ore deposits were discovered in the Midwest.

Metarhyolite of the Catoctin Formation has been quarried for ornamental stone in the past, but breaks into irregular shapes, making it difficult to work.

White sandy clay used for molding sand was dug at the Cooper Quarry south of Highmount.

Currently, the County Line Quarry, located along the southernWrightsville Borough-Hellam Township boundary is the only active mineral producer in eastern York County. This quarry produces various types of construction aggregates, fill and agricultural products from the dolomite, quartzite and phyllite of the Vintage, Antietam, and Harpers Formations, respectively.

e. Outstanding Scenic Geologic Features

The geology of an area is largely responsible for its landform. Outstanding scenic geologic features can produce scenic vistas and places of special interest. According to the Pennsylvania Geologic Survey's publication entitled *Outstanding Scenic Geologic Features of Pennsylvania*, the following features are located in Hellam Township (see Natural Features Map, Exhibit D):

Chimney Rock: Located 1 mile north of Hallam Borough, spectacular twin pinnacles of Hellam conglomerate rise 30 feet above the ridge line in a dense stand of oak trees. Privately owned.

Wildcat Run Cliffs and Gorge: About 2 miles west of Accomac, the wild and scenic gorge of Wildcat Run exposes vertical cliffs of the Chickies Formation. Privately owned.

Round Top Overlook: On crest of the Hellam Point ridge, a rock overlook composed of Chickies quartzite. Minor amounts of Catoctin slate present. Privately owned.

Hellam Point: A ridge line composed of Chickies quartzite which extends out into the Susquehanna River forming a point. Privately owned.

Schull's Rock: A cliff of Chickies quartzite just east of the mouth of the Codorus Creek. Privately owned.

f. Development Constraints

Due to the presence of the Cambrian and Ordovician carbonate rocks described earlier, several distinct implications for land use planning warrant description. Limestone and related carbonate rocks are characterized by their weak resistance to erosive forces. As a result, groundwater that passes through limestone creates subsurface solution channels. These channels continually become larger, thereby increasing their capacity to carry additional groundwater. Development in proximity to such geology can create additional storm water runoff, further enlarging solution channels. While this condition provides a ready source of water for wells that are drilled into the solution channel, the formation of such large solution channels and caverns can create significant sink hole problems that pose serious safety hazards for land uses located on the surface and area groundwater quality.

Another characteristic associated with limestone and carbonate geology deals with the suitability for on-site sewage disposal systems. On-site sewage disposal fields rely upon the subsurface soil and rock particles to filter impurities from the effluent entering the groundwater. In carbonate geology, solution channels can intercept effluent and agricultural fertilizers before the soil and rock particles have had a chance to purify them, then the

polluted groundwater can travel along the solution channel and degrade other water sources downstream.

The presence of carbonate geologic conditions within the York-Wrightsville Valley warrants the Township's consideration of future land uses which may contribute to ground water degradation. Furthermore, future building development in this area should be cautious of the unstable nature of carbonate geology and special emphasis should be given to the planning stages of land development projects that occur in areas susceptible to sinkholes and depressions.

3. Soils

An understanding of the location and characteristics of the various types of soils in the Township is essential to planning for responsible growth. This information can play a significant role in determining which soils are best suited for development purposes and which are best suited for non-urban uses, such as agriculture, woodlands and recreation.

Prime farmland produces the highest agricultural yields with minimum inputs of energy and economic resources and consists of soils that are relatively level and rich in chemical nutrients, have good permeability to air and water with few rocks, and are well-drained but resistant to erosion. The U.S. Department of Agriculture's Natural Resource Conservation Service strongly encourages state and local governments and private individuals to adopt land use and soil conservation practices that will preserve valuable farmland. Since Hellam Township contains prime agricultural soils, it is important to identify those areas in the Township so that these valuable resources can be protected as much as possible through careful planning. Since land suited for agriculture is generally also suited for development, agricultural zoning should be considered if those soils which are capable of giving the greatest agricultural yields are to be preserved, and the agricultural segment of the economy of the Township and the County is to survive.

Similarly, since the Township depends primarily on groundwater for its water supply, it is necessary to preserve and maintain important aquifer recharge areas, such as woodlands and grasslands, which contain soils that play a critical role in retaining and purifying a major part of this valuable resource. ***If the "cost-free" treatment provided by the soils in these groundwater recharge areas is to continue, then strict conservation methods are recommended.***

Soil suitability for installation of on-lot septic systems is a major concern in the Township, since large areas are unsewered and most residents depend on on-site sewage disposal methods. Without proper soil conditions, on-lot septic systems will not function properly and can pose a serious threat to public health. Also, soils overlying limestone areas in the Township are extremely hazardous for septic system installation, since limestone areas often are highly permeable and mask sinkholes, permitting sewage effluent to flow rapidly to groundwater aquifers and pollute water supplies over large areas.

Clearly, an analysis of soils is essential in establishing land use patterns that will be compatible with the health, safety and economic interests of the Township residents. The

following descriptions refer to the major soil associations and soil types existing in Hellam Township.

a. Soil Associations

The *Soil Survey of York County (1963)* depicts Hellam Township as including 4 of York County's 12 general soil associations. Soil associations show patterns of soils characteristic of a given area. A given soil association usually includes a few major soils and several minor soils in a pattern that is particular to an area. Soil associations are a result of the combination of underlying geologic formations and their physical and chemical weathering over time. Hellam Township's soil associations correspond generally to its major geologic formations. The Township's soil associations extend in bands across it, from the southwest to the northeast, conforming to the hill and valley topography of the Township. A general knowledge of soil associations is useful in making comparisons between the soil capabilities and constraints of major regions of the Township.

The ***Edgemont-Highfield-Murrill Association*** occurs in the northern half of the Township in the Hellam Hills, and includes approximately 9,000 acres. Consisting of well-drained and deep to moderately deep soils, much of this association is forested, sloped and stony.

The ***Hagerstown-Duffield Association*** is located in a thin band in low-lying areas in the central part of the Township, occupying about 2,500 acres. This association consists of fertile, deep, well-drained and nearly level to moderately steep soils underlain by limestone.

The ***Conestoga-Duffield-Bedford-Lawrence Association*** occurs in a broader band comprising about 3,300 acres in the south-central portion of the Township, in low-lying, gently to moderately-sloping areas. The Conestoga soils, comprising the great majority of this area, are deep and well-drained, while the remaining soils are deep and well-drained to somewhat poorly-drained. This highly fertile association is underlain by limestone.

The ***Glenelg-Manor Association*** occurs in the southern portion of the Township in the hills north of the Lower Windsor Township boundary, and includes approximately 2,900 acres. The Manor soils, which are the most extensive, are shallow and well-drained to excessively-drained, and largely steeply-sloped.

b. Soil Types

The Natural Resources Conservation Service has discontinued using soil associations to identify soils in Pennsylvania. In 1995, the NRCS recreated the soils data using aerial photographs, field samples, etc. The new soil types do not match the original soil associations of 1963. The data was altered somewhat, some soil types were combined to create new ones and several agricultural classifications were changed. The York County Planning Commission GIS soils data used in this comprehensive plan update is based on the 1995 soils data from the NRCS.

A detailed listing of soil types is useful, both because it is the database for the Soils Map (Exhibit C) and its delineation of agricultural soils, and because it can be used in reviewing

site plans for specific development proposals, to locate high-quality farm soils and soils with development constraints.

The following table lists the individual soil types found within the Township:

SOIL TYPES IN HELLAM TOWNSHIP

Hydrologic Soil Group	Soil Symbols	Soil Name	Slope Percentage	Agricultural Rating
C	CcC	Catoctin Channery Silt Loam	8-15	Prime
B	Cd	Chagrin Silt Loam	—	Prime
B	CeB	Chester Silt Loam	3-8	Prime
B	CeC	Chester Silt Loam	8-15	Prime
C	CkA	Clarksburg Silt Loam	0-3	Prime
C	CkB	Clarksburg Silt Loam	3-8	Prime
C	Cm	Codorus Silt Loam	-	Prime
B	CnB	Conestoga Silt Loam	3-8	Prime
B	CnC	Conestoga Silt Loam	8-15	Prime
B	DWD	Duffield and Hagerstown Silt Loams	15-25	
B	DuB	Duffield Silt Loam	3-8	Prime
B	DuC	Duffield Silty Clay	8-15	Prime
B	EdB	Edgemont Channery Loam	3-8	Prime
B	EdC	Edgemont Channery Loam	8-15	Prime
B	EdD	Edgemont Channery Loam	15-25	—
B	EeB	Edgemont Loam	0-8	—
B	EeD	Edgemont Loam	8-25	—
B	EeF	Edgemont Loam	20-70	—
B	EkB	Elk Silt Loam	3-8	Prime
B	GbB	Glenelg Channery Silt Loam	3-8	Prime
B	GbC	Glenelg Channery Silt Loam	8-15	Prime
C	GdB	Glenville Silt Loam	3-8	Prime
B	HHD	Highfield and Catoctin Channery Silt Loams	15-25	—
C	Lw	Lindside Silt Loam	—	Prime
A	MOB	Mt. Airy and Manor Channery Loams	3-8	Prime
A	MOC	Mt. Airy and Manor Channery Loams	8-15	Prime
A	MOD	Mt. Airy and Manor Channery Loams	15-25	—

SOIL TYPES IN HELLAM TOWNSHIP				
Hydrologic Soil Group	Soil Symbols	Soil Name	Slope Percentage	Agricultural Rating
A	MOE	Mt. Airy and Manor Channery Loams	25-45	–
A	MPD	Mt. Airy and Manor Loams	0-8	–
A	MRF	Mt. Airy and Manor Loams	25-75	–
C	Pa	Penlaw Silt Loam	–	Prime
B	PsC	Pequea Silt Loam	8-15	Prime
B	PsD	Pequea Silt Loam	15-25	–
-	Pt	Pits, Quarries	–	–
-	UC	Urban Land	–	–
-	UdB	Urban Land - Chester Complex	0-8	Prime
-	UeB	Urban Land - Conestoga Complex	0-8	Prime

c. Prime Farmland

The foregoing table identifies the agricultural ratings of Hellam Township's soils. Prime farmland soils (according to the Pennsylvania Municipalities Planning Code) are those soils with an agricultural rating of Class I, II, or III. The Prime Agricultural Soils Map (Exhibit L) shows all Class I and II soils in Hellam Township as light green, and Class III soils as dark green. The Township's Class I, II and III soils are primarily located in the south-central portion of the Township, in the Kreutz Valley, but also are found in scattered areas of the Hellam Hills to the north. It is estimated that close to one-half of the Township is composed of Class I, II and III soils, although some areas have been developed.

The Kreutz Creek Valley, and portions of the Hellam Hills, constitute sizeable and fertile blocks of agricultural soils which should be protected through the use of agricultural preservation zoning, including but not limited to Transferable Development Rights, within the time frame of this Plan.

d. Soil Development Constraints

Another important soils consideration relates to those soils that have constraints for building development. Such constraints can include a wide range of soil characteristics, including steep slopes, shallow depth to bedrock, flooding, and wetness. Other soils constraints, as noted earlier, become important where on-site sewage disposal methods are contemplated. These constraints include steep slopes, shallow depth to bedrock, flooding, wetness, and slow percolation rates and soils underlain by limestone and/or dolomite.

The following table lists those soils that, according to the USDA, possess "severe" on-lot sewage disposal constraints, as well as "severe" building development constraints for

dwellings with or without basements. The information below comprises part of the database for the Township's Soils Map:

SOILS WITH SEVERE DEVELOPMENT CONSTRAINTS			
Soil Symbol	Soil Name	Severe Building Development Constraint	Severe On-Lot Sewage Disposal Constraint
CnC	Conestoga Silt Loam	slope	slope
EdC	Edgemont Channery Loam	slope	slope
EdD	Edgemont Channery Loam	slope	slope
EeB	Edgemont Channery Loam	-	seasonal high water table, very stony
EeD	Edgemont Loam	slope	slope, very stony
EeF	Edgemont Channery Loam	slope	slope, very stony
GdB	Glenville Silt Loam	wetness	wetness, percs slowly
Lw	Lindside Silt Loam	flooding, wetness	flooding, wetness
MOB	Manor Channery Loam	depth to rock	wetness, depth to rock
MOC	Manor Channery Loam	depth to rock	wetness, depth to rock
MOD	Manor Channery Loam	depth to rock, slope	depth to rock, slope
MOE	Manor Channery Loam	depth to rock, slope	depth to rock, slope, very stony
MPD	Manor Loam	depth to rock	depth to rock, wetness
MRF	Manor Loam	depth to rock, slope	depth to rock, slope, very stony
PsC	Pequea Silt Loam	depth to rock	depth to rock, wetness
PsD	Pequea Silt Loam	depth to rock, slope	depth to rock, slope

Additional areas with severe development constraints in Hellam Township are identified on Exhibit Q, Proposed Restricted Development Overlay Area. Areas characterized by severe development constraints of one type or another include steep-sloped areas along the northern and southern boundaries of the Township, and floodplains and wet areas along the Susquehanna River to the east and along the Township's streams.

Severe building development and on-lot disposal system constraints can sometimes be overcome with a major increase in construction effort, special design or intensive maintenance and/or public utilities. ***It is recommended that future development carefully consider areas with severe development constraints to minimize environmental degradation and the threat to public health, safety and welfare.***

4. GROUNDWATER QUANTITY AND QUALITY

According to "State Water Plan Subbasin 7 Lower Susquehanna River" report prepared in February of 1980, Hellam Township is located in the Lower Susquehanna River subbasin referred to as Subbasin 7. This subbasin includes all off Cumberland, Lancaster and York Counties, most of Lebanon County, one-half of Adams, Dauphin and Perry Counties, and small portions of Berks, Chester, Franklin and Schuylkill Counties. Overall, the land area of the Lower Susquehanna totals 4,158 square miles. Specifically, Hellam Township is located within Watershed I of Subbasin 7. Watershed I contains 301 square miles of drainage area. The major waterway located in Watershed I is the Susquehanna River and the minor waterway is considered to be Muddy Creek.

The purpose of the State Water Plan is to provide a general understanding of the water resources of the Lower Susquehanna River subbasin and sufficient insight into the relationships between man, economy and environment to rationally examine the problems associated with water resources and determine viable solutions which could support man's continued well-being while living in harmony with his surroundings. The report examines the physical features of the basin and impacts from man's development of the area's natural resources.

Two major goals of the Plan pertain to water supply and water quality management. The water supply goal states: "Water supplies of adequate quantity and quality to meet both short - and long-term needs" and the water quality management goal states: "Prevent further pollution of the waters of the Commonwealth, and restore to an unpolluted condition all presently polluted waters, so that futures uses will be protected". The Hellam Township Comprehensive Plan Update is generally consistent with the State Water Plan in that it establishes recommendations to protect both the quantity and quality of groundwater in the Township as stated in the forthcoming text.

At the present time, most of Hellam Township is primarily dependent on groundwater for its domestic, commercial and industrial water supplies. Its protection, therefore, is an extremely important planning factor to consider in the Township's Comprehensive Plan, both from a public health and an economic viewpoint. In order to insure a safe and an adequate supply of water for Township residents and businesses, it is important to understand how the quality and quantity of groundwater supplies are affected by geological conditions and land use activities.

Groundwater is surface water that has seeped into and is contained by underground geological formations called aquifers. These can be consolidated rock, such as quartzite and limestone, or unconsolidated rock, such as gravel and sand. Water stored in aquifers is sometimes released to the surface through springs and seeps or can be pumped to the surface for use from wells drilled into the aquifer. Subsurface groundwater aquifers are part of an interconnected network that includes surface waters, such as streams, ponds, wetlands, and lakes. Aquifers regulate the levels and flow rates of these surface waters by collecting and retaining water reaching the ground as rain or melting snow and gradually releasing it during dry periods.

The Pennsylvania Municipalities Planning Code states that municipalities, in their comprehensive plan, shall provide a plan for the protection of aquifer recharge zones. Aquifer recharge is the process by which rainwater seeps down through the soil into an underlying aquifer. There are many natural processes that determine how much rainwater actually reaches and replenishes an aquifer instead of being evaporated, consumed by plants and animals, or simply running off the ground surface into streams, rivers, lakes and oceans.

According to the York County Wellhead Protection Plan, Hellam Township lies in the Hanover-York Valley. The plan states: "The Hanover-York Valley consists of very complex geologic structure and abrupt changes in rock type and lithologies. A significant portion of this valley is underlain by carbonate (i.e. limestone and dolomite) geology. The remainder of the valley is underlain by metamorphosed sedimentary rock.

Groundwater flow in this hydrogeologic setting is almost entirely by secondary porosity through interconnected crevices and voids in the rock. The number and size of the openings and the degree of interconnection determines the ability of the rocks to store and transmit water to wells and springs.

Precipitation is the source of the groundwater as it infiltrates downward through the soil and rock openings to the zone of saturation. Groundwater recharge takes place over a large area and is greatest where sinkholes and surface fractures in carbonate geology allow surface water to enter directly into the groundwater system. There are no defined aquifers in this hydrogeologic setting; rather, the rocks are one complex, nonhomogenous water table aquifer which is highly influenced by fractured rock flow.

Within the zone of saturation (water table), groundwater moves under the influence of gravity downward and laterally through rock openings to points of discharge such as springs and streams. Over long periods of time, the amount of water discharged from the zone of saturation is equal to the amount of water recharged to the zone of saturation.

With this type of hydrogeologic setting, the underlying groundwater flow is very complex. Localized flow of groundwater moves in multiple directions at varying velocities due to the fractured layers of the rock. In addition, since groundwater flow is highly influenced by fractures, it may move over relatively large distances. Direction of regional groundwater flow can be determined based on water table mapping which should be very similar to the surface topography. Therefore, wellhead protection areas in this hydrogeologic setting are likely to be relatively large and controlled by the surface drainage and fracture patterns."

The following chart is included in the plan:

Groundwater Flow Parameters for Wellhead Protection Area Delineation	
	Hanover-York Valley
Flow Characteristics (Porosity)	Mostly secondary, with fractures and solution openings
Types of Aquifers	Unconfined
Fracturing	Fractures enlarged by solution; highly developed along faults, joints, and cleavage planes
*Transmissivity (ft²/day)	1,000-4,000***
**Hydraulic Gradient (ft/ft)	.001-.01***
Orientation of WHPA	Groundwater movement controlled by the water table gradient and fracture pattern

* Transmissivity is a measurement of the amount of water flowing through an aquifer.

** Hydraulic gradient represents the slope of the water table.

*** A range of typical values based on published information and analysis of pumping tests of York County wells and constructed water table maps.

In addition, the NRCS has established criteria determining how soils will affect groundwater runoff and absorption by placing all soils into hydrologic soils groups (HSGs) as shown on the soils chart (Pages 24 and 25). HSGs are broken down into four sub-groups (A through D) based on infiltration rate and depth. The A soils are the most pervious and have the lowest runoff potential. The A soils are typically sands and gravels. Group B is characterized as having moderate infiltration rates and consist primarily of moderately deep to deep, moderately well to well drained soils that exhibit a moderate rate of water transmission.

Some of the primary geological determinants of groundwater quality and quantity are the type, structure, permeability, porosity, and chemical composition of the bedrock formations underlying the Township. Certain rock types and structures convey water better and yield more abundant well water because they are more permeable and porous than others. The purity of the water depends on the ability of the soil and rock to filter contaminants from the water, and on the degree to which minerals in the soil and rocks dissolve in the water.

a. Geologic Conditions

The Township can be divided into 3 bedrock aquifers underlying the Hellam Hills, the South Hills and the Central Valley area. The hard crystalline, igneous and metamorphic rocks that lie beneath the Hellam and South Hills areas are essentially impervious to water. Joint- and

cleavage-plane cracks and crevices provide a secondary porosity of low magnitude through which groundwater flows. Drilling in these hard rocks is difficult and expensive, and the best yields of well water are usually obtained from the fractured, weathered zone at the top of the bedrock, and from valleys, faults or other fracture zones. The aquifers in these areas of the Township provide a soft, high quality water although iron may be a problem in some rock formations, such as phyllites and quartzites that have a high iron content. Flow rates in such aquifers are usually adequate for domestic supplies if residential density is low. They do not supply volumes needed for firefighting or for most commercial and industrial uses, however. In some of these aquifers, such as the Chickies Rock formation, water levels can be strongly influenced by the amounts of seasonal precipitation.

The bedrock formations that underlie most of the central valley area of the Township are predominantly composed of limestones and dolomites which are softer and more easily eroded than the bedrock formations in the hills that flank the valley on the north and south. These carbonate rock formations vary widely from low to high permeability. Secondary porosity of low to high magnitude is provided by joint- and bedding-plane openings, fractures and solution channels. The latter are caused by rainwater or other acidic runoff water which migrates through the primary pores within the rock, and through fractures and openings in joints and bedding planes, thereby widening these voids by dissolution and erosion of the rock. These processes continually enlarge the voids and thus increase the water transmission capabilities of the rock. The formation of large interconnected channels and caverns which make these rock formations good aquifers with high rates of recharge from surface waters also significantly increase the potential for groundwater contamination by allowing surface water containing pollutants, such as bacteria or nitrates, to rapidly enter the water table before the soil and rock formations have a chance to remove these contaminants by absorption and filtration. Furthermore, the polluted groundwater can then travel freely along these solution channels and degrade water resources over a wide area. Sinkholes in these limestone areas are an additional threat to groundwater supplies, since they allow direct entry of surface water into aquifers. Areas underlain by carbonate rocks will require careful planning and monitoring by municipal officials to protect the groundwater in these areas from becoming degraded by such hazards as landfills, waste disposal sites, chemical spills, fertilizing practices, pesticide control, on-site septic systems, and sludge dumping areas.

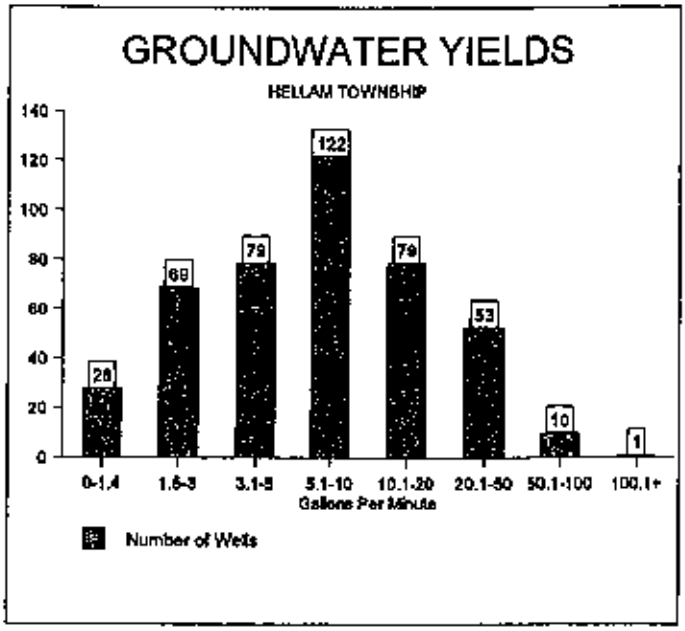
Based upon 2 studies entitled *Groundwater in Southeastern Pennsylvania (1977)*, and *Engineering Characteristics of the Rocks of Pennsylvania (1982)*, a table has been developed listing the groundwater yields of the Township's respective geologic formations:

GROUNDWATER YIELDS			
Map Symbol	Formation Name	Water-Bearing Properties	Median Yield (gpm)
€ch	Chickies	Yields small supplies of excellent water.	20
€h	Harpers	Not a good water-bearing formation, but most wells in it yield small supplies.	24
€a	Antietam	Fairly good water-bearing horizon. Spring yield excellent water.	20
€v	Vintage	The yield of wells is dependent upon the volume of water which is available in solution channels encountered in drilling. Most wells yield sufficient water for domestic purposes, but some "dry holes" have been reported.	30
€k	Kinzers	The yield of wells is dependent upon the volume of water which is available in solution channels encountered in drilling. Most wells yield sufficient water for domestic purposes, but some "dry holes" have been reported.	30
€l	Ledger	The yield of wells is dependent upon the volume of water which is available in solution channels encountered in drilling. Most wells yield sufficient water for domestic purposes, but some "dry holes" have been reported.	30
mb	Metabasalt	A poor groundwater horizon. Few wells have been drilled in this rock.	5
mrb, mrh	Metarhyolite	Yields obtained from fractured, weathered zone at top of bedrock; water levels show strong seasonal influence	5
Oc	Conestoga	The yield of wells is dependent upon the volume of water which is available in solution channels encountered in drilling. Most wells yield sufficient water for domestic purposes, but some "dry holes" have been reported.	25

More recent information was obtained in 2001 from the Pennsylvania Department of Conservation and Natural Resources. The ongoing Groundwater Inventory System for Hellam Township reports the following information:

- Of the 441 wells tested in Hellam Township, reported yields range from 0.5 to 120 gallons per minute (gpm). The average yield in Hellam Township is 13.1 gpm.

- The following graph illustrates the number of wells that recorded yields within 1 of the 8 depicted yield ranges:



Source: PA DCNR

"A typical household with 3 family members would require an average of 0.2 to 0.4 gpm. Peak rates of use would range between 3 and 5 gpm for the same household. However, actual yields needed to supply this demand depend upon the amount of storage capacity in the household system."[1]

- Slightly less than 40% of the wells tested in Hellam Township had reported yields of 5 gpm or lower; these wells may not have adequate yields of groundwater for peak domestic uses where no on-site storage exists, according to the Federal Housing Authority.

Historically, nitrates are one of the most prevalent forms of pollutants that contaminate groundwater resources. This pollutant can usually be traced to malfunctioning on-lot disposal systems, application of fertilizers, manure and sludge in agricultural areas, or to a combination of these factors. High nitrate levels (above the U.S. Public Health Service and Environmental Protection Agency standard of 10 milligrams per liter) can be harmful to human infants and cattle, and, on rare instances, can even result in death due to oxygen depletion within the bloodstream. Well-water nitrate levels which are greater than 5.0 milligrams per liter are considered excessive by PA DEP sanitary standards.

Preliminary studies on the quality of water in a sample of 50 wells located in various parts of Hellam Township were carried out in conjunction with the 1992 Act 537 Official Sewage Facilities Plan. The results of these studies, shown in the table within, indicate that, of the wells tested, 12% exhibited nitrate levels in excess of the 10 mg/liter safety standard described above. Another 20% of the wells tested have nitrate levels between 5.0 and 10.0

[1]Gannett Fleming Environmental Engineers, Inc., *Lancaster County Sewer and Water Resources Study* (Harrisburg, PA: May 1987), p. 8.

mg/liter, which means that 32% of the wells have nitrate levels which are excessive by PA DEP sanitary standards.

SUMMARY OF NITRATE DISTRIBUTION			
Nitrates mg/l	No. of Samples	% of Total	Cumulative % of Total
10-15	6	12%	12%
5-9.9	10	20%	32%
>4.9	34	68%	100%
	50	100%	

These wells were scattered throughout the Township and showed no recognizable pattern with respect to location. Taken together, these data indicate that serious groundwater contamination problems are beginning to develop in various regions of the Township, and PA DEP has recommended that remedial measures be taken to improve the quality and safety of groundwater drinking supplies. Well testing for the pending 2001 Act 537 Plan Update is currently in progress.

The Township recognizes that groundwater contamination is a significant concern and has outlined an aggressive approach in the pending 2001 Act 537 Official Sewage Facilities Plan Update to remedy this problem. As determined by preliminary well testing in conjunction with the pending Act 537 Update, the Township would like to require a minimum lot size of 2 acres for dwellings relying upon on-lot sewage disposal systems. This lot size has not yet been approved by PA DEP as being large enough to assure adequate dilution of nitrate-laden effluent from one lot to the next. This represents a significant step for protection of groundwater at the site level over a limited area. However, if development intensifies in unsewered areas and current farming practices continue, careful monitoring of wells will be necessary, since even with this minimum lot size there is no assurance that groundwater in the limestone valley, or in the steeper slope areas of the Township, can be adequately protected from the cumulative effects of effluents arising from increasing total numbers of on-lot septic systems operating in a contiguous lot pattern over a large area and the continued surface application of fertilizers.

The Township's pending 2001 Act 537 Plan Update makes the following recommendations:

- Enact an on-lot district management ordinance to require pump-outs of OLDS at three year intervals. Also, require inspections at the time of pump-out to identify failed systems.

- Encourage high density residential, commercial and industrial development to extend public sewer by zoning for such uses adjacent to existing public sewer areas.

- Require hydrogeologic studies for all new OLDS, except single family residential lots, to ensure adequate dilution of OLDS nitrates prior to discharge to groundwater.

- Require new single family residential lots with OLDS to be a minimum of 2 acres, require that all wells and OLDS to be a minimum of 50 feet from all lot lines, and 100 feet from existing wells and OLDS .

- Provide for new single family residential lots to be a minimum of one and a half (1 ½) acres if the following conditions are met:

  A hydrogeologic study is performed for the lot which shows no negative impact to Township groundwater.

  A PA DEP approved denitrification system for the OLDS is installed and maintained.

  An alternative site for a second OLDS is evaluated, located, and preserved.

- Extend public sewer to two areas of the Township, identified as special needs areas related to OLDS. The Route 462 extension is for an area with a high concentration of past OLDS failures and will additionally provide sewer for areas currently zoned to be developed. A River Road extension (is also being considered to) serve an area with many lots either too small for replacement systems or with any potential replacement area unacceptably located in the 100 year floodplain of the Susquehanna River. (Further well testing is being conducted in this area.)

- Provide public education on the proper operation and maintenance of OLDS to provide the highest probability of proper treatment of wastewater and extend life of the system.

- Adopt a well drillers ordinance to assure proper construction of new wells, minimizing the potential for contaminants to enter the well."

Careful guidelines regarding land use activities in all areas of Hellam Township are recommended in order to protect both the quality and quantity of groundwater supplies on which the majority of the residents depend. Maintaining the quality and quantity of the Township's groundwater and well supplies can be done at relatively low cost, if appropriate municipal actions are taken to prohibit unsafe land use practices that contaminate both the surface and groundwaters, and if steps are taken to avoid excessive development demands in groundwater recharge areas that abnormally lower the water table.

Lawful activities such as extraction of minerals impact water supply sources and such activities are governed by statutes regulating mineral extraction that specify replacement and restoration of water supplies affected by such activities. Commercial agriculture production can also impact water supplies. The largest groundwater problem likely to result from agriculture is elevated nitrate. Impacts from mining and commercial agriculture production should be considered in the planning process.

In order to minimize existing groundwater contamination and prevent future contamination, it is recommended that the Township promote practical preventive measures. Measures that seek to avoid groundwater contamination are far less costly than remedial measures to clean contaminated groundwater, and include the following:

- *Adopting a Well-Drilling Ordinance as recommended by the current Act 537 Plan to permit monitoring of groundwater resources and to serve as an early warning system for groundwater contamination in unsewered areas. Continued development in unsewered areas of the Township will be allowed to occur where prospective developers can demonstrate the ability to achieve adequate water quality and quantity.*

- *Future land use planning will direct high density residential, commercial and industrial growth and development to areas that have potential for public sewer and water facilities.*

- *The Township will adopt ordinances regulating sludge application, underground storage tanks, and the use, storage and disposal of hazardous substances in defined groundwater protection areas.*

- *It is recommended that Landowners be educated and encouraged to practice sound waste storage and application techniques. Local officials should keep abreast of the Nutrient Management Act and its requirements.*

5. Drainage Divides and Floodplains

a. Introduction

The way in which water moves through our environment has definite land use implications. First, waterways and their floodplains present hazards to intensive development. Next, the land areas that are affected by erosion are often uneconomical to develop, yet offer high quality conservation and recreational experiences. Finally, the watershed or drainage basin is a basic geographic unit used to plan and design sanitary and storm sewer systems. Systems that can make use of gravity-fed lines can reduce the initial capital cost and long-range maintenance cost of these utilities.

The drainage system of an area primarily consists of the streams and associated stream beds and floodplains which dispose of surface water from that area. All of the drainage basins in the Township are part of the Susquehanna River drainage basin, which is the largest such basin in Pennsylvania. All water draining from the Township eventually flows into the Susquehanna River by way of two major drainage divides, namely Kreutz Creek and Codorus Creek, and several minor drainage divides (see Natural Features Map, Exhibit D).

b. Drainage Basins

Kreutz Creek, the largest drainage basin in Hellam Township, drains 65% of the Township. This stream flows from west to east through the entire length of the Hellam-Wrightsville Valley into the Susquehanna River. It has many smaller tributaries, some of which drain into the creek from the north side of South Hills, and others which flow southward into the creek from the Hellam Hills. Most of the developed lands and agricultural areas in the Township are located in this drainage basin.

Codorus Creek is the second largest drainage area in the Township. This drainage basin, located in the northwestern sector of the Township, drains a portion of the Hellam Hills on the north side and the area that parallels the Druck Valley Road. Most of the land in this drainage basin is sparsely settled and heavily wooded with slopes exceeding 25%. Deep Run and Trout Run are 2 minor streams that flow into the Codorus Creek within this area.

The Susquehanna River drainage basin drains a small portion of the Township directly into the Susquehanna River via 4 minor streams. This steeply sloped basin is heavily wooded and sparsely developed. The Marietta Gravity Water Company watershed is located within this drainage basin, utilizing water from Wildcat Run and Dugan Run. Two other streams, one located along Dark Hollow Road and one along Accomac Road, are part of this drainage basin.

c. Stream Corridors

Protection of stream water quality and quantity is of critical importance to a rural area like Hellam Township, since streams and aquifers form an interconnected system of water resources upon which the Township is dependent for its water supply. Any change in the quantity or quality of the water in streams can often lead to similar changes in the water found in nearby aquifers. ***The Township can provide a large measure of protection for streams by maintaining the integrity of the natural areas adjacent to streams (e.g., riparian buffers), particularly steep slopes, wooded lands, wetlands, and floodplains. It is recommended that specific important areas be mapped as protected zones, while stream corridors that traverse through "developing" landscapes should be vigorously protected through floodplain and wetland regulations.*** These vegetated areas along each side of the stream from its origin in the uplands to its mouth are called stream corridors (or valleys). These corridors serve as a natural defense system for streams and help to protect stream quality by absorbing and filtering pollutants and sediments which might otherwise reach the stream. Furthermore, soils in forested buffers contain microscopic organisms that assist in decomposing pollutants like the microbes in sewage treatment plants. Stream corridors are also the habitats for many native plant and animal species and provide vital links between many woodland and wetland ecosystems. Prime natural recreation areas for people and important historical and cultural resources, such as mills and archaeological sites, are often located along stream corridors.

d. Effects of Development on Surface Water

Development in a drainage area can have far-reaching effects on the quality, flow rate and volume of streams in that area. Streams in developed areas are often polluted by residential, agricultural, commercial, and industrial activities that occur in these areas. This pollution can come from a point source, such as a discharge from a pipe, or from a non-point source, such as storm water runoff from urban and agricultural areas. At present, the quality of the water in various streams of Hellam Township is unknown, since, to date, no samples of these waters have been tested for pollutants, such as nitrates, hazardous organic chemicals and fecal coliform bacteria. Studies in nearby Lancaster County indicate that much pollution originates as runoff from agricultural lands where manure and chemical fertilizers are used in large amounts. These studies also

conclusively show that this degraded stream water, which ultimately flows into the Susquehanna River, is a major cause of the pollution that has seriously damaged the fishing industry in the Chesapeake Bay.

It is encouraged that Hellam Township address this important issue and encourage farming and building practices that reduce the amount of harmful pollutants that enter the drainage system in the Township, and eventually the Chesapeake Bay. In an effort to improve the surface water quality, further storm water management regulations will be considered in the development of a new Storm Water Management Ordinance.

6. FLOODPLAINS

A floodplain is an area of land adjoining a water source, such as a river or stream, that is subject periodically to partial or complete inundation by the water source. It may also be subject to the usual and rapid accumulation of runoff or surface waters from any source. Floodplains often contain prime farmland and wildlife habitats. The floodplain areas in Hellam Township were delineated in a study entitled *Floodplains*, published in 1974 by the York County Planning Commission. About 2,000 acres, or 11.5% of the Township lands, lie within the floodplain areas, most of which are located along the Susquehanna River and Kreutz Creek.

a. Effects of Development in the Floodplain

Development in the floodplains of the Township is regulated under the State and Federal floodplain protection program. The Township Zoning Ordinance also contains regulations that limit, but do not prohibit, development in the natural floodplain. These regulations help to reduce the dangers of any potential flood hazards and permit the Township to participate in the Federal Flood Insurance Program. ***It is recommended that the Township carefully review development proposals in low lying areas that are wet and abut floodplains, streams, and ponds. Prospective applicants will be required to demonstrate compliance with federal and state wetland protection programs.***

7. WETLANDS

Wetlands are areas that have been inundated or saturated long enough to produce the particular types of vegetation associated with swamps, bogs and marshes. While there are several definitions of wetlands used by regulatory agencies, all definitions require the presence of hydrophytic plants (plants that grow in wet soils), hydric (wet and anaerobic) soils, and the presence of water at or near the surface at some part of the growing season.

Wetlands hold an important place in the ecosystem since they provide such benefits as habitats for diverse and endangered wildlife species, flood protection, pollution abatement, and surface water quality improvement. Their value has only recently been recognized, though, and a variety of laws have been passed to protect them. Development in wetlands is now strictly regulated by the U.S. Environmental Protection Agency and is subject to both State and Federal permitting processes.

a. Effects of Development Within Wetlands

To date, no detailed studies of the location and size of wetland areas in Hellam Township have been carried out. The approximate locations of some of the wetland areas in the Township were identified on the National Wetlands Map and are shown on the Natural Features Map. ***It is recommended that the Township carefully review development proposals in low lying areas that are wet and abut floodplains, streams and ponds. Prospective applicants will be required to demonstrate compliance with Federal and State wetland protection programs.***

8. WOODLANDS

At least 6,300 acres, or 35%, of the total area of Hellam Township is in woodland. The major portion of these woodlands, approximately 5,400 acres, is located in the northern third of the Township, in the Hellam Hills section, while a smaller portion consisting of approximately 900 acres is located in the southern third of the Township. Woodlands are shown on Exhibit D. Most of the woodlands in the Hellam Hills are of major significance from an ecological point of view. The fact that they contain large, contiguous, relatively undeveloped areas with unfragmented ecosystems makes them an important native biodiversity protection area.

Most of the woodlands areas in the Township are privately owned. Only a relatively small amount of woodland is publicly owned and consists of 300 acres of land contained in Rocky Ridge County Park located at the western boundary of the Township north of Route 30. About 750 acres in the Hellam Hills are owned by the Marietta Gravity Water Company. In the Existing Land Use Chapter (Chapter VII), woodlands are included in the agricultural designation.

The ecological functioning of woodlands in Hellam Township will be hampered greatly if they are increasingly timbered and fragmented into small scattered units. Although trees are a renewable resource, studies show that it takes anywhere from 100-150 years for a mature woodland to be established. The scatter- and sprawl-type of development occurring in some rural areas have ultimately led to a landscape that resembles a system of small wooded islands in a sea of disturbed land. Since woodlands play a key role in absorbing rainfall, purifying groundwater, and preventing erosion and flooding, the continued reduction and fragmentation of woodlands in the Township should be prevented in order to preserve these cost-free hydrological functions. Replacement of these natural functions with engineered solutions will result in major expenses for the taxpayers. ***These costs can be avoided, however, by using modern conservation planning and zoning techniques for the Township that are sensitive to the need for preserving large contiguous areas of woodlands. For this reason, woodlands have been included in the Restricted Development Overlay plan designation illustrated by Exhibit Q.***

9. Natural Features Inventory Needs

While the description and mapping of natural features presented in this Plan are as accurate as data sources and map size constraints permit, local officials believe it would be desirable to physically survey, verify, and map at a larger scale the Township's natural features at some point in the future. Such a detailed inventory of the Township's resources would be of great assistance in the municipal review of applications for subdivisions and land developments, to locate various natural features.

The Township will prepare an Official Environmental Resource Inventory and Comprehensive Natural Features Map delineating all sensitive natural features of the Township. These features will include, but not be limited to, the following: (1) woodlands and wooded corridors, (2) steep slopes (25% or greater); (3) a complete listing of all streams and their water quality and stream floodplain corridors; (4) wetlands; (5) Susquehanna River floodplains; (6) sensitive wildlife habitats, including those of rare and endangered plant and animal species; and (7) unique geological features.

C. CULTURAL FEATURES

1. Archaeological Resources

Valuable information about an area's history and pre-history can be present in archaeological sites. These sites contain artifacts, structural remains and features which can assist in identifying, dating and understanding both historic and prehistoric cultures. Identification of significant archaeological resources is important because once these resources are destroyed, the useful information they contain is lost forever.

Hellam Township has not been systematically surveyed to determine the locations of prehistoric sites, although 4 such sites are recorded for the Township in the Pennsylvania Archaeological Site Survey (P.A.S.S.) files at the Pennsylvania Historical and Museum Commission (PHMC). PHMC has developed maps and models, based on extensive research, which indicate where prehistoric sites are most likely to occur in an area. Environmental variables, such as proximity to converging streams and springheads, floodplain locations, access to swamps, relatively flat ground, and south-facing gentle slopes are important factors in determining where sites may be located. It is expected that prehistoric sites in Hellam Township would be most likely in areas where 1 or more of these variables are present.

The earliest—and rarest—type of prehistoric site in Pennsylvania is Paleoindian. The Paleoindian period represents the first human occupation in this area and dates to before 8000 B.C., when cooler, post-glacial climatic conditions prevailed. There are only about 230 known Paleoindian sites in the entire State of Pennsylvania. The presence of these earliest populations is often marked by occasional surface finds of their characteristic fluted projectile points; several of these have been found in York County. Paleoindian sites are more likely to be present in this part of Pennsylvania, including Hellam Township.

The Archaic period, which followed the Paleoindian period and lasted from about 8000 B.C. to about 1000 B.C., was characterized by an increase in population and adjustment to a changing environment, as essentially modern climatic conditions became established. Archaic period sites are numerous in southeastern Pennsylvania, and the potential for the presence of these sites in Hellam Township is great. Knowledge of their distribution and configuration is important to understanding early cultural adaptations to environmental change.

The Woodland periods, spanning the time from 1000 B.C. to early European contact (c. 1550 A.D.) are also likely to be well represented in Hellam Township. Floodplain settings, such as along the Susquehanna River and the Codorus Creek, and some hilltops were preferred by the Woodland peoples, who represent settled village life centered around early agriculture, in addition to traditional hunting and gathering. The extensive archaeological remains likely to occur in these village sites are extremely useful for studying prehistoric sociopolitical organization and adaptation to a way of life more dependent on agriculture. As a result, archaeological sites from this period have a high level of significance and are likely to be determined eligible for the National Register of Historic Places.

Historic archaeological sites are represented by ruins or below-ground remains of early historic structures, such as domestic dwellings and outbuildings, mills, furnaces, etc. No systematic survey of historic archaeological sites has been carried out in Hellam Township nor have any historic period archaeological sites been recorded in the P.A.S.S. files, but the potential for the presence of such sites in the Township is great, given its long and rich cultural history. Particularly significant would be sites dating to the early 18th century, when the Hellam Township area was the "western frontier" for those settlers moving west across the river, and sites with remains of early industries, such as iron-making and milling.

The 4 sites recorded in the P.A.S.S. files for Hellam Township are 36YO19, a rock-shelter designated prehistoric, with a hearth feature and no diagnostic points or pottery; 36YO112, a Late Archaic/Transitional/Late Woodland site, with quartzite and chalcedony materials and a diagnostic point of the Piedmont tradition; 36YO248, a prehistoric site with quartzite and rhyolite materials, features and no diagnostics; and 36YO254, a floodplain site along the Codorus Creek designated Middle Archaic period, containing quartzite materials, ceramics, tools, bannerstones and a diagnostic bifurcate point.

The Cultural Features Map (Exhibit F) depicts areas within the Township with a high probability of archaeological significance, according to PHMC guidelines, which require a stream buffer of 200 meters (656 feet). The above-referenced P.A.S.S. sites are not identified on the Exhibit because of the strict confidentiality policy held by PHMC regarding the identification of the exact locations of researched sites. ***As per the State, all developers are required to obtain PHMC approval prior to substantial excavation or development of a site.***

2. Historic Preservation

Hellam Township, like much of south-central Pennsylvania, is fortunate to possess a rich cultural heritage. Today, this heritage is evident in the numerous older individual

buildings and structures that dot the Township's rural landscape and that are concentrated in its established neighborhoods. Township officials and residents alike, recognize the value of conservation and rehabilitation, plus, restoration and adaptive reuse of these historic resources as a means of providing a glimpse into the Township's important past. Additionally, historic preservation can provide educational opportunities regarding historic lifestyles and architectural styles. Well-maintained historic sites and areas can create a sense of unique identity and stimulate civic pride, economic vitality and tourism opportunities.

The locations and significance of the historic and architectural resources within Hellam Township were identified by the Kreutz Creek Valley Preservation Society (KCVPS). The Society was formed in 1986 with the purpose to study and promote an interest in the history of the area which is defined as Hallam Borough and Hellam Township, to identify, restore and preserve historic sites, open space, natural conservation areas and the general character of the area, and to promote community spirit by enriching the social, educational and cultural life of the community. Due to the large number of historic features within the Township, KCVPS requested assistance from Historic York Incorporated to catalogue the entire Township in the summer of 1990. As a result of this comprehensive survey, over 400 separate buildings and structures were identified and catalogued. The levels of historic integrity range from poor to very good. These levels of integrity correspond to the overall importance of the site. The rural landscape of the Hellam Valley is of interest because it contains the entire range of architectural styles from medieval Germanic to Georgian to the more elaborate Federal and Victorian varieties in an almost textbook-like setting. The primary building materials are log, limestone, and brick. A 1990 survey discovered that more historically significant sites are located in the Hellam Valley than any other municipality in York County and a large percentage of the sites are in very good condition. The Cultural Features Map (Exhibit F) illustrates sites of historical significance within Hellam Township.

The Codorus Furnace, c. 1836, is located on the south side of the Codorus Creek on Furnace Road, and is listed on the National Register of Historic Places. The site of the "Shoe House," located south of U.S. Route 30 on the west side of Shoe House Road, has been nominated to the National Register of Historic Places. While this building was only built in 1948, its extremely unique architecture has warranted its nomination.

The Cultural Features Map (Exhibit F) illustrates historic sites in the Township. In addition, the Township boasts over 20 existing buildings that were built during the 1700s. For the most part, the historic and architectural resources located within the Township consist of farmhouses and barns. There are several churches, cemeteries, schools, mills, taverns, and inns also listed. The churches, school house and mills that are over 100 years old and have not converted to residences are listed. Also listed are cemeteries that are not on private residence lands.

a. Implications for Historic Preservation

Given the Township's rich historic past and considerable wealth of historic and architectural sites, it is recommended that the Township adopt measures that protect significant historic sites. Recent amendments to the MPC enable local governments to plan and zone for the protection of historic resources. As such, ***Hellam Township will preserve its***

historic and architectural resources through the preparation and adoption of ordinance provisions for this purpose.

- *By using the identified historic and architectural sites, the Township can establish its preservation effort by creating a local historic district that established voluntary historic preservation measures.*

- *The Township will encourage developers of subdivisions and land developments to coordinate the preservation of a significant historic or architectural resources located within the development site as part of subdivision and land development review and approval.*

POLICY IMPLICATIONS

1. *The presence of carbonate geologic conditions within the York-Wrightsville Valley warrants the Township's control of future land uses that rely on conventional on-site sewage disposal systems within this area. Furthermore, it is suggested that future building development in this area be cautious of the unstable nature of carbonate geology and special emphasis should be given to the planning stages of land development projects that occur in areas susceptible to sinkholes and depressions.*

2. *It is recommended that future development carefully consider areas with severe development constraints to minimize environmental degradation and the threat to public health, safety and welfare.*

3. *The Kreutz Creek Valley, and portions of the Hellam Hills, constitute sizeable and fertile blocks of agricultural soils which should be protected through the use of agricultural preservation zoning, including but not limited to Transferable Development Rights.*

4. *Future development should avoid soils with severe development constraints to minimize environmental degradation and the threat to public health, safety and welfare.*

IMPLEMENTATION TASKS

1. *In order to minimize existing groundwater contamination and prevent future contamination, the Township will promote practical preventive measures. Measures that seek to avoid groundwater contamination are far less costly than remedial measures to clean contaminated groundwater, and include the following:*

   - *The Township should consider adopting a Well-Drilling Ordinance as recommended by the Act 537 Plan to permit monitoring of groundwater resources and to serve as an early warning system for groundwater contamination in unsewered areas. Continued development in unsewered areas of the Township should only be allowed to occur where prospective developers can demonstrate the ability to achieve adequate water quality and quantity.*

•An objective of future land use planning is to direct high density residential, commercial and industrial growth and development to areas designated for public sewer and water facilities, and away from sensitive environmental areas.

- *The Township should consider adopting ordinances regulating underground storage tanks, and the use, storage and disposal of hazardous substances.*

2. *The Township can provide a large measure of protection for streams by maintaining the integrity of the natural areas adjacent to streams (e.g., riparian buffers), particularly steep slopes, wooded lands, wetlands, and floodplains. Specific important areas will be mapped as protected zones, while stream corridors that traverse through "developing" landscapes will be vigorously protected through floodplain and wetland regulations.*

3. *Encourage farming and building practices that reduce the amount of harmful pollutants that enter the drainage system in the Township and eventually the Chesapeake Bay.*

4. *In an effort to improve the surface water quality, further storm water management regulations will be considered in the development of a new Storm Water Management Ordinance.*

5. *Zoning regulations should consider development limitations within floodplains.*

6. *The Township should carefully review development proposals in low lying areas that are wet and abut floodplains. Prospective applicants will be required to demonstrate compliance with Federal and State wetland protection programs.*

7. *It is recommended that the Township prepare an Official Environmental Resource Inventory and Comprehensive Natural Features Map delineating all sensitive natural features within the Township. These features will include, but not be limited to, the following: (1) woodlands and wooded corridors, (2) steep slopes (25% or greater); (3) a complete listing of all streams and their water quality and stream floodplain corridors; (4) wetlands; (5) Susquehanna River floodplains; (6) sensitive wildlife habitats, including those of rare and endangered plant and animal species; and (7) unique geological features.*

8. *This plan proposes that Hellam Township preserve its historic and architectural resources through the preparation and adoption of ordinance provisions for this purpose.*

9. *By using the historic and architectural sites, the Township can establish its preservation effort by creating a local historic district that establishes voluntary historic preservation measures.*

10. *The Township will encourage developers of subdivisions and land developments to coordinate the preservation of a significant historic or architectural resources located within the development site as part of subdivision and land development review and approval.*

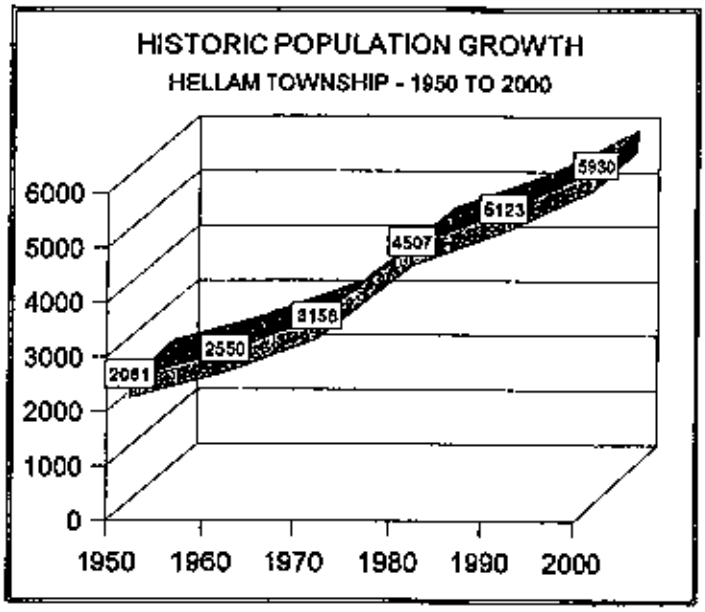
Source: 1996 Hellam Township Comprehensive Plan with revisions

IV. DEMOGRAPHIC ANALYSIS

DEMOGRAPHIC-RELATED GOAL

- Provide for the economic development of the Township, with due consideration to preserving the rural character of the Township.

The allocation of municipal resources must consider the population to be served. Obviously, the overall size of a population is related to the amount of services or lands that must be provided. In addition, particular groups within the population have different service needs. This chapter will present past, current and expected population statistics. In addition, a description of family, housing and socioeconomic characteristics will be presented. Finally, the chapter includes a description and analysis of the Township's economic base and possibilities for economic development in the future.



A. HISTORIC POPULATION GROWTH

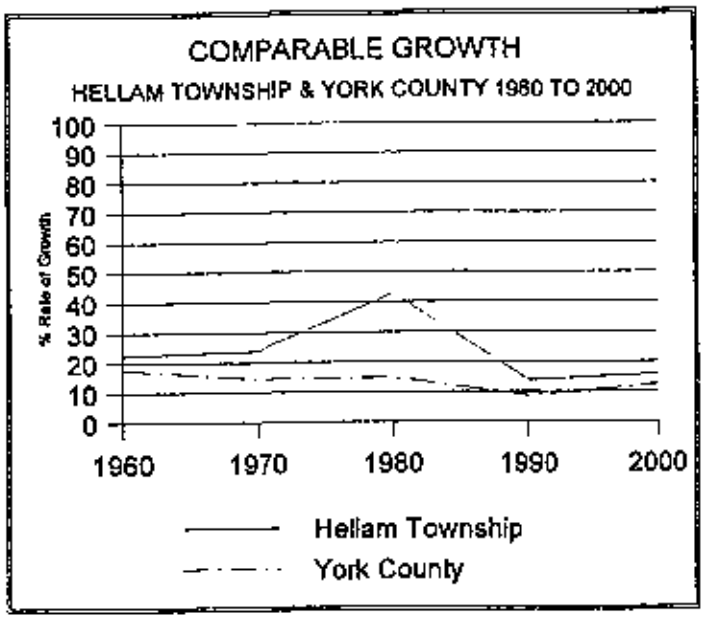
The historical growth patterns of a municipality can provide insight as to the growth which might be expected in the future. The adjacent graph and following table illustrate the amount and rate of population growth that has occurred since 1950 in Hellam Township.

Population change is attributable to a combination of natural increase (or decrease) and net migration. The largest part of Hellam Township's growth over the last few decades is due to immigration. Hellam Township experienced steady growth through the 1950s and 1960s in the post-war years as the economy diversified and new residents moved into the

Year	Total Population	Net Change	Percent Change
1950	2,081	–	–
1960	2,550	469	22.5%
1970	3,158	608	23.8%
1980	4,507	1,349	42.7%
1990	5,123	616	13.7%
2000	5,930	807	15.8%

Source: US Census

area. The 1970s saw significant growth in the Township, reflecting a strong local economy, outmigration from urban areas, and an increase in commuting made easier by the completion of the Route 30 Bypass. The slowdown in growth during the decade of the 1980s can probably be attributed largely to the national recession, the slowdown in the building industry, and the rising cost of housing.



	1960	1970	1980	1990	2000
Hellam Township	22.5	23.8	42.7	13.7	15 8
York County	17.6	14.4	14.8	8.54	12.4

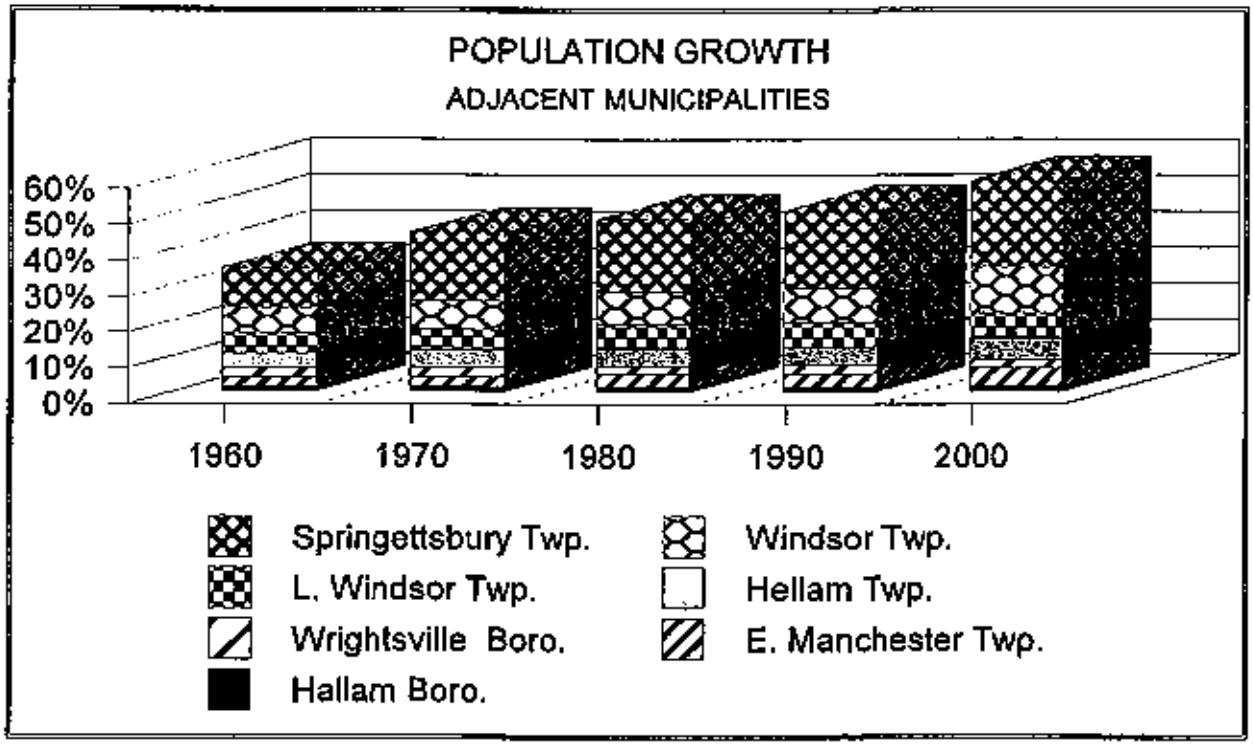
SOURCES: U.S. CENSUS & YCPC

The 1990s saw an increase of 807 persons in Hellam township, reflecting the strong economy of that time period.

A comparison of the Township's and County's population growth rates provides insight into regional factors affecting local growth. The following graph compares the percent rate of population growth by decade for Hellam Township with that of York County.

Since 1960, York County's rate of growth has declined steadily, while Hellam Township's rate of growth, always higher than the County's, rose first slightly, then sharply, to drop down again to just above the County's rate of growth in 1990. It can be expected that the Township's rate of growth since 1960 should exceed that of the County, since much of the County's post-war growth has occurred in suburban townships, rather than in cities and boroughs.

A comparison of growth in Hellam Township with that in adjacent municipalities can also provide insight into more localized development influences. York County includes 72 municipalities, with Hellam Township located at its northeastern edge. Two of the County's boroughs, Hallam and Wrightsville, lie predominantly surrounded by Hellam Township. The following table and graph display population data for Hellam Township and its adjacent municipalities for recent decades. Please refer to the Regional Location Map (Exhibit A) to identify the locations of the following municipalities in relation to Hellam Township.



POPULATION GROWTH IN ADJACENT MUNICIPALITIES					
Municipality	1960	1970	1980	1990	2000
East Manchester Township	2,253	1,735	3,564	3,714	5,078
Hallam Borough	1,234	1,825	1,428	1,375	1,532
Hellam Township	***2,550***	***3,158***	***4,507***	***5,123***	5,930
Lower Windsor Township	3,424	3,879	5,977	7,051	7,405
Springettsbury Township	14,232	19,399	19,687	21,564	23,883
Windsor Township	4,751	6,672	8,807	9,424	12,807
Wrightsville Borough	2,345	2,668	2,365	2,396	2,223
Total for Region	30,789	39,276	46,335	50,647	58,858
York County	238,336	272,603	312,963	339,574	381,751

Source: U.S. Census

The foregoing table and graph show that the region's growth has actually slowed both in rate and numbers of new residents over the last 3 decades. In the 1960s, the region gained 8,487 new residents, growing at a 27.6% rate, while in the 1970s, the gain was 7,059 new residents and an 18% rate of growth.

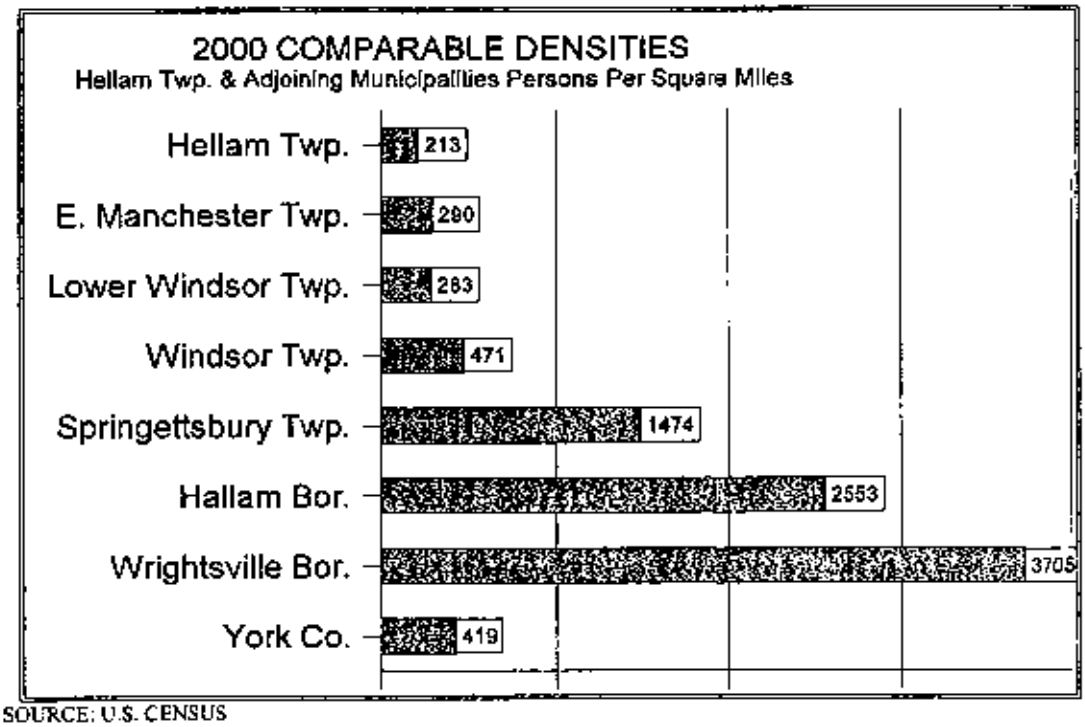
The 1980s showed the lowest level of growth, with a gain of just 4,312 new residents and a growth rate of 9.3%. The region grew significantly in the 1990s by 8,211 new residents, which represents a 16.2% rate of growth. The above figures were also used to calculate the net change in population and rate of growth from 1960 to 2000 for each of the region's municipalities and the County, as follows:

PROPORTION OF GROWTH IN ADJACENT MUNICIPALITIES		
Municipality	Net Change (Persons) 1960-2000	Percentage Change 1960-2000
East Manchester Township	2,825	125%
Hallam Borough	298	24%
Hellam Township	***3,380***	***133%***
Lower Windsor Township	3,981	116%
Springettsbury Township	9,651	68%
Windsor Township	8,056	169%
Wrightsville Borough	-122	-5%
Total for Region	28,069	91%
York County	143,415	60

Source: US Census

While the preceding table shows that, from 1960 to 2000, Hellam Township grew at the second-fastest rate among neighboring townships, it experienced, however, the fourth lowest increase in actual numbers of new residents. Conversely, Springettsbury, Windsor and Lower Windsor Townships experienced much higher increases in the numbers of new residents, indicating that those townships are developing more rapidly. This trend corresponds to the urbanization of the greater York City area during the past several decades. These townships are located to the east of York City within the suburbanizing area and reflect the directionality of growth pressure being exerted upon Hellam Township from the south and west.

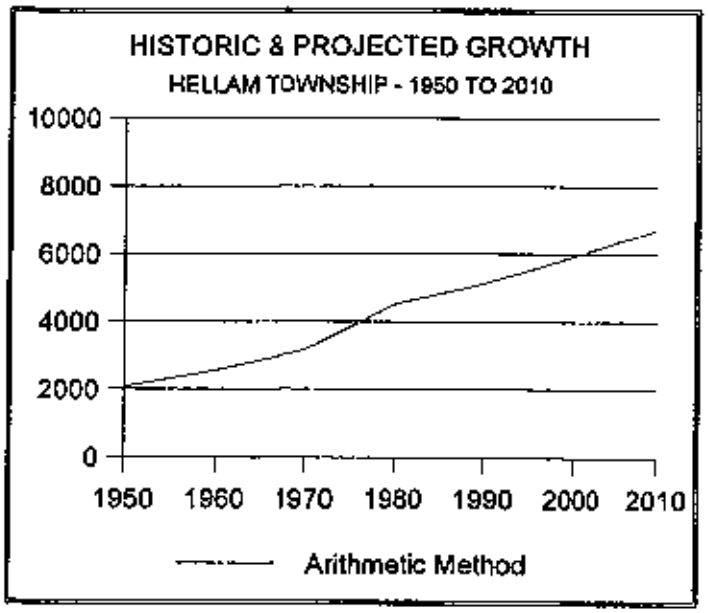
As population increases, so does density. The graph below depicts relative densities for adjoining municipalities and York County.



SOURCE: U.S. CENSUS

Not surprisingly, the area's boroughs exhibit greater densities than do the townships and County as a whole. Hellam Township has the lowest density of all the townships in the region, and approximately half the density of the County as a whole, reflecting its still largely rural character.

B. POPULATION PROJECTIONS



Population projections are important to the future allocation of land use and the delivery of public services. The projections become a building block that are used consistently to forecast future land and service needs. Consequently, great care must be exercised to assure that these figures represent the "best guess" as to how the Township will grow.

It is important to understand that no population projection can accurately forecast all of the factors that might cause a particular rate of growth. Instead, historical trends are analyzed and compared with perceived current trends to see how accurately they predict recent data; then, the most accurate method is used to predict future conditions.

The 1996 Comprehensive Plan using five methods analyzed potential population projections to the year 2010. Ultimately, the results of an arithmetic method were chosen to represent population projections to the year 2010. As part of this Comprehensive Plan Update, that same arithmetic method was used to update population projections to the year 2010, based on recently released 2000 census data.

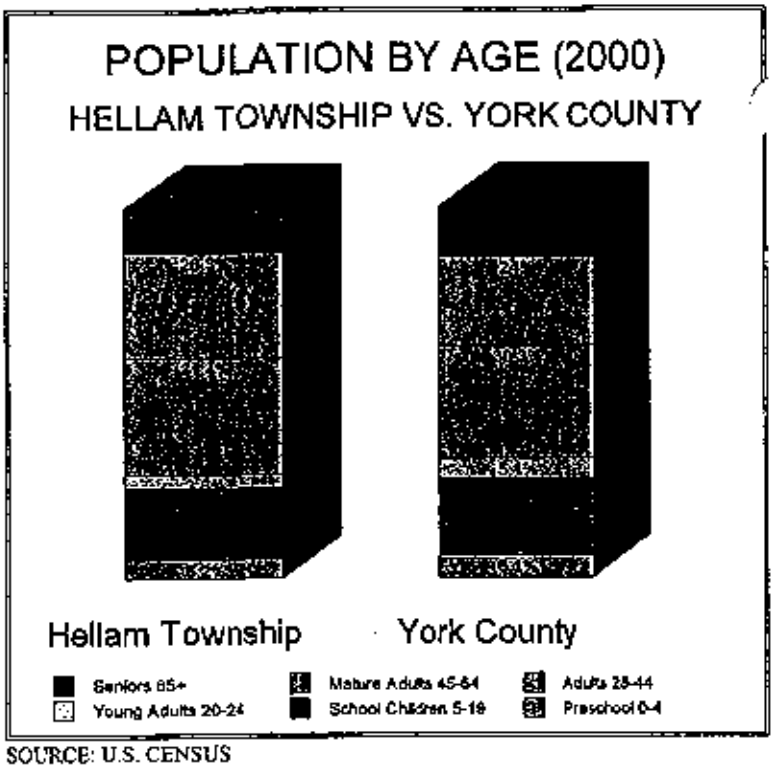
1990	2000	2010
5,123	5,930	6,700

Arithmetic Method

This method relies upon an arithmetic extrapolation projection technique. It forecasts growth at the same numeric levels as the past. Specifically, it was calculated that an average of 770 new residents have been added to Hellam Township in each decade since 1950. This same net increase was then added to the 2000 figure, yielding the projection illustrated above.

The results of the arithmetic method have been plotted, along with the Township's recent historical growth pattern. From the following graph, one can visualize a "natural" growth curve for the Township.

The Arithmetic Method yields a projection consistent with the Township's stated goal to preserve the rural character of Hellam Township. This population projection will be used to assure adequate allocation of land needed to meet the desired growth of the Township, and to determine municipal resources, community facilities, and public utility capacity to service that growth.



SOURCE: U.S. CENSUS

C. SOCIOECONOMIC DATA

At the time of this Comprehensive Plan Update, not all 2000 socioeconomic census data was available. As a result, the education and income data from the 1990 census will be carried over to this update.

Aside from sheer size, other characteristics of Hellam Township's population have an important bearing upon the types and quantities of public services that may be needed. The following provides a brief summary of these characteristics.

1. POPULATION BY AGE

Different age groups have varying public service needs that need to be specifically addressed. Age composition data has long been recognized as supplying important inputs for school and recreation planning analyses, with projections of age composition being of special concern in determining long-range facility needs and land requirements for school and recreation sites. Age data is also important in defining stages of the life cycle that, in turn, are used in studies gauging and analyzing activity patterns, household moving behavior, housing, and various kinds of community facilities and services.

For example, the number of children between birth and 4 years of age helps to predict future elementary school classroom space needs and recreation programs geared for pre-school-aged children. Those aged 5–19 comprise the school-aged population, which poses distinct planning implications regarding school and recreation facilities and programs. The 20-to-24 age group represents the young adults who are just entering the labor force and who may heavily rely on the supply of rental housing. Those aged 25 to 44 comprise the young labor force and tend to produce the most children. This group, like those aged 20 to 24, is also highly mobile. The mature labor force, those aged 45 to 64, tends to be more settled and at the height of its earning power. Those 65 years and older comprise the senior sector of the population; this sector is generally characterized by limited purchasing power and an increased demand for health and public transit services, and

special recreation services. The above chart conveys the 2000 age breakdown of the Township's residents by percent, as compared to the County as a whole.

For the most part, the Township's and the County's age profiles are very similar within the Township. Preschool-age children through age 4 make up 5% of the Township's population, while school-age children from 5 to 19 comprise an additional 19% of the Township's population. Young adults from 20 to 24 make up 4% of the population, while child-bearing adults between 25 and 44 account for 31% of the population. Mature adults between 45 and 64 comprise 28% of the population, while seniors 65 and over make up the remaining 12% of the population. Next, it is important to look at other socioeconomic data that help describe the demographic composition of the Township. Such data include gender and racial composition, household statistics, education level, and income. The following tables illustrate this set of data:

2000 POPULATION BY GENDER

Area	Total Persons	Total Females	(%)	Total Males	(%)
Hellam Township	5,930	2,952	(49.8%)	2,978	(50.2%)
York County	381,751	194,084	(50.8%)	187,667	(49.2%)

2000 POPULATION BY RACIAL COMPOSITION

Area	Total Persons	White	Black	American Indian, Eskimo & Aleutian	Asia & Pacific Islander	Other	Hispanic Origin (of any race)
Hellam Township	5,930	5,800	44	2	22	11	51
York County	381,751	354,103	14,095	679	3,389	5,297	4,188

2000 HOUSEHOLD STATISTICS

Area	Total Households	Married Couple	% of Total	Female Head	One Person	% of Total	Two or More Unrelated Persons
Hellam Township	2,395	1,484	62%	156	517	21.6%	151
York County	148,219	86,355	58%	13,410	34,572	23.3%	8,161

1990 EDUCATION DATA

Area	Percent Persons 25+ With High School Diploma	Percent Persons 25+ With 4+ Years of College
Hellam Township	72%	13%
York County	73%	14%

1990 INCOME				
Area	Per Capita	Median Household[1]	Median Family[2]	Individuals Below Poverty Level
Hellam Township	$15,477	$34,733	$37,473	263
York County	$14,544	$32,605	$37,590	21,203

[1]A household includes 1 or more persons occupying a housing unit.
[2]A family consists of a householder and 1 or more persons related by birth, marriage or adoption.

Source: US Census

Socioeconomically, Hellam Township presents no surprises when compared with York County. Hellam Township has a slightly higher percentage of males than females than does the County as a whole. Racially, the Township is extremely homogeneous, with only 2% of the population represented by minorities, a lower rate than the 7.2% for the County, but consistent with other rural parts of the County.

Hellam Township tends slightly more toward a married couple household orientation than does the County as a whole, with 62% of all households reported as married couples, as compared with 58% for the County. Again, this is a typical finding in rural areas. However, there is about the same percentage of 1-person households—21% and 23%—within the Township as within the County. This is a more atypical pattern and, based on the rural nature of the Township and the limited numbers of multi-family dwellings likely to accommodate younger, 1-person households, probably can be deduced to reflect a relatively high number of the widowed elderly within the Township.

Educationally, Township residents are less likely to have graduated from high school and to have a 4-year college degree than are those within York County as a whole. Hellam Township residents tend to be somewhat more affluent than their Countywide counterparts on a per capita and median household basis, reflecting the relatively large number of single-person households. However, median family income for the Township is just slightly lower than that for the County, suggesting lower spousal work force participation rates and/or lower wages. The proportion of the Township's population living in poverty is 4.4%, just under the County's rate of 5.5%, and well under the Statewide average of 10.8%.

POLICY IMPLICATION

1. ***The population projection of 6,700 for the year 2010 will be used to assure adequate allocation of land needed to meet the desired growth of the Township, and to determine needed municipal resources, community facilities, and public utility capacity to service that growth.***

Source: 1996 Hellam Township Comprehensive Plan with updates according to Census 2000

V. HOUSING

HOUSING-RELATED GOALS

- Provide adequate supply of housing opportunities for families of all income levels based on the projected needs of the Township;
- Direct new high density residential development into areas of the Township where sewer, water, roads, and other public services can be provided;
- Identify the locations of, and develop design guidelines for, village-type neighborhoods that will contain a moderately dense residential development, with a wide range of housing options;
- Develop a system of transferring development rights and/or open space preservation programs within the rural/agricultural areas;
- Minimize the adverse impact of residential growth on the natural environment.

A. HOUSING ANALYSIS

1. HOUSING STOCK

The composition of a community's housing stock indicates the extent to which it is providing for a range of housing options. The following table shows the number of existing housing units by type within Hellam Township. These figures may be compared to those for adjacent townships, and York County as a whole, to gain a regional perspective of the provision of the range of housing types. At the time of this update, 2000 census data on housing types and housing costs were still being tabulated, so the 1990 census was used.

1990 HOUSING TYPES

Area	Total Units	SFDs	%	SFA's	%	MFDs	%	MHs	%
Hellam Township	2,101	1,560	(74%)	60	(3%)	126	(6%)	355	(17%)
Adjacent Townships	16,216	11,937	(74%)	381	(2%)	2,283	(14%)	1,615	(10%)
York County	134,761	82,306	(61%)	17,226	(13%)	23,268	(17%)	11,961	(9%)

SOURCE: U.S. Census

The single-family detached (SFD) dwelling is the most common housing type in Hellam Township, accounting for 74% of the Township's total housing stock in 1990, compared with the same percentage for adjacent townships, and 61% for the County as a whole. Single-family attached (SFA) dwellings include row houses, double houses or houses attached to nonresidential structures. In Hellam Township, there are 72 such units, which account for just 3% of the total housing stock. A similar percentage was found for adjacent townships, but a much higher percentage

(13%) was found for the County as a whole. Residential development at higher densities includes multi-family dwellings (MFDs), such as apartment complexes, townhouses and conversion apartments. Only 6% of the Township's housing stock consists of MFDs, a significant contrast to the much higher proportion provided by adjacent townships (14%) and the County's share of this housing type (17%). The Township's housing mix is typical for a rural area.

CHANGE IN HOUSING MIX

Housing Type	1970 Housing Mix	%	1990 Housing Mix	%	1970-1990 Housing Unit Increase	%
SFD	764	(76%)	1,560	(74%)	796	(72%)
MFD	65	(6%)	186**	(9%)	121	(11%)
MH	172	(17%)	355	(17%)	183	(17%)
Total	1,001*	(100%)	2,101	(100%)	1,100	(100%)

*Reported as 1,004 by U.S. Census, an apparent miscount Source: US Census

**This figure includes single-family attached dwellings and all other MFDs. The figure of 65 for 1970 includes the same items. In the 1990 Census, single family attached dwellings were included in the SFD category. For the purposes of this plan, they were taken out of that category and put into MFDs so that a comparison was able to be made.

As can be seen in the above table, the number of housing units Township-wide has doubled between 1970 and 1990. Over the same time period, the number of multi-family units has tripled, significantly increasing the proportion of this housing type in the 1990 total housing mix. As a community grows, the composition of housing types tends to diversify, responding to market pressure for more affordable housing types. Growth in mobile home units within the Township has remained steady over the years at 17%, while the proportion of single-family units has dropped slightly.

Residential growth in Hellam Township has been largely in response to economic growth in the York and Lancaster County urban areas. This outside development pressure for housing within the Township is transforming the Township from an agricultural/rural community into a "bedroom community," from which workers commute daily to employment outside the Township.

2. Housing Condition

All residents of a community should be entitled to safe housing. Safe housing is deduced from estimates of substandard housing. The U.S. Census defines substandard housing as the number of units lacking some or all plumbing facilities, plus an estimate of other dilapidated units. In 1990, only 1.4% of Hellam Township's housing units lacked adequate plumbing facilities, and 1.4% of units lacked complete kitchen facilities.

Additional factors, such as the age of the housing unit, number of persons per room, and the estimated value of the unit, may be considered by a municipality in estimating the extent of substandard housing. Twenty-two percent of the housing stock in Hellam Township was built before 1940. The number of persons per room in a housing unit is used as an index of crowding: a unit with more than 1.0 persons per room is considered overcrowded. In 1990, .8% of Hellam Township's owner-occupied units housed 1.01 or more persons per room. The mean value of the lower quartile of owner-occupied housing units was $62,400, as compared with $59,200 for the County. The Township does not utilize a building code. In 1988, York County and York City completed a Housing Assistance Plan which identified deteriorated housing, substandard housing needs, and areas planned for rehabilitation throughout the County. Hellam Township was not identified as an area in need of rehabilitation.

Hellam Township does not, then, appear to have a widespread problem with deteriorated or dilapidated housing units, largely because of the recent origin of much of its housing stock. This does not, of course, preclude the possibility of isolated blighted areas within the Township, which will be identified as part of the existing land use survey in the following chapter.

3. Housing Occupancy

The characteristics of those persons who occupy the Township's housing stock influence both the demand for and cost of housing units in various ways. First, average household size has been on the decline nationally, as well as in York County and Hellam Township, over the last several decades. As fewer people live together, average household size has dropped from 3.1 persons per household in 1970 to 2.46 persons per household in 2000, according to the US Census, and may decline further still. For the purposes of this plan, however, it has been assumed that average household size will remain the same in the next ten years. The result has been a housing growth rate within the Township of 110%, nearly double the population growth rate of 62% over the same period.

2000 VACANCY RATES		
Area	**Owner Vacancy Rate**	**Renter Vacancy Rate**
Hellam Township	1.4	7.0
York County	1.5	7.4

Second, vacancy rates are one indicator of the existence of a housing surplus or shortage. An owner vacancy rate reflects the percent of vacant units for sale of the total homeowner inventory, while renter vacancy rate reflects the percent of vacant units for rent of the total rental inventory. Vacancy rates for 2000 for Hellam Township and York County are indicated in the above table.

Vacancy rates in the vicinity of 2% are generally considered adequate to provide sufficient choice in the housing market for the purchase of homes. Vacancy rates in the vicinity of 5% are considered adequate to provide sufficient choice in the housing market for renters. The low owner vacancy rates of 1.4% and 1.5% for the Township and the County somewhat constrain choice in the ownership market.

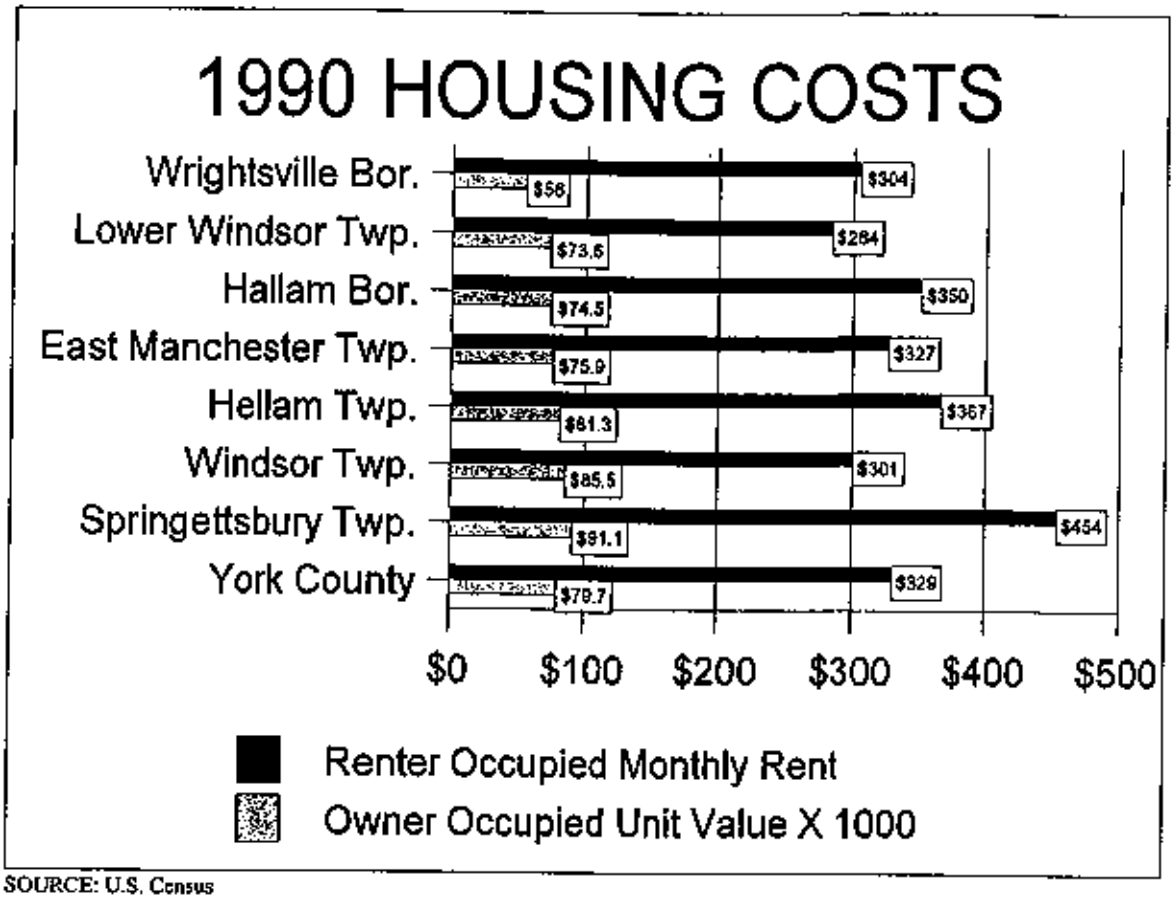
4. HOUSING AFFORDABILITY

Every municipality in Pennsylvania has a responsibility to provide for the diverse housing needs of current and future residents of all income levels by planning and zoning for a wide mixture of housing types and densities. This responsibility is specified in the Pennsylvania Municipalities Planning Code (MPC) and reflects the "fair share" principles embodied in a line of Pennsylvania exclusionary zoning court decisions.

Access to affordable housing is an issue of increasing significance in most communities as incomes continue to fail to keep up with the cost of housing. The term "affordable housing" no longer refers just to low-income, subsidized housing projects or mobile home parks. A community's young adults, newly-married couples, young families, and elderly are some examples of those often in need of affordable housing opportunities.

"Affordable" housing was defined in a State-level study titled *Pennsylvania Housing* (1988) as housing requiring less than 30% of gross monthly income for rent, or less than 28% for a mortgage and other related housing costs. According to York County's 1992 Comprehensive Plan, while the County's poor spent approximately 30% of income for rent in the 1970s, by the late 1980s they were spending as much as 60%. In 1993, the York County Planning Commission published a study entitled "Comprehensive Housing Affordability Strategy for York County, Pennsylvania." The study shows that the cost of buying an average house in York County rose from $73,622 in 1988 to $104,057 in 1993, or 41% in five years. During this same period, the median income in the County rose only 27%, from $32,300 to $41,000. The study concluded that both low and moderate income families are finding it increasingly difficult to afford housing in York County since housing costs are rising faster than family income.

Within Hellam Township, there is evidence of a similar disparity between income and housing affordability; however, this gap has not widened since 1980. In 1980, the median monthly rent within the Township was affordable to some, but not all low-income households, while median monthly home ownership costs for homes with mortgages were not affordable to any low-income households nor to some moderate- income households. Since 1980, income within the Township has kept pace with rising housing costs. Between 1980 and 1990, U.S. Census data indicates that rental costs rose 71% and the median value of owner-occupied homes rose 74%, while median household incomes increased by a comparable 71%. These figures can be deduced to reflect an influx of new residents with relatively high-paying jobs.



SOURCE: U.S. Census

However, median housing costs continue to be unaffordable to existing low- and moderate-income households within the Township.

Another way to measure housing affordability is to compare Hellam Township's median housing value with those of adjacent municipalities. The following graph shows 1990 median values for owner-occupied housing, as well as median rents for renter-occupied units for Hellam Township and adjacent municipalities.

Median values for owner-occupied housing in the region range from a low of $56,000 in Wrightsville Borough, to a high of $91,100 in Springettsbury Township. Hellam Township ranks slightly higher than the average for both the region and the County as a whole, with a median value for owner-occupied housing of $81,300. This means that owner-occupied housing in Hellam Township is slightly less affordable than is such housing in either the region or the County as a whole.

The proportion and cost of rental housing in a community is another measure of the provision of affordable housing. As can be seen from the preceding table, the median monthly rent within Hellam Township of $367 is higher than the median rents in most adjacent municipalities, and higher than that for the County as a whole. The proportion of occupied rental housing as a percentage of total occupied housing is also lower for Hellam Township at 16%, than it is for York County as a whole at

24%. While a lower proportion of rentals is not unusual for a rural area, the relative scarcity of this housing type within the Township probably produces the higher median rent.

B. LEGAL REQUIREMENTS

Every municipality in Pennsylvania has a responsibility to provide for the diverse housing needs of their current and future residents by planning and zoning for a wide mixture of housing types and densities. This responsibility is specified in the Pennsylvania Municipalities Planning Code (MPC), especially in the amendments to Act 170 adopted in 1988 [see Sections 301(a) and 604(4)]. These amendments are designed to prevent families who are seeking housing from being effectively zoned out of a particular municipality because of a lack of planning and zoning for housing that is affordable to all income levels.

C. LAND USE PLANNING AND AFFORDABLE HOUSING

According to many sources, residential development requires greater expenditures for public facilities, services and utilities than is raised in taxes from these sources. A 1997 Penn State study found that in eleven Pennsylvania townships, for every tax dollar that residential development generated, the townships spent between $1.03 and $2.11 in services. Land use planning measures designed to prevent costly urban sprawl and environmental damage can also, if properly implemented, provide for the diverse housing needs of current and future residents of Hellam Township. The challenge is to balance housing needs with the Township's growth management plan in a way that increases housing affordability without sacrificing the qualities that make this community an attractive place in which to live.

In order for the Township to provide an opportunity for more affordable housing, the Future Land Use Plan concept in this Comprehensive Plan will concentrate new high density residential development within appropriate growth areas close to existing utilities and public services, which would allow for higher densities and provide for new residential zones near Wrightsville and Hallam Boroughs.

1. REDUCING THE REGULATORY BARRIERS TO AFFORDABLE HOUSING

While the high cost of housing is largely attributable to higher land, construction and other costs beyond the control of municipalities, there exist a number of other barriers to affordable housing over which municipalities can exercise some control. According to the County's 1992 Comprehensive Plan, there is evidence that an increase of 20-35% in housing prices attributable to excessive regulation is not uncommon in some areas of the country. Some of the common barriers to more affordable housing include:

- excessively large minimum lot sizes;
- insufficient buildable and fully-serviced land zoned for medium and high-density dwelling units;
- excessive infrastructure requirements, such as wide streets, sidewalks and curbing in rural areas;
- rezoning or protracted conditional use review for innovative development scenarios;
- inflexibility, vagueness or unpredictability in review procedures; and,
- no provision for conversion apartments, accessory apartments, farm worker housing or elder housing.

Local land use regulations need not unnecessarily increase the cost of new housing. A review of existing zoning and subdivision/land development regulations can pinpoint those regulations which could be modified to help achieve the Township's goal of providing increased opportunities for affordable housing. Some of the possible ways Hellam Township could increase housing affordability by revising and modernizing the land development process include the following:

a. Innovative mixed use neighborhoods should be allowed through zoning, since conventional proposals for high density housing developments with street segregation of housing types tend to generate a high level of local resistance, because of the largely negative visual and environmental impacts of such developments, and the fact that significant tax increases are usually required to provide public services. Innovative mixed use developments, however, allow a combination of uses within a site with lower infrastructure costs and greater flexibility in providing a wide variety of moderate priced housing, and other amenities necessary for a community to function effectively.

b. Provide provisions for the clustering of residential development to protect lands in the rural/agricultural zone should be required via the Zoning Ordinance wherever on-site water and sewage facilities are capable of supporting such development.

c. Greater flexibility of residential site design should be permitted by the Zoning Ordinance. Infrastructure needs, such as streets and utilities, and required lot dimensions should be sized and constructed according to intended use and development density, rather than having standards for all development. Increased flexible site design should make possible the creation of more pedestrian-oriented residential developments, such as the Traditional Neighborhood Development (TND) which makes housing more affordable by decreasing infrastructure and transportation costs for residents. Accessory apartments and other innovative uses, such as elder cottages, provide independent living at low cost to senior citizens.

The Township will revise its Zoning and Subdivision and Land Development Ordinances to remove barriers to more affordable housing by permitting greater flexibility in the design and layout of residential neighborhoods and the development of more pedestrian- and public transportation-oriented communities. Village design, accessory building apartments, elder cottages, and zero-lot-line detached units are all newer design concepts

that should be encouraged since they all lower the per-unit cost of housing and make it more affordable to persons with moderate or low incomes.

D. HOUSING PROJECTIONS

The need for future housing units can be based on an extrapolation of past growth in housing. Employing the same method used to project population growth then, housing growth was arithmetically extrapolated based on 1950–1990 housing increases.

Hellam Township gained 807 new people between 1990 and 2000, and is projected to gain 770 people between 2000 and 2010. ***During the same period, there would be a need for 313 new dwelling units from 2000-2010. This housing unit projection will be used to allocate needed lands, municipal resources, community facilities, and public utility capacity to meet the future growth of the Township's housing stock.***

POPULATION AND HOUSING PROJECTIONS
Hellam Township

	1970	1980	1990	2000	*2010*
Population	3,158	4,507	5,123	5,930	*6,700*
Housing	1,001	1,681	2,101	2,395	*2,708*
Persons/House	3.15	2.68	2.44	2.46	*2.46*

While the regional population has been growing at an average rate of 14.5% per decade since 1970, the region's housing has been growing at a rate double this, at 29.8% per decade, because of declining average household sizes. For this reason, part of the need for new housing units in Hellam Township will be to accommodate not just new, but also existing Township residents in smaller households.

Hellam Township's location between both the growing York and Lancaster urban areas makes it a desirable place to live. However, while these areas receive much of the industrial and commercial development of the larger region, townships such as Hellam face growing residential development pressures without the necessary tax revenues to provide needed public services. Hellam Township desires to maintain a balance between its various land uses to both maintain an integrated sense of community and to assure the continued fiscal integrity of the Township. Township officials do not desire for Hellam Township to become a "bedroom community" of commuters. For these reasons, the Township's future housing projections correlate closely with its population projections.

E. FUTURE HOUSING NEEDS

The analysis of housing issues indicates that the Township has historically provided for a full range of housing types. While traditionally much of the need for affordable housing in

the Township has been met by mobile homes, current high rental costs and high renter vacancy rates, together with recent housing trends within the Township and data on housing mix for adjacent townships and the County as a whole, now suggest the need for a slight increase in the proportion of multi-family and single-family attached dwelling units permitted. While Hellam Township has permitted a significant increase in the historic proportion of such housing types in recent decades, there appears to remain a shortage. ***The following projected mix is therefore recommended for new housing units to overcome this shortage:***

2000-2010 HOUSING MIX (NEW UNITS)				
SFD	SFA	MFD	MH	Total
222 (71%)	16 (5%)	44 (14%)	31 (10%)	313 (100%)

SFD = Single Family Detached dwellings
SFA = Single Family Attached dwellings
MFD = Multi-Family dwellings
MH = Mobile Homes

The above proposed housing mix for new units will bring the Township more in line with adjacent townships and ensure that it continues to meet its regional fair share requirements. These projections will be used to determine needed acreages to accommodate future housing in the Future Land Use chapter. ***The Township needs to assure that sufficient lands are planned and zoned for the various housing types and numbers noted above, with higher-density housing planned for areas with access to public sewer and water.***

POLICY IMPLICATIONS

1. ***In order to provide an opportunity for more affordable housing, the Township will concentrate new residential development within appropriate growth areas which are close to existing utilities and public services, which would allow for higher densities and provide for new residential zones near Wrightsville and Hallam Boroughs. Such "state-of-the-art" planning and zoning techniques as cluster and neotraditional design development standards can greatly reduce urban sprawl while lowering land and infrastructure costs associated with residential development.***

2. ***The housing unit projection of 313 total new residential dwelling units between 2000 and the year 2010 will be used to assure adequate allocation of needed lands, municipal resources, community facilities, and public utility capacity to meet the needs of the future growth of the Township's housing stock.***

3. *The Township will employ the following mix for projected new housing units:*

2000-2010 HOUSING MIX (NEW UNITS)				
SFD	SFA	MFD	MH	Total
222 (71%)	16 (5%)	44 (14%)	31 (10%)	313 (100%)

4. *The Township needs to assure that sufficient lands are planned and zoned for the various housing types and the numbers of those types that have been identified in the Township's future housing mix.*

IMPLEMENTATION TASK

1. *The Township will revise its Zoning and Subdivision and Land Development Ordinances to remove barriers to more affordable housing by permitting greater flexibility in the design and layout of residential neighborhoods and the development of more pedestrian- and public transportation-oriented communities. Village design, accessory building apartments, elder cottages, and zero-lot-line detached units are all innovative design concepts that should be encouraged since they all lower the per-unit cost of housing and make it more affordable to persons with moderate or low incomes. Also, to remove barriers to affordable housing created by overregulation.*

Source: 1996 Hellam Township Comprehensive Plan with Census 2000 updates

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VI. ECONOMICS ANALYSIS

ECONOMY-RELATED GOALS

- Direct new commercial and industrial development primarily to areas in the Township where sewer, water, roads, and other public services can be provided in a cost-efficient manner;
- Explore the possible creation of a transfer or purchase of development rights program within rural/agricultural areas;
- Protect the farmer's ability to farm free from adverse impacts; and,
- Discourage the unnecessary conversion of farmland to nonagricultural use by supporting the economic viability of agriculture.

A. INTRODUCTION

The health of an area's economy has an obvious major impact on the overall welfare of the community. A healthy economy provides not only employment opportunities, but tax revenues which pay for public facilities and services. Residential development seldom pays its own way in tax and fee revenues. For example, a study carried out by Pennsylvania State University showed that the actual costs for the public facilities and services required by new residential development were greater than the revenues generated by these new developments. This deficit, absent an overall tax increase, must be made up by the tax yield from agricultural, industrial and commercial uses which the community must attract and hold.

Even though the 2000 census has been completed, the process of analyzing the data is still being tabulated. For this reason, data from the 1990 census will be utilized for statistical purposes in this chapter.

B. ECONOMIC SECTORS

1. Historic Early Economy

Hellam Township's historic early economy revolved around agriculture, ferry service across the Susquehanna River, and the Codorus furnace, which used the thick woods of the Hellam Hills to make charcoal for iron forge production. Later, major transportation links, including the Susquehanna and Tidewater Canal, bridges across the Susquehanna River and the arrival of the railroad to Hellam Township, created markets for local goods and spurred the growth of iron ore mining within the Township.

2. AGRICULTURE

Agriculture is one of the leading industries in the Commonwealth of Pennsylvania . It also continues to be an important part of the economy of York County and Hellam Township. York County ranks first in agricultural production in the State's south-central region. Lancaster County, which borders Hellam Township on the east, ranks first in the State's southeast region.

York County's *Comprehensive Plan* states:

"York County is committed to agricultural preservation efforts not only as a means to control the unplanned spread of development and maintain natural breaks between development areas, but also to ensure agriculture's long-term contribution to the economy of the County."

Farmland preservation has been affirmed through the State court system as a legitimate governmental goal as long as implementing ordinances are substantially related to that goal.

Traditional farming is changing, with a greater focus on producing higher value crops, such as fruits, vegetables, nursery stock, flowers, turf grass, and specialty livestock. Many of these crops can be profitably raised on less land.

Over one-third of U.S. farms are located in Standard Metropolitan Statistical Areas (SMSAs), as is the case in Hellam Township. Often lying in fertile river valleys, farms within SMSAs tend to possess exceptionally fertile soils. "Metro-farmers" produce more than two-thirds of the country's fruit and vegetables, and generate over three-quarters of all nursery and greenhouse crop sales. They also account for 40% of all dairy production.

Hellam Township produces a wide variety of products, including corn, soybeans and other small grain crops, fruits and vegetables, tobacco, horses, poultry, cattle, pigs, and dairy. Farm sizes vary from under 100 to approximately 300 acres. Hellam Township has some of the better farm soils of York County and a favorable climate, topography, local and regional markets.

According to 2001 data supplied by the York County Planning Commission, there are 11,226 acres of land in agricultural and forestry uses within Hellam Township, about 63% of the total land area. The average market value of Township farmland is $3,187 per acre. The total assessed value of all of the Township's farmland and buildings was just over $36 million in 2001, about one-twentieth of the value of all of York County's farmland and buildings, and nearly twice the value of farmland and buildings of the average County Township.

A 1997 Penn State Study found that farms and other types of open land can actually subsidize local government by generating more in property taxes than they demand in services. In eleven Pennsylvania townships studied, farm and open land required only 2 to 15 cents worth of services for every tax dollar raised.

Hellam Township residents have enrolled 5,253.5 acres of land in the Township's Agricultural Security Area. Benefits of enrollment are fully described in Chapter VII, Existing Land Use. Farms enrolled in the Agricultural Security Area or permanently preserved are shown on Exhibit R, Agricultural Security Areas and Farm and Natural Lands Trust.

In an effort to support the intent of the Rural Agriculture Zone two methods of land preservation, which provide for just compensation, are recommended for Township consideration and implementation. The first recommendation involves the use of Transferable Development Rights (TDRs) and the second recommendation pertains to Act 153 - Open Space Preservation.

Transferable Development Rights: Transferable Development Rights (TDRs) is a zoning tool that allows conservation and development to coexist within a municipality. Development rights are established for a given piece of land and can be separated from the title of that property. These rights can then be transferred to another location within a municipality.

The sale of TDRs leave the rural landowner in possession of title to the land and the right to use the property as a farm, open space or for some related purpose. However, it removes the owner's right to develop the property for other purposes. The transfer of development rights allows the purchaser of the development rights to then develop another parcel more intensively than would otherwise be permitted.

While the TDR program is part of the municipal zoning ordinance, the actual buying and selling of development rights remain with the property owner. TDRs are implemented on a voluntary basis.

Act 153 of 1996 - Open Space Preservation: Is an Act Amending the act of January 19, 1968, entitled "An act authorizing the Commonwealth of Pennsylvania and the counties therefore to preserve, acquire or hold land for open space uses," expanding its scope to include all local government units throughout this Commonwealth.

The purpose of the act is to clarify and broaden the existing methods by which the Commonwealth and its local government units may preserve land in or acquire land for open space uses. The State Legislature finds that it is important to preserve open space in and near urban areas and to meet needs for recreation, amenity, and conservation of natural resources, including farm land, forests, and a pure and adequate water supply. "... for the concentrating of more dense development in nearby areas."

Act 153 enables municipalities to obtain land development rights from landowners, who offer them voluntarily. Obtaining the development rights may be by purchase, contract, or gift. A public hearing is required informing all persons affected by the proposed acquisition of land. Once the land is acquired, the development rights are paid for via a Real Estate Millage or by Earned Income Tax. The tax increase is to be voted upon. Throughout the entire process Planning Commission involvement is required. It is recommended the Township review the contents and requirements of Act 153 with the Township solicitor

before implementing this state legislation. ***Heltam Township should explore the desirability and practicality of adopting a local TDR and/or Act 153 program.***

Another incentive for continued agricultural use is the State's Clean and Green farm tax deferral program. Farmers may voluntarily enroll in this program, which provides a tax reduction for as long as the property remains in farm use. If the property is developed, back taxes for up to 7 years would be due. As of 1996, 72% of the Township's 274 farms were enrolled in Clean and Green and incurred substantial tax savings. Yet even with Clean and Green, farmland generates more in local tax revenues than is used for services to farms. ***Township farmers should be encouraged to enroll in the Clean and Green program and Agricultural Security Area, and should be supported in donating and/or applying to sell the development rights on their properties.***

Two additional options for preservation are easements from either the York County Farm and Natural Lands Trust (discussed in Chapter VII) or the York County Agricultural Land Preservation Board. The York County Agricultural Land Preservation Board has been in operation since 1990. This board administers an agricultural conservation easement program as outlined in Act 149 of 1988. The purpose of Act 149 is to protect viable agricultural lands by acquiring agricultural easements which prevent the development or improvement of land for any purpose other than agricultural production. The program is further designed to:

1. Encourage landowners to make a long-term commitment to agriculture by offering them financial incentives and security of land use;

2. Protect normal farming operations in agricultural security areas from non-farmland uses that may render farming impractical;

3. Protect farming operations from complaints of public nuisance against normal farming operations;

4. Assure conservation of viable agricultural lands in order to protect the agricultural economy;

5. Provide compensation to landowners in exchange for their relinquishment of the right to develop their private property;

6. Maximize agricultural easement purchase funds and protect the investment of taxpayers in agricultural conservation easements.

To implement the program, the York County Agricultural Land Preservation Board accepts applications from interested farm owners, ranks the applications according to a point system, and after the farms area appraised, buys as many easements as funding permits. The price to be paid for an easement is the difference between the appraised market value and the appraised farm value.

Factors that the board considers in reviewing the potential farms for an easement purchase include development pressures in the area, suitability of the farmland tract for development

because of soil capabilities, location, and configuration, any pre-existing restrictions against development, and the location in an agricultural area as identified in the York County Comprehensive Plan. In order to be considered for an easement purchase, farms must be located in an Agricultural Security Area.

3. INDUSTRIAL AND COMMERCIAL

According to the 2001-2002 York County Industrial Directory (published by the York County Economic Corporation), Hellam Township has 21 industries offering 911 full-time jobs and 21 part-time jobs. These companies produced a wide variety of products, with an emphasis on metal products and industrial machinery. The Township has 2 industrial areas serving mainly small manufacturing and warehouse operations. Most industrial uses are concentrated in the western end of the Township. A smaller industrial area is located in central Hellam Township, north of PA 462. Major industrial sectors and products within Hellam Township include: machine shop, hydraulic hoses, heavy construction, packaging containers, sand and metal casts, metal stampings, truck bodies, steel bars and angles, hydraulic motors, fasteners and screws, asphalt batching, stone quarry, and sawmill. A 1997 study by Pennsylvania State University found that in the eleven Pennsylvania Townships studied, for every tax dollar industrial uses generated, the townships spent between $.04 and $.37 in services. For commercial uses, between $.06 and $.37 is spent per dollar, for farming uses, between $.02 and $.15 was spent per dollar, and as mentioned in Chapter V, between $1.03 and $2.11 was spent per dollar for residential uses.

Hellam Township has a limited number of industrial employers and jobs, most of them of a light industrial nature. Increasingly, light industrial or high-tech firms are seeking new development sites, and the Township may be sought as a location for such firms in the future.

The commercial ventures that have been established in Hellam Township are primarily owner-operated with 1 to 15 employees. These limited commercial uses are generally either scattered throughout the Township, evolving as nonconforming uses in rural areas, or are adjacent to Hallam and Wrightsville Boroughs. Major commercial products and services for Hellam Township include: used cars, garden nursery and crafts, food - wholesale and retail, mini-storage, mini-market, ice cream and miniature golf/zoo, bowling alley, lodging, 5-star restaurant, bar, auto repair, radio station, and billboards.

To date, construction is under way for the development of an industrial park located in the Interchange Zone adjacent to Route 30 and the Wrightsville Exit.

The Township's existing commercial uses are largely highway-oriented in nature. The Township lacks some of the basic community commercial uses used on a regular basis by residents, such as banks, pharmacies and grocery stores. However, these uses are currently provided within Hallam and Wrightsville Boroughs. Because Hellam Township wishes to direct much of its future growth adjacent to these boroughs, these growth areas may be adequately served by existing commercial uses within these boroughs. However, ***for future growth areas at some distance from existing services and where needed services do not***

exist in the boroughs, additional limited community and/or neighborhood commercial uses may be needed and should be accommodated.

4. COUNTY ECONOMY

While agriculture remains an important industry in York County, the County's historic reliance on extractive-based industries, including agriculture, forestry and mining, has declined over the years in response to both the diminished resource base and development pressures. At the same time, the County's economy has diversified into a number of new areas.

The following table identifies the number and types of industries, together with number of employees and payroll, for York County in 1999:

COUNTY EMPLOYEES, PAYROLL AND ESTABLISHMENTS BY INDUSTRY 1999

Industry	No. of Employees	Annual Payroll ($1,000)	No. of Establishments
Agriculture Support, Forestry, Hunting and Fisheries	17	313	7
Mining	296	9,632	7
Construction	9,403	342,590	955
Manufacturing	44,221	1,576,489	656
Utilities	1,578	114,078	17
Wholesale Trade	7,100	236,131	459
Retail Trade	20,897	358,139	1,428
Transportation & Warehousing	5,113	137,801	181
Information	2,381	80,529	105
Finance & Insurance	4,017	144,369	411
Real Estate, Rental & Leasing	1,282	29,833	239
Educational Services	1,700	31,766	43
Health Care & Social Assistance	16,226	472,326	753
Arts, Entertainment & Recreation	2,080	27,344	127
Unclassified Establishments	57	1,374	72
Total	**116,368**	**3,562,714**	**5,460**

Source: *County Business Patterns, 1999*

Note: The above figures do not include government employees, railroad employees and self-employed persons.

While the above data is available only at the County, and not the municipal level, it serves to illustrate the diversity in types of industries within the County at which Hellam Township residents may be employed.

It should be noted that the foregoing data on employment and payroll underestimate the significance agriculture continues to play in the County's economy by not reporting self-employed persons or farm earnings.

C. SPECIALIZATION

Diversification is healthy because it insulates the economy against economic downswings in any particular sector of the economy. Specialization in specific employment sectors provides a comparative advantage to the County in attracting like uses to the area. This is because similar uses often locate in close proximity to each other to share common raw material sources, suppliers, markets, and employees.

INDUSTRIAL SPECIALIZATION
YORK COUNTY
1992

Industry	Location Quotients
Agriculture, Forestry, Fishing	.65
Mining	.56
Construction	1.24
Manufacturing	1.65
Transportation, Communication and Public Utilities	1.02
Wholesale Trade	.94
Retail Trade	1.06
Finance, Insurance and Real Estate	.58
Services	.65

Source: *County Business Patterns, 1992*

Specialization can be determined by comparing the proportion of the local work force in specific industries with the proportion of the State's workforce in the same industries. If the County is more specialized in an industry than is the State, the rating, called a "location quotient," is greater than 1; if it is less specialized, the rating is less than 1.

The foregoing 1992 tables are a carryover from the 1996 Hellam Township Comprehensive Plan and cannot be updated because the York County Business Patterns report no longer publishes location quotients. Even so, they remain an important part of this update because they indicate the industrial and manufacturing diversity of the County.

The above table shows York County in 1992 to be specialized in Construction and Manufacturing when compared with the State as a whole. York County and, presumably, Hellam Township, therefore, would have a comparative advantage over other places in attracting these types of industries, if it so desired. However, it must be remembered that even within the County, some municipalities will have higher comparative advantages for given industries than others based on location, access, infrastructure, and other factors.

MANUFACTURING SPECIALIZATION
YORK COUNTY
1992

SIC	Industry	Location Quotient
20	Food and Kindred Products	.90
21	Tobacco Products	4.4-10.8*
22	Textiles	1.50
23	Apparel	.47
24	Lumber/Wood Products	.64
25	Furniture/Fixtures	.98
26	Paper/Allied Products	2.02
27	Printing/Publications	1.09
28	Chemicals	.23
29	Petroleum Refining	0
30	Rubber/Miscellaneous Plastics	.66
31	Leather Products	0
32	Stone, Clay, Glass, Concrete	.99
33	Primary Metals	.76
34	Fabricated Metal Products	.95
35	Industrial Machinery	1.79
36	Electronic Equipment	1.27
37	Transportation Equipment	2.07
38	Instruments	.64
39	Miscellaneous Manufacturing	.80

Source: County Business Patterns, 1992

*Range only available as exact figures have been withheld to avoid disclosing data for individual companies

Because manufacturing provides among the highest wages and tax revenues, and because it has a positive ripple effect throughout the larger economy, it is often desirable to determine the comparative advantages that exist for each individual manufacturing area. In 1992, York County was specialized in various manufacturing areas when compared with the State, as shown in the foregoing table.

This table shows York County to have a very strong comparative advantage Statewide in Tobacco Products, Transportation Equipment, Paper and Allied Products and Industrial Machinery, as well as a healthy comparative advantage in the production of Textiles and Electronic Equipment. York County, and potentially Hellam Township, therefore, would have an advantage in attracting these types of manufacturing industries to the area over other parts of the State.

D. LABOR FORCE CHARACTERISTICS

Information on various labor force characteristics is available at the Township, as well as the County level. Employment and labor statistics reveal that, in 1990, 81% of Hellam Township's working labor force was employed by private enterprise, 5% by private nonprofit organizations and 6% by the government, while 8% was self-employed. These figures compare with data showing 78% of the County's working labor force employed by private enterprise, 6% by private nonprofit organizations, and 9% by the government, while just 6% was self-employed, as illustrated by the following table:

1990 EMPLOYMENT DATA

Area	Employed Persons 16 Years & Over											
	Private Companies		Private Nonprofit		Government						Self-Employed Workers		Unpaid Family Workers	
					Local		State		Federal					
Hellam Township	2,356	81%	146	5%	100	3%	47	1%	32	1%	232	8%	13	0%
York County	138,684	78%	11,306	6%	8,215	5%	3,563	2%	4,196	2%	10,261	6%	683	1%

Of the Township's labor force, 32% was engaged in manufacturing, nearly 24% in retail and wholesale trade, and nearly 9% in services. A slightly higher percentage of Township residents work in manufacturing and retail and wholesale than is true for the County as a whole. However, this does not necessarily mean that Township residents work at these occupations within the Township. The Township had a very low unemployment rate of 2.5% in 1990, lower than that for the County of 3.8%. The disabled, both employed and unemployed, accounted for 3.4% of the Township's labor force in 1990. The following table illustrates this data:

1990 CIVILIAN LABOR FORCE CHARACTERISTICS

Area	Services	Retail & Wholesale	Manufacturing	Unemployed	Disabled
Hellam Township	9%	24%	32%	2.5%	3.4%
York County	10%	21%	28%	3.8%	4.5%

E. FUTURE ECONOMIC DEVELOPMENT POTENTIAL

Hellam Township presently enjoys a healthy local economy centered on industrial, commercial and agricultural uses providing employment to area residents and tax revenues for public services. It is the Township's desire to continue to protect and promote its economy through a variety of measures intended to preserve the farmland base and encourage industrial and commercial growth within designated growth areas. ***The Township should, therefore, utilize an effective agricultural zone to help reduce potential conflicts***

between nonfarm residents and farmers and a growth boundary line to guide public services into established or planned growth areas.

All Pennsylvania municipalities must, by law, provide for all land uses, including industrial and commercial, within their boundaries. While agriculture is considered an industrial use, other types of industrial uses must be permitted as well. ***Hellam Township should consider encouraging agricultural-related and/or farmer operated businesses which will support area agriculture in either the agricultural zone, an agricultural support zone, or an industrial zone. In addition, on-site accessory farm occupations can provide important income-earning opportunities for farm families to help supplement farm revenues.***

Other industrial and commercial uses should be permitted at appropriate locations with access to public services. Small-scale and locally-oriented sites should generally be close to existing and planned population centers to maximize existing infrastructure and minimize road trips. Appropriate setbacks, buffers, signage, and landscaping could effectively minimize the impacts of such uses on neighboring properties. The Route 30 and Route 462 corridor offers excellent commercial and industrial opportunities. Additionally, the Township's 2 interchanges with U.S. Route 30 represent highly desirable locations for transport-oriented commercial and industrial uses. These sites can attract large and regional economic developments relying upon the York and Lancaster metropolitan areas for market demand, employees and needed materials and services. ***The Township should develop suitable zoning regulations which encourage the types of uses that can take full advantage of these prime development locations. Such regulations should also require developments to be functional and attractive so that high-quality operations result.***

Another strategy for maintaining the health of the local economy is to utilize what is known as "import substitution" to determine what goods and services the Township could produce or provide that are now being imported, or for which people now go elsewhere. This strategy seeks to retain more economic activity within the local community by curtailing the leakage of consumer dollars out of the community. For instance, the Township currently provides only limited commercial uses, requiring many Township residents to travel to other municipalities to meet their needs for basic goods and services. ***Township residents could be encouraged to provide these goods and services, or outside businesses specifically targeted to locate within the Township.***

Finally, energy conservation and the development of alternative energy sources are important in keeping money in a community and should be encouraged. Since most communities import their electricity, gasoline, and natural gas, conservation efforts and the development of solar, wind and other local alternative energy sources can result in substantial savings and boost the local economy.

POLICY IMPLICATIONS

1. ***The farmers and their land must be protected to provide the opportunity to a new generation of farmers to succeed in meeting changing agricultural challenges. It is important to preserve prime soils for future production.***

2. *It is recommended that Hellam Township explore the desirability and practicality of adopting a local TDR and/or Act 153 program.*

3. *For future growth areas at some distance from existing services, and where needed services do not exist in the boroughs, additional limited community and/or neighborhood commercial uses may be needed.*

4. *Industrial and commercial uses should be permitted at appropriate locations with access to public services. Small-scale and locally-oriented sites should generally be close to existing and planned population centers to maximize existing infrastructure and minimize road trips. Appropriate setbacks, buffers, signage, and landscaping could effectively minimize the impacts of such uses on neighboring properties. The Route 30 and Route 462 corridor offers excellent commercial and industrial opportunities. Additionally, the Township's 2 interchanges with U.S. Route 30 represent highly desirable locations for transport-oriented commercial and industrial uses. The Township should develop suitable zoning regulations which encourage the types of uses that can take full advantage of these prime development locations. Such regulations should also require developments to be functional and attractive so that high-quality operations result.*

IMPLEMENTATION TASKS

1. *Township farmers should be encouraged to enroll in the Clean and Green program and Agricultural Security Area, and should be supported in donating and/or in applying to sell the development rights on their properties.*

2. *The Township should utilize an effective agricultural zone to help reduce potential conflicts between nonfarm residents and farmers, and a growth boundary line to guide public services and growth into established or planned growth areas.*

3. *The Township should consider encouraging agricultural-related and/or farmer operated businesses which will support area agriculture in either the agricultural zone, an agricultural support zone, or an industrial zone.*

4. *On-site accessory farm occupations can provide important income-earning opportunities for farm families to help supplement farm revenues.*

5. *The Township could utilize what is known as "import substitution" to determine what goods and services it could produce or provide that are now being imported, or for which people have to go elsewhere. Township residents could be encouraged to provide these goods and services, or outside businesses specifically targeted to locate within the Township.*

6. *Energy conservation and the development of alternative energy sources are important in keeping money in a community and should be encouraged.*

Source: 1996 Hellam Township Comprehensive Plan with revisions

VII. EXISTING LAND USE

An important element of this Comprehensive Plan is the inventorying of existing land uses. The historical identification of land use activities provides periodic gauging of development trends within the Township. Next, the character, composition and condition of the existing land uses provide insight as to the types of land uses that are desired by the public or have particular market demand. Finally existing land use studies and associated maps provide valuable assistance in the identification of future development areas. All of these considerations are fundamental to the formulation of a future land use scheme and regulatory policies that are practical and effective.

To provide a detailed land use inventory, several information sources were used. York County GIS information utilizing property tax records from the York County Tax Assessment office were used to map the information for a property-by-property inventory. The Existing Land Use Map (Exhibit G) depicts the results of this process showing all of the existing land uses within the Township.

A. FARM/WOODLAND

The predominant form of agricultural production appears to be vegetative, including orchards; very few farms engage in the raising of livestock. The most intense cultivation occurs in the low-lying and flatter valley landscape. Nonetheless, considerable scattered farming extends into the foothills to the north and south. Here, cropland is interspersed with pasture, fallow and wooded plots. For classification purposes, the agricultural designation also includes woodlands.

B. RESIDENTIAL

By far, single-family detached residential units are the predominant form of residential development within the Township. Such development is widely scattered throughout the Township but is most heavily concentrated across the southern and north-central portions of the Township.

There are primarily five types of single-family detached residential areas within the Township. The most cohesively developed neighborhoods are the Cool Creek Manor subdivision located just southwest of Wrightsville, and the Crestwood East subdivision located in the southwestern corner of the Township. These areas are characterized by curvilinear streets, 25- to 35-foot front yard setbacks, off-street parking, and ranch and split level housing styles. In general, the age of these homes appears to be about 20 to 25 years old. Property maintenance is generally good. A lack of neighborhood parks and sidewalks was observed.

The next type of residential development is located along the Township's southern boundary and includes the subdivisions of Laurel Estates, Little Farms and Farm View Estates. These

units are often located on large wooded lots with deep front yard setbacks and long driveways; however, some lots are in open areas. Because these subdivisions have been built on the north-facing slope of the South Hills, the internal road network is steep and winding; there are also several cul-de-sacs and dead-end roads. In general, it appears that many of these units have been built during the past 15 years.

A third area of single-family residential development is located around the western end of Hallam Borough. This area is primarily an extension of the residential development pattern of the Borough. Units here are characterized as brick ranchers and Cape Cods on smaller and narrow lots with 25-foot front yard setbacks. These units are about 30 to 40 years old. A stretch of newer homes is located along Frysville Road just south of Route 462. The lack of sidewalks distinguished the Township's neighborhood from its adjoining Borough neighbors.

The fourth area of single-family residential development encompasses much of the northern half of the Township. A large number of units located here are grouped amid small residential enclaves, consisting of 2 to 7 units, and fronting on dirt lanes. Housing styles vary widely, from small ranchers and mobiles homes to log cabins and estate-like homes. Some private drives have paved aprons abutting public streets, while many do not. Private drives exhibit varying levels of improvement and maintenance. Many unimproved streets extend for considerable lengths.

The remaining dwelling areas are along the frontage of main roads, such as Route 462, Druck Valley Road, Accomac Road, Furnace Road, and Kreutz Creek Road. Generally, these lots exhibit uniform siting traits, with 35- to 30-foot front yard setbacks. There are several newer subdivisions that appear to have employed more modern subdivision techniques. However, one developed area along Ore Bank Road, between Kreutz Creek Road and Spring Road, had captured the classic rural pattern by employing shared driveways, flag lots, and wide front yard setbacks.

The Township contains two mobile home parks. The Brookhaven Mobile Home Park is located off Druck Valley Road, along the Township's west-central boundary. This mobile home park consists of 172 units situated on small sites located along a tight internal street network. The Mimosa Mobile Home Park is located off Campbell Road and straddles the Hellam Township-Springettsbury Township line. This park contains approximately 50 units and has recently become served by public sewer.

Finally, it appears that there are many freestanding mobile homes located in the Township, as indicated by the York County property tax records; however, upon site inspection, many of these homes are situated on permanent foundations which, for regulatory purposes, defies their description as "mobile." Mobile homes, for the purpose of this land use inventory, are only those that are situated on posts, blocks and other nonpermanent anchors.

Cottage Community Residential

There is a concentration of residences located along the Susquehanna River, consisting of cottages and residences that are being used year-round as permanent residences. The condition of these units varies from poor to good. The individual lot lines and tightly arranged streets and cottages nearly defy any pattern description. It would appear that many of these cottages are within, or adjacent to, the River Floodplain. A similar community, but smaller, is located south of Wrightsville along the river.

Two-family and Multi-family Residential

This category consists of two-family, semi-detached or duplex units; conversion apartments; multi-family structures, such as apartment buildings and townhouses. The few conversion apartments that still exist are scattered across the Township; none of these structures house more than three families.

The only large-scale, multi-family complex located in the Township is the Cool Creek Townhouses, Apartments and Condos. This 184-unit complex was built between 1989 and 1994. Due to the fact that most units have their own street-level garage, there is very little surface parking. As a result, additional units were able to be constructed in those areas that would have otherwise been set aside for required parking spaces. This residential complex exhibits an extremely dense and tight development pattern.

C. COMMERCIAL AND INDUSTRIAL

There is a limited amount of commercial and industrial activity within the Township. The largest concentration of commercial and industrial land use is located west of Hallam Borough to the Springettsbury Township line. The majority of the activity in this area is industrial in nature. The commercial uses include a convenience store, a motel, 2 taverns, 2 auto sales establishments, a lawn and garden center, a carpet store, an office complex and a bank. The industrial uses here include several manufacturing businesses, and a machine shop, as well as several warehouses and packaging operations. There is also an area located along Shoe House Road which includes several automotive repair operations, a tree trimming service, a pool repair service, and a sign maker. This large industrial area also extends south along Campbell Road.

The second area of commercial activity is scattered in a 1 ½ mile strip along Route 462 between Hallam and Wrightsville Boroughs. Located here is a restaurant and lounge, ice cream store and miniature golf course, 2 motels, a bowling alley, several automotive sales and repair shops, a seafood store, a cheese company, and a real estate office. Commercial and industrial uses located north of PA 462 between Keeney and Burg's Lane include a construction company, a steel fabricator, 2 light manufacturing companies, an advertising firm, and a radio station.

Other commercial and industrial uses are also scattered throughout the Township amid the residential and agricultural landscape. Some of these uses include an inn, a tavern, a quarry, a convenience store, and a manufacturing company. Finally, there are also several small-scale, home occupation-type uses, such as automotive repair and beauty salons, located throughout the Township. ***For the Township to successfully achieve and implement this Plan, it is pertinent to direct new commercial and industrial development to areas where infrastructure is provided or can be provided, such as the Route 30 and Route 462 corridor.***

D. OTHER

This category includes such uses as public and private schools, municipal offices, government buildings and structures, public utility holdings, churches, cemeteries, parklands, civic buildings, clubhouses, private clubs, and other similar tax exempt uses.

Within Hellam Township, the largest public/civic/private clubs land use is associated with the land holdings of the Marietta Gravity Water Company, followed by the Rocky Ridge County Parklands. Other significant uses of this type include the Cool Creek Golf Course, the Kreutz Creek Valley School, the York Rifle Club, the Susquehanna Fish and Game Club, the VFW, the various communication towers owned by WGAL, WPMT and AT&T, and the York Water Company. Several small churches and cemeteries are scattered throughout the Township. The publicly-owned Horn farm is shown as Agriculture on the Existing Land Use Map.

E. PENNSYLVANIA AGRICULTURAL SECURITY AREA

Act 43 of the Commonwealth of Pennsylvania was passed in 1981 to allow municipalities to establish Agricultural Security Areas (ASA) to promote more permanent and viable farming operations over the long run by strengthening the farming community's sense of security in land use and their right to farm. Individual land owners petition the Township to create an ASA. Each parcel must be at least 10 acres in size and the entire ASA must be at least 500 acres. By establishing an ASA, farmers who want to farm benefit as follows:

1. The Township Supervisors agree to support agriculture by not passing local ordinances which restrict normal farming operations or structures and nuisance complaints;
2. The condemnation of farmland by a government in the agricultural security area must first be approved by the State Agricultural Lands Condemnation Approval Board to determine if alternative sites are available for condemnation;
3. The farmland preservation options offered by the York County Agricultural Lands Preservation Board are available to qualified farm owners in an agricultural security area. For example, only a farm owner in an agricultural security area may be eligible to receive cash for permanently preserving the farm with a conservation easement; and,

4. Hazardous waste and low-level radioactive waste disposal areas cannot be sited.

Each landowner decides if they want to participate in the program. The farms that make up the 500-acre minimum do not all have to be adjacent to one another and do not have to be in the same Township. The agricultural security area does not stop development nor restrict farmers in any way; only Township zoning laws regulate how much and where land can be developed (see also discussion of agriculture under Chapter VI Economics Analysis).

In 1987, Hellam Township landowners created the first ASA in York County with 1,777 acres. In 1989, another 1,181 acres were added, for a total of 2,958 acres. In 1995, the ASA was reviewed as mandated by law and recertified. The current ASA has 5,253.5 acres and 103 tax parcels, divided amongst 66 different landowners enrolled, most of whom are not active farmers. The ASA is shown on the Agricultural Security Areas and Farm and Natural Lands Trust Map (Exhibit R).

The York County Farm & Natural Lands Trust is a private non-profit group which works with landowners to place a conservation easement on their property. An easement is a permanent recorded deed restriction which preserves the character of the property by restricting further development. The first farm in York County to be permanently preserved by the York County Farm and Natural Lands Trust was the 400-acre Hauser farm. The Phiel farm has also been permanently preserved. These farms are designated by a striped pattern on Exhibit R. Several participants of the ASA have applied to the York County Agricultural Land Preservation Board which administers the County's easement purchase program. However, none have been offered the opportunity of selling their easements. Hellam Township farmers and officials should be commended for their efforts to preserve the agricultural heritage of the Township.

Exhibit T shows parcels in Hellam Township that contain prime agricultural soils or 100 acres or more.

F. CHANGES IN LAND USE FROM 1995 TO 2001

Based upon analysis contained within the Township's former Comprehensive Plan, Township officials were able to independently compare changes to existing land use coverage for certain categories between 1995 and 2001. The following table presents such comparison as reported by the York County Tax Assessment records:

Land Use 1995

Land Use	1995 Acres
Residential	3,489
Commercial	478
Industrial and Quarry	137
Agriculture/Unimproved*	12,351
Public/Civic/Private Clubs	843
Roads	577

*Also includes woodlands

Land Use 2001

Land Use	2001 Acres
Residential	3,560
Commercial	449
Industrial and Quarry	305
Agriculture*	11,721
Exempt	544
Utility	702
Roads	590

*Also includes woodlands

Based upon these tables, the amount of acreage devoted to commercial uses decreased by 29 acres and residential uses increased by 71 acres. These two tables cannot be compared for other use categories because they are based upon two different sets of information. The information contained in the 1995 table is broken down into different categories on the 2001 table. Therefore, since it is not known which categories coincide with each other, the two tables cannot be compared in that manner. The classifications for Residential, Commercial, Industrial and Quarry and Roads remained the same, so those acreages are able to be compared. Agriculture, Exempt, and Utility cannot be compared to each other on these two tables. Other comparable information is not available from the York County Tax Assessment Office at this time, because the report formerly used (to fill out the 1995 table) is no longer in use and would require complicated research to compile a table similar to the 1995 table.

POLICY IMPLICATION

1. ***For the Township to successfully achieve and implement this Plan, it is pertinent to direct new commercial and industrial development to areas where infrastructure is provided or can be provided, such as the Route 30 and Route 462 corridor.***

Source: 1996 Hellam Township Comprehensive Plan with revisions

VIII. ADJACENT AND REGIONAL PLANNING

The preparation of a comprehensive plan should always consider and, if possible, complement planning policies in effect in adjoining communities. At a minimum, planned land uses along a municipality's boundaries should be compatible with planned land uses in adjoining municipalities. The Adjacent Planning Map (Exhibit H) depicts the planned land uses in those municipalities that adjoin Hellam Township. Following is a description of planned land uses in those municipalities bordering Hellam Township. Because the various comprehensive plans utilize a variety of names to describe the land use designations they employ, it is useful to refer to these designations using standard descriptions where they are very similar. For instance, all plan designations permitting dwellings on 1- to 2-acre parcels are here termed "Rural Residential." Lands planned to permit 2 to 4 dwellings per acre are "Low-Density Residential," while those allowing 5 to 7 dwellings per acre are "Medium-Density Residential." All commercial designations are termed "commercial" and all industrial designations are termed "industrial." "Conservation/Open Space" denotes areas planned to protect various natural features, typically stream buffers and wooded areas, while "Public/Parkland" is applied to public lands, including public parkland. None of the lands bordering Hellam Township are planned or zoned for primarily agricultural use.

A. BOROUGHS

Hallam Borough, located at the western end of Hellam Township, is completely surrounded by the Township and so shares its entire boundary with it. The *Hallam Borough Comprehensive Plan*, adopted in 1967, is quite old, but is being implemented with a zoning ordinance that is much more recent (1999). The majority of the borough's landuse is residential with pockets of commercial and industrial uses. The Comprehensive Plan's Future Land Use Map and Zoning Ordinance Map are substantially similar; however, because of the age of the documents, the Zoning Map will be relied upon here as being the more accurate guide to likely future development in the Borough. The Borough is, for the most part, built out, so not a lot of future development is anticipated. Hellam Township's proposed Mixed Use, Residential, and Commercial/Industrial areas offer compatibility with existing development in Hallam Borough.

Wrightsville Borough, located at the far eastern end of the Township adjacent to the Susquehanna River, is surrounded by Hellam Township on three sides, sharing with it an extensive boundary. The *Wrightsville Borough Comprehensive Plan*, adopted in 1972, was never implemented with a zoning ordinance. However, because the Borough was mostly developed at that time, planned land uses largely reflect existing development patterns. The riverfront location of Wrightsville has afforded the community the opportunity to develop commercial and industrial enterprises, as well

as provide residential and recreational opportunities for residents and surrounding communities. As previously stated, the Borough is mostly developed. Wrightsville Borough's existing development is compatible with Hellam Township's proposed Residential, Mixed Use, Interchange, and Commercial/Industrial areas.

Historically, both boroughs have provided the commercial and industrial services for the residents of the Township. ***Hellam Township will seek to support and encourage appropriate commercial and residential mixed use development within these two vital boroughs compatible with adjacent growth in the Township.***

Greater communication is needed between the two boroughs and Hellam Township to encourage and sustain the economic viability of the community as a whole. Joint planning seminars will be held to explore areas of mutual interest.

B. EAST MANCHESTER TOWNSHIP

East Manchester Township lies to the northwest of Hellam Township, separated from it by the Codorus Creek. With regard to future land use, the *East Manchester Township Comprehensive Plan*, adopted in 1991, designates the land bordering Hellam Township as open space uses. Just beyond this area, the land is substantially developed in a rural residential pattern. Therefore, this land use pattern appears to be compatible with the adjacent one of Hellam Township. Hellam Township's access to East Manchester Township is limited because they are connected only by local roads.

C. SPRINGETTSBURY TOWNSHIP

Springettsbury Township shares a long common boundary with Hellam Township to the east. According to the 1990 Springettsbury Township Comprehensive Plan, the land in Springettsbury Township that borders Hellam Township is classified as residential, parkland, and industrial. The Rocky Ridge County Park lies in both Townships, along the Hellam Township's northeastern edge. The areas of Hellam Township bordered by residential uses in Springettsbury Township are Rural Agriculture and Residential. The Residential Zone is adjacent to an area of medium density residential development in Springettsbury Township. Most of Springettsbury Township's residential land adjacent to Hellam Township's Rural Agriculture areas is low density, so little conflict should exist between these two uses.

D. WINDSOR TOWNSHIP

Windsor Township borders Hellam Township on its southeastern edge. The *Windsor Township Comprehensive Plan* was adopted in 1999 and shows the uses adjacent to Hellam Township to be low-density residential and open space. This is compatible with Hellam Township's existing and proposed Rural Agriculture environment.

E. LOWER WINDSOR TOWNSHIP

Lower Windsor Township borders the majority of Hellam Township's southern edge. The Lower Windsor Township Comprehensive Plan is currently being updated. This proposed updated comprehensive plan designates Lower Windsor Township's land uses along the Hellam Township border to be village, residential, and agriculture. A low density residential development in Hellam Township borders Lower Windsor Township's proposed residential area. These uses are compatible with Hellam Township's Rural Agriculture uses along this border. Lower Windsor Township and Hellam Township also share a common School District.

F. LANCASTER COUNTY

Hellam Township is bordered on its northern and eastern side by the Susquehanna River, which separates York County from Lancaster County. Since the Susquehanna River offers a significant physical barrier/buffer to Lancaster County, no involvement/influence relates to that area, so it has not been addressed in detail.

G. YORK COUNTY

The York County Comprehensive Plan was originally prepared by the York County Planning Commission and adopted by the York County Board of Commissioners in 1992. The Comprehensive Plan set three goals for future development in York County. These goals included protecting and preserving important natural resources, directing growth and development to appropriate locations, and facilitating coordinated planning at all levels of government. The basic land use concept to achieve these goals included promoting development within growth areas and encouraging the efficient provision and extension of public services and facilities.

The 2001 Update to the York County Comprehensive Plan built upon the framework laid out in the 1992 Plan and the 1997 update by providing a data base of information to further delineate growth and rural areas and a more specific method of achieving consistency between Municipal and County planning efforts. Currently, the Plan consists of seven documents including Growth Trends, Community Facilities, Natural Areas Inventory, transportation, Housing, Agricultural Land Preservation, and a Growth Management Plan. Interim Growth and rural areas are proposed in the Growth Management Plan and are primarily based on existing zoning and utility services areas. As part of the Municipal Consulting Program, the County intends to work with municipalities to establish growth and/or rural areas that are consistent with both Municipal and County planning objectives. Established growth and rural areas will be incorporated into the York County Comprehensive Plan as part of the York County Growth Management Map.

The County's current future land use map includes a proposed central York County urban growth area which extends across the Springettsbury Township line into Hellam Township to include Hallam Borough. This represents an area of anticipated growth pressure emanating from the York urban area, and is an area with excellent access to public utilities and other services. The county's growth area is based upon zoning in the York County municipalities.

This comprehensive plan is generally consistent with the York County Comprehensive Plan.

IMPLEMENTATION TASKS

1. ***Hellam Township will seek to support and encourage appropriate commercial and residential mixed use development within Hallam and Wrightsville Boroughs compatible with adjacent growth in the Township.***

2. ***Greater communication is needed between the two boroughs and Hellam Township to encourage and sustain the economic viability of the community as a whole. Joint planning seminars will be held to explore areas of mutual interest.***

Source: 1996 Hellam Township Comprehensive Plan with revisions

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IX. PUBLIC FACILITIES AND SERVICES

PUBLIC FACILITIES AND SERVICES-RELATED GOALS

- Direct new high density residential, commercial and industrial development to areas where public services can be provided in a cost-efficient manner.
- Adequately and efficiently provide for public facilities within designated growth areas.
- Protect lands that have particular recreational value.

A. INTRODUCTION

A variety of facilities and services must be available in order to foster the proper growth and development of a community. These facilities and services help to promote the health, safety, welfare, and education of those who reside within a community. The following section consists of a description of those facilities and services which are currently provided for in Hellam Township, and a list of policy recommendations for changes and improvements in these facilities and services that will be needed to accommodate future growth within the Township.

B. MUNICIPAL GOVERNMENT

1. TOWNSHIP BOARD OF SUPERVISORS

The municipal government of Hellam Township is led by a 5-member Board of Supervisors who are elected by the citizenry. Members of the Board of Supervisors have staggered 6-year terms and are responsible for all municipal policies. The primary responsibility of the Board of Supervisors is to ensure that adequate facilities and services are provided to the municipality.

2. TOWNSHIP STAFF

a. Township Manager - The Township Manager reports to the Board of Supervisors and is responsible for the day-to-day operation of the Township's business, and the supervision of the Township's employees. The Township currently contracts legal, sewage enforcement and engineering services.

b. **Zoning Officer** - The Township's Zoning Officer advises the Planning Commission, Board of Supervisors and the public on the interpretation of the Township's Zoning Ordinance and the Township's Subdivision and Land Development Ordinance. The Zoning Officer is also responsible for issuing building permits and recording all approved subdivisions. Currently, the Zoning Officer serves as the Secretary of the Hellam Township Planning Commission.

c. **Roadmaster** - The Roadmaster oversees the maintenance and improvement of the Township's road system.

d. **Chief of Police** - The chief of police is the chief administrator of the police department and top law enforcement officer of the Township.

3. COMMISSIONS AND BOARDS

Volunteers play a significant role in the governance of Hellam Township. Their contribution is essential in the conduct of the Township's several boards and commissions.

a. **Planning Commission** - The Planning Commission serves as an advisory board, which makes recommendations to the Board of Supervisors and the Zoning Hearing Board on subdivision and land development plans and zoning changes. The Planning Commission consists of 7 members of the community who are appointed by the Board of Supervisors for terms of 4 years.

b. **Zoning Hearing Board** - This 5-member board, appointed every 5 years by the Board of Supervisors, is responsible for the interpretation and administration of the Zoning Ordinance. The Zoning Hearing Board's decisions are made independent of the Board of Supervisors and the Planning Commission. The Zoning Hearing Board acts as a quasi-judicial body, and it is required to have a different solicitor representing its actions than the Township's solicitor.

c. **Recreation Commission** - Hallam Borough and Hellam Township formed the joint Hellam Area Recreation Commission in 1968. Each municipality appoints 10 members to the 20-member Board. It is primarily responsible for sponsoring athletic programs for children in both the Borough and the Township. Funding is provided by independent fund-raising activities, and annual contributions from the Township and the Borough. Terms of office for the Recreation Commission run 2 years.

d. **Eastern York County Sewer Authority** - This joint sewer authority operates the wastewater treatment plant located in Hallam Borough, and the sewage collection system serving the Borough and adjacent portions of Hellam Township. Hellam Township and Hallam Borough each appoint 3 members to the 6-member Authority. The term of office is 4 years. The Authority functions independently and is not controlled by either the Township Board of Supervi-

sors or the Borough Council. The operating funds for the Sewer Authority are derived from the fees charged for services.

4. TAX COLLECTOR

The Tax Collector is elected by the citizenry for a 4-year term and is responsible to the Board of Supervisors for the collection of the Township property tax, to the York County Commissioners for the collection of the County property tax, and to the Eastern York School District School Board for the collection of school taxes. The Tax Collector is paid a commission to collect real estate taxes for the Township and the County and, under a separate agreement, also receives payment for collecting school taxes for the Eastern York School District.

The earned income tax is not collected by the Tax Collector. It is collected by the York Area Earned Income Tax Bureau, a nonprofit agency. State law assesses this tax at 1%, to be equally divided between the Township and School District.

C. PUBLIC EDUCATION SYSTEM

Land use planning can have a direct effect on, as well as be affected by, school district planning within a given area. For example, new or expanded school buildings may generate increased nearby residential development, and school closures may contribute to a population decline in a particular community. At the same time, long-range municipal land use planning may result in the designation of new residential growth areas that are located some distance from existing or planned school buildings. It is important for school district and municipal comprehensive planning to be coordinated to assure that existing and future schools and planned community growth occur hand-in-hand.

To gain an understanding of the local public education system serving Hellam Township, an interview was conducted in May, 2001, with the Superintendent of the Eastern York School District.

The Eastern York School District includes Wrightsville, Hallam, Yorkana, and East Prospect Boroughs, and Hellam and Lower Windsor Townships. The School District is governed by a 9-member School Board whose membership is elected by the District and serves rotating 4-year terms. Presently, the School District employs the following grade format:

Elementary School	K-5
Middle School	6-8
High School	9-12

The Eastern York School District provides students with 3 elementary schools, one of which is located within Hellam Township. The 3 elementary schools which the

District operates include the Kreutz Creek Elementary School located in Hellam Township, the Wrightsville Elementary School located in Wrightsville Borough, and the Canadochly Elementary School located in Lower Windsor Township. All elementary school students residing in Hellam Township attend either the Kreutz Creek or the Wrightsville Elementary Schools. The Kreutz Creek Elementary School serves the western portion of Hellam Township and the Wrightsville Elementary School serves the eastern end of the Township. The Public Facilities and Services Map (Exhibit I) identifies the location of the elementary schools in Hallam and Wrightsville Boroughs, as well as the middle and high schools in Lower Windsor Township.

The following table describes the elementary schools located within the Eastern York School District:

School Name	Year Built	Renovation Date	Rated Condition	Grades Housed	Rated Capacity	2000 - 2001
Wrightsville	1936	1975	Good	K-5	350	269
Kreutz Creek	1955	1977	Good	K-5	550	519
Canadochly	1954	1977	Fair	K-5	650	554

As the preceding table reveals, each elementary school is currently operating anywhere between 5% and 23% below rated capacity. Rated capacity is calculated on a student per square foot basis with the State Department of Education assigning a capacity of 25 students per room. According to the School District, the classrooms at each elementary school are capable of accommodating 35 students. As a result, while actual capacity is abundant, the State-mandated classroom size puts a cramp on classroom space. In addition, when one factors in the space needed for art, music, computer, etc. classes and special education classes, there were NO empty classrooms during the 1994-1995 school year. The demand for classroom space is not the result of new births, but, rather, the result of new residential development within the School District. While the Superintendent thinks the current conditions within the schools are workable, she believes that any future major residential growth will definitely have a significant impact on the capacity of all schools within the Eastern York School District. ***Hellam Township, in its comprehensive planning efforts, is aware of current and future expansion of school facilities in the school district and must plan for development opportunities to accommodate reserve needs of the school district.***

The following table describes the middle school and high school serving Hellam Township's students:

School Name	Year Built	Renovation Date	Rated Condition	Grades Housed	Rated Capacity	Current Enrollment
Eastern York Middle School	1995	—	Excellent	6-8	752	669
Eastern York High School	1958	1977	Good	9-12	860	782

The above information shows that the School District completed construction of a new middle school housing grades 6-8 in 1995. Prior to the completion of this new school, the high school and middle school shared the same building which housed grades 7-12. The new middle school is located on the same campus as the high school. As a result of the middle school construction and associated grade shifting, high school and potential elementary school capacity has increased. In addition, the new middle school was constructed to enable easy expansion due to the fact that the physical plant mechanics have been designed to accommodate a 400 student expansion. The District is reserving this expansion space to absorb any acute capacity demands at the elementary school level by realigning the grade format to adjust for needed space (i.e., restructuring the middle school to house grades 5-8 and the elementary schools to house grades K-4).

Even though the middle school is constructed, the high school is currently operating at 91% capacity. To date, plans are in discussion to expand the high school and middle schools to accommodate the request for smaller classroom population sizes and an eventual increase in the student body.

Eastern York School District participates in the York County Vocational-Technical program by providing students in grades 10-12 the opportunity to participate in such education at the York County Vocational-Technical School. Students are bused from the high school to the York County Vo-tech School for instruction. The Eastern York School District has about 100 students participating in this program. In addition to the Countywide vocational-technical program, Eastern York High School also provides industrial technology, business and agricultural science programs.

The School District formerly administered an adult education program, which was run by a volunteer. Since the volunteer left the program, the School District has ceased its operation. However, the Superintendent believes that there exists a demand within the community for a new adult education program, and that the School Board should assign a staff person to administer it successfully.

The largest single issue facing the School District, besides that of overcrowding at the elementary school level, is the cost of education relative to the amount of tax revenue the District takes in. Only 13% of the tax base within the District is made up of commercial and industrial uses. The remainder of the tax base originates from residential and agricultural properties. The School District spends over $7,988 per year (as of 2000-01) to educate one student. The current level of residential property assessment is not high enough to cover that cost. From the School District's

perspective, more commercial and light industrial properties are needed within the District, including Hellam Township, to help offset the limited tax base. Yet, an analysis of the 1996 assessed values for properties within the Eastern York School District, together with U. S. Census data, shows that, while Hellam Township's students make up approximately 32% of students within the School District, Hellam Township contributes 53% of the tax revenues derived from commercial and industrial uses District-wide. These assessed values are shown in the following table.

ASSESSED VALUES FOR EASTERN YORK SCHOOL DISTRICT
2001

Land Use	Municipal Code[1]	Assessed Value
Residential	31	220,575,980
	35	218,183,780
	60	23,416,960
	66	52,875,000
	91	59,541,580
	93	6,651,250
	Total	583,244,550
Commercial	31	22,451,930
	35	12,976,100
	60	1,204,080
	66	4,210,410
	91	7,034,630
	93	367,200
	Total	48,234,350
Industrial	31	27,685,490
	35	9,277,360
	60	262,290
	66	1,873,260
	91	6,630,450
	93	- - -
	Total	46,128,850
Miscellaneous	31	1,151,570
	35	62,240
	60	- - -
	66	- - -
	91	- - -
	93	- - -
	Total	1,213,810

ASSESSED VALUES FOR EASTERN YORK SCHOOL DISTRICT 2001		
Land Use	**Municipal Code[1]**	**Assessed Value**
Exempt	31	13,338,920
	35	25,941,810
	60	1,705,110
	66	2,868,140
	91	8,585,570
	93	1,524,010
	Total	53,964,060
Agricultural	31	36,241,870
	35	37,078,180
	60	3,320
	66	870,550
	91	207,500
	93	43,680
	Total	74,452,100

[1]Municipal Codes:
31 - Hellam Township
35 - Lower Windsor Township
60 - East Prospect Borough
66 - Hallam Borough
91 - Wrightsville Borough
93 - Yorkana Borough

The Township should take a pro-active approach toward improved communication and cooperation with the Eastern York School District so that any adverse impacts resulting from financial and demographic associated decisions, made by the six municipalities included in the district and the School District itself, can be addressed.

D. LIBRARY

The Kreutz Creek Library, located next to the Township municipal building, is a branch of the York County library system. The library houses approximately 10,000 volumes and is intended primarily for the use of young people. Staffed by a librarian, the Kreutz Creek Library is open 6 days a week in the winter and 5 in the summer, including some evenings. Special programs include a preschool story time Wednesday mornings and a summer reading club. Funding is from the County as well as from the municipalities in the area, of which Hellam Township is a major supporter.

E. PARKS AND RECREATION

1. INTRODUCTION

The planning for both passive and active recreation opportunities is an important component to any comprehensive planning effort. Recreation planning seeks to determine the level of demand for recreation facilities and programs, and where needed parks and recreation facilities should be located. Conversion of vacant lands to developed areas results in a gradual reduction of the Township's overall open space that can be used for various park and recreation activities. Unless the open space and natural areas needed for these activities are carefully planned for in a comprehensive manner, the Township could, by default, lose those lands and the recreational opportunities that they provide. The acquisition of open space and natural areas for recreation pursuits is enabled under provisions in the MPC using the dedication/fee-in-lieu thereof subdivision requirements. However, such procedures are only legally defensible if they seek to implement legitimate and logical goals and objectives planned for by the Township. The Township's acquisition of additional open space and natural areas is in keeping with its overall goal to maintain the rural character and to preserve the environmentally-sensitive natural and scenic resources. For these reasons, the following recreation needs analysis is offered.

The Parks and Recreation Map (Exhibit J) utilizes the information from an inventory to illustrate the geographic distribution of all recreation sites within the Township. Recreation experts often classify parks into 4 distinct categories based upon their size, service population and intended use. The standards used below are those of the National Recreation and Park Association (NRPA). Those parks and recreation facilities that are located within the Township as follows:

a. Regional Parks

Regional parks are generally 100 or more acres in size and are meant to serve a regional market, such as a county. As such, they are generally provided by "regional" agencies larger than the Township. Regional parks are usually located within 1 hour's driving time from the population that is being served. Typically, these parks will have a natural orientation with hiking, hunting, camping, and picnicking facilities. Other activity-oriented facilities might also be included. The Township is located near an abundance of State parklands, forest lands and game lands which are readily available to all residents. Residents of Hellam Township have ready access to 2 major regional parks—Samuel S. Lewis State Park and the Rocky Ridge County Park. The Samuel S. Lewis State Park is situated along the Township's southern boundary with Lower Windsor Township and contains 71 acres of parkland which provides a spectacular view of the Susquehanna River. Rocky Ridge County Park contains 750 acres of land within Hellam and Springettsbury Townships and was the first park in the York County park system. Both of these parks offer residents of Hellam Township a wide variety of nature-based and other recreation activities.

b. Community Parks

The second park type is called the community park. These parks usually are 30-50 acres in size. Community parklands should be provided at a rate of 5 acres for each 1,000 persons served. The NRPA-recommended travel distance for residents served by a community park is up to ½ mile to 3 miles. These parks generally involve a fairly high level of improvements with multiple sets of athletic fields and courts. Sometimes, swimming pools and indoor recreation centers are sited within these community-wide parks. Community parks may also include areas of natural resources for passive outdoor recreation, such as walking, picnicking, bird-watching, etc. Finally, large school sites (usually middle and senior high schools) contain facilities that qualify as community park facilities, and represent valuable recreation resources that can significantly enhance the level of recreation opportunities offered to a given area.

Presently, there are no developed public community parks located within Hellam Township. However, the Eastern York Middle/High Schools directly abut the Township to the south. This site provides for community park service which must be shared by the entire Eastern York School District. Consequently, its entire acreage cannot be assigned to service within Hellam Township. On the other hand, the proximity of this school provides for convenient access to the neighborhoods located within the southeast corner of the Township. For this reason, it will be assumed that the Township population contained within the 2-mile radius service area for this school has adequate community park service. About 600 dwelling units exist within this area, housing about 1,460 residents. Therefore, by applying the minimum 5-acre per 1,000 residents NRPA standard to this figure, suggests that this school site offers about 7.3 acres of community park service to Hellam Township.

The following chart identifies public community park acreage currently provided to residents of Hellam Township, and the public community parkland which would be needed to adequately serve Hellam Township's existing and future population.

PROJECTED HELLAM TOWNSHIP COMMUNITY PARKLAND NEEDS

Year	Total Population	Community Park Acreage	NRPA Recommended Park Acreage	Deficiency/Surplus (Acres)
1990	5,123	25.6 acres	25.6	0.0
2000	5,930	29.65 acres	30.0	-0.4
2010	6,700	33.5 acres	30.0	+3.5

The Township will need to develop a plan for its community parkland improvements. Public input regarding recreation needs and preferences should be an initial component of this effort, followed by a master site plan, capital improvements plan, and park maintenance plan.

c. Neighborhood Parks

Neighborhood parks are the third park type identified by recreation experts. The recommended service area for these parks is within 0.25 miles. The NRPA recommends that 2 acres of publicly-owned parkland be devoted to neighborhood parks for every 1,000 residents. Neighborhood parks should be accessible by pedestrians, and service areas should not extend across major roadways that cannot be safely crossed by children. As implied by the name, these parks are intended to provide close-to-home areas for limited athletic activities and playgrounds. The location and sizing of neighborhood parks are often tied to decentralized elementary schools sites that serve individual neighborhoods.

The Kreutz Creek Elementary School also is located within the Township, just north of Hallam Borough. The location of these sites limits their practical service to Township residents. The Walnut Springs Road and Accomac Road sites are situated on the north side of Lincoln Highway at some distance from the planned residential neighborhoods concentrated outside of Wrightsville and Hallam Boroughs. This distance and juxtaposition to heavily-traveled Lincoln Highway effectively eliminates pedestrian access between concentrated neighborhoods and this park. Similarly, Kreutz Creek Elementary School is sandwiched between U.S. Route 30 on the north, and Lincoln Highway 1 block to the south; hence, only a small area of the Township has safe pedestrian access to this school park. The Hellam Area Recreation Association utilizes the gymnasium at the Kreutz Creek Elementary School during the fall and winter for basketball league play, while the Wrightsville Elementary School gym is used by local youth leagues and by the Wrightsville Fire Company's volleyball league.

Other neighborhood parks (Emig Park, Hallam Ball Fields, Memorial Field/Wrightsville Elementary School, Safe Harbor Ball Field, and Walnut Street Passive Park) exist within Hallam and Wrightsville Boroughs and offer limited neighborhood park service. Unfortunately, of those that are within the recommended 0.5 mile radius service area of residential areas of the Township, none are intended to primarily serve Hellam Township residents. ***As with community parks, the Township will need to commit resources toward the creation of new neighborhood parks, especially in planned concentrated growth areas.***

Given the Township's predominately rural character, it is recommended that neighborhood parks primarily be focused on the existing and planned concentrated residential neighborhoods. To provide a neighborhood park within a rural area is impractical and unnecessary; therefore, the existing Accomac Road site should be

fitted with community-wide facilities. Even though these sites meet the size requirements of neighborhood parks, their limited accessibility suggests that they be developed with community park improvements. In addition, new neighborhood parks should be provided as follows:

1. Crestwood East - This existing neighborhood consists of about 100 residences. To serve this existing demand, a 0.5-acre neighborhood park is needed. The Township intends to be mindful of this need if and when an opportunity for future parkland acquisition occurs.

2. The Cool Creek Manor and Townhouses and Apartments - This large neighborhood consists of about 450 dwelling units. To serve this neighborhood, a 5.49-acre neighborhood park should be provided. The Township intends to be mindful of this need if and when an opportunity for future parkland acquisition occurs.

3. Planned Concentrated Residential Growth Areas - Based upon this Plan's stated goal to concentrate high density residential growth areas in areas where infrastructure can be efficiently provided, neighborhood parks should be included as needed services. The projected population growth targeted within these growth areas is 693 (90% of total Township-wide population increase). To adequately serve these new inhabitants, it will be necessary to provide a total of 3.46 acres split among the planned neighborhoods.

PROJECTED HELLAM TOWNSHIP NEIGHBORHOOD PARKLAND NEEDS

Neighborhood	Year	Population Served	NRPA Recommended Park Acreage
Crestwood East	1990	244	1.22 acres
Cool Creek Area	1990	1,098	5.49 acres
Planned Growth Areas	2010	693	3.46 acres
Total	2010	2,035	10.18 acres

From the above analysis, it is calculated that ***a total of 10.18 acres of new neighborhood parkland should be provided to meet the existing and planned needs of Township residents***. These, and any other neighborhood parks, should be located and designed according to sound parkland design guidelines, as follows:

1. Neighborhood parks should be centrally located amid the service population so that the greatest level of convenient access is achieved. This can mean an integration within one large development proposal, or the placement of the park between several adjoining developments.

2. Innovative subdivision design (including clustered and dwelling units) can provide a system of greenbelts that can connect with the neighborhood park. This increases the accessibility and safety of those traveling to and from the park. The Township could provide an incentive for such site design through density bonus zoning.

d. Tot-lot/Playlot Parks

A fourth park type recognized by the NRPA is the tot-lot, playlot or vest pocket park. These facilities are provided at the subneighborhood level and are meant to serve residents within its immediate vicinity. These parks are generally less than 1 acre in size, and can be as small as 2,500 square feet. Typically, tot-lots include several pieces of playground equipment, park benches and shade trees. These parks are aimed at providing close-to-home play areas for small children and/or passive areas for adults. They are often located upon the site of multi-family dwelling unit complexes, such as garden apartments and townhouse developments that house a large percentage of young families. They are also located within municipalities that have higher residential densities and small lots.

The Cool Creek Manor subdivision tot-lot and the Accomac athletic field tot-lot are the only two tot-lots in Hellam Township. Additional tot-lots may be considered when any high density residential developments are proposed for the Township.

e. Linear Parks

Linear parks vary widely with respect to size, shape and use. The NRPA does not recommend any minimum acreage size per service population for linear parks. Instead, it recognizes that these types of facilities are more dependent upon natural or built corridors that can be easily transformed for such use. For example, waterways and their floodplains, abandoned railroad lines, and major utility rights-of-way provide ideal opportunities for the creation of effective linear parks. Hiking, bicycling and jogging are the primary orientation of such parks; however, other uses might include cross-country skiing, horseback riding and canoeing.

Presently, there are no linear parks established in Hellam Township. However, the Township contains several linear park opportunities with the many streams and creeks that traverse the Township, several utility rights-of-way, and the banks of the Susquehanna River. Specifically, Kreutz Creek, Trout Run, Wildcat Run, Dugan Run, and Dark Hollow Creek offer important opportunities for the development of streamside linear parks. These waterways offer a wide variety of scenic landscapes, ranging from steep-sloped wooded valleys along Trout Run, Wildcat Run, Dugan Run, and Dark Hollow Creek, to the pastoral farm fields and historic mill sites and structures along Kreutz Creek. The relatively undeveloped character of these rural settings provides a unique opportunity for the Township to develop high-quality, nature-based recreational activities for Township residents, while, at the same time, protecting natural lands and open scenic areas in the Township that could disappear

without proper site design criteria for future land development. ***Any future development proposals along identified waterways should provide for pedestrian access easements paralleling the streams or creeks. The viewsheds of these linear parks should also be protected wherever possible to maintain their natural character. Both access easements and viewshed protection could be encouraged by allowing clustering and/or other site design criteria in land developments.***

Hellam Township also contains several utility line rights-of-way that could be used for the development of linear parks. In particular, a number of such rights-of-way in the Hellam Hills in the northwest corner of the Township cross through wooded lands, and could provide linkages between the Codorus Creek, Wildcat Run and the Susquehanna River. The few large ownerships in this area could facilitate the creation of linear parks in this area.

This analysis provides only some suggestions for linear park development. It clearly shows that many linear corridors exist in Hellam Township that could serve multiple functions in the Comprehensive Plan for Hellam Township. ***Township officials need to be mindful of the many benefits that can be derived from linear parks and seize the opportunities for acquiring, preserving and utilizing these unique land areas as they are presented.*** By encouraging future developments to coordinate hiking and bicycling paths within their neighborhoods as a part of a larger trail in a linear park system, these paths could be used for access to schools, parks and other community activity centers.

f. Susquehanna River Access Areas

The Susquehanna River is an invaluable asset to Hellam Township since it provides the general public with many recreational opportunities, such as boating, fishing, bird-watching, and duck hunting. At present, several boat landing areas offer Township residents ready access to the Susquehanna River for boating and fishing.

2. Comprehensive Recreation and Open Space Plan

For the coordinated development of recreation lands, facilities and programs within Hellam Township, a Comprehensive Recreation and Open Space Plan should be prepared with a broad base of citizen input. It is recommended that this plan be developed by a committee appointed by the Planning Commission, with the consent of the Board of Supervisors.

In consultation with the Hellam Area Recreation Commission and a qualified recreation planner, this planning committee will consider the Township's needs for recreation and open space as outlined above and will follow the general recreation area planning guidelines set forth by the NRPA. Over the past several years, the Pennsylvania Department of Conservation and Natural Resources has offered municipalities 50% matching grant monies to prepare comprehensive recreation and open space plans.

3. Acquisition and Funding of Recreation Land

Presently, the Township Subdivision and Land Development Ordinance requires developers to dedicate land within proposed developments for recreation purposes. In lieu of this dedication option, the developer is allowed to pay a fee equal to the fair market value of the land that would otherwise have been required for dedication. This approach is fairly widespread within the southcentral portion of Pennsylvania and is recommended by the State in its publication entitled *Adding Parkland to Your Community Through Mandatory Dedication* (July, 1982). It has also been specifically enabled under recent amendments to the Pennsylvania Municipalities Planning Code. All monies paid to the Township in this manner are kept in a special fund that cannot be used to maintain existing facilities, but must be used only for the purchase of new parkland and/or new equipment that are accessible to residents of the proposed development. Therefore, according to NRPA standards for service areas for various park types, these fees could be spent for community parks that are within 2 miles, neighborhood parks that are within 0.5 mile, and playlots that are in the immediate vicinity of the development site for which the fee was collected.

An important element in the above approach to acquiring parkland is the determination of the amount of land that will be dedicated for parks with respect to each new lot proposed in the development. To make this requirement legally defensible and reasonable, the NRPA recommends that local governments provide for at least 3 basic types of recreation areas: community parks, neighborhood parks and playlots. By adding up the NRPA-recommended ranges of acreage needed to serve each 1,000 persons for each type of recreation area (see above), a total of 7 to 11 acres of parkland per 1,000 persons is obtained. Since the average household size reported for Hellam Township in 2000 was 2.46, this means that there are 407 dwelling units per 1,000 persons (1,000/2.46 = 407). Finally, the range of acreage per dwelling unit is calculated as follows: 7-11 acres/407 dwellings = .017-.027 acres/dwelling. Therefore, it can be concluded that the dedication of 0.017 to 0.027 acres for each lot or dwelling unit in a proposed development would be legally and reasonably defensible according to NRPA standards for local recreation site acquisition. The Hellam Township Subdivision and Land Development Ordinance currently requires that the amount of land to be dedicated for local recreation sites must not exceed 0.02 acres for each lot or dwelling unit shown on the Final Plan.

There are many local, State and Federal grant programs specifically earmarked for parkland acquisition and development. The Pennsylvania Department of Community Affairs has been awarding grants through its RIRA program, Circuit Rider program, and the Land and Water Conservation Fund. The Department of Conservation and Natural Resources imparts grants for development and rehabilitation of parks and recreation facilities and parkland acquisition with the intent of conservation. Funds made available by the Federal Inter-Modal Surface Transportation Efficiency Act (ISTEA) can be used to develop bikeways, pedestrian trails and other greenways, including rails-to-trails.

4. HELLAM AREA RECREATION COMMISSION

The present Hellam Area Recreation Commission was established as a joint venture between Hellam Township and Hallam Borough by Intermunicipal Agreement on August 1, 1968 and amended on April 14, 1969. The 20-member Commission is very effective in providing programs (primarily youth oriented) staffed by volunteers, but given the declining availability of volunteers and the increasing programming demands of the residents, the ability of the Commission to meet the demands may soon reach a breaking point. In order to prepare for this, ***Hellam Township, in consultation with Hallam Borough, will need comprehensive planning for recreational lands, facilities and staff that will pro-actively meet future needs in this area.***

E. POLICE PROTECTION

Police protection is an obvious public service benefitting both residents and businesses. The traditional role of the police involves 3 functions: law enforcement, order maintenance, and community service. Law enforcement involves the application of legal sanctions, usually arrest, to persons who injure or deprive innocent victims of life or property. Order maintenance involves the handling of disputes, or of behavior which threatens to produce disputes. The third aspect of the police function, and the one most likely to occupy the major portion of an officer's time, varies from community to community according to tradition and local ordinances. These are activities not necessarily related to criminal acts and include such tasks as traffic control, rescue operations, animal control, and ambulance and first-aid services.

Police protection to Hellam Township is provided by the Hellam Township Police Department, headquartered at the Township Municipal Building at the intersection of Walnut Springs Road and Lincoln Highway. To better understand how police services are provided to Hellam Township, interviews were conducted with the Township Manager and the Chief of Police in June, 1995. Much of the information which follows was obtained from these interviews.

The Hellam Township Police Department was formed in 1964. The department was initially staffed by part-time personnel and served only Hellam Township. There was a loose reciprocal agreement with Hallam Borough which, at that time, also had a police department. In 1972, the Township hired its first full-time Chief of Police who was the only police officer serving the Township at that time.

Between 1972 and 1980, the department was expanded to include the Chief and 3 full-time patrolmen. In 1978, Hallam Borough began to contract the services of the Hellam Township Police Department following the abolishment of its department. This agreement is still in effect today.

In 1985, an additional full-time patrolman was hired at which time the department was housed in 1 room in the Township Municipal Building. In 1989, a study of the operation of the police department was conducted by the PA Department of Community Affairs at the request of the Board of Supervisors. The study indicated the need for additional manpower, space and equipment. The Township followed through with implementing the recommendations set forth by the PA DCA, which called for 1.2 officers per 1,000 population with a minimum staff of 3 officers. At that time the department was increased to 6 full-time patrolmen, new headquarters were constructed and additional equipment was purchased. Today, the department operates at its assigned strength with no major changes occurring since 1990.

The department patrols all of Hellam Township and Hallam Borough. The department operates 24 hours per day with overlapping shifts between the hours of 11:00 a.m. and 3:00 a.m. The department is currently housed on the west side of the Township's Municipal Building, where allocated space is adequate now and for the foreseeable future.

The current level of staffing is loosely determined by recommendations to the Board of Supervisors and the availability of funding. The department is currently staffed by the Chief of Police, 1 full-time detective, and 5 full-time patrol officers. Response times are generally not addressed by the nature of the call; rather, all calls are handled as soon as possible. The average response time through the first 4 months of 1995 was about 7.1 minutes for each call.

The Pennsylvania State Police are rarely utilized by the Hellam Township Police Department, except when forensic and laboratory assistance is requested. Fire, police and medical personnel in and around Hellam Township work extremely well together. This cooperation is extended by both paid personnel and those who volunteer their services. There is very good cooperation between the fire companies and the ambulance organizations that serve the Township. There is also good cooperation between the emergency service providers and the hospital-based advanced life support units.

The Hellam Township Police Department currently operates with 5 patrol cars. The department also has one secure holding area. The department's equipment is adequate and the Board of Supervisors has been very cooperative in purchasing needed equipment for the department.

Over the next 10 years, the department expects to grow at a rate that will be controlled by the Board of Supervisors and the implementation of this Comprehensive Plan. There will certainly be new technology available to the police department, but it is difficult, at this time, to determine what will actually be needed by the department. However, it does seem logical that the department will need to update its computer systems, both in-house and in the patrol cars, at some point.

The police department currently has no major problems with the delivery of quality police service. This is largely due, in part, to the willingness of the Board of Supervisors to provide adequate training, staff and equipment to the department. Usually Hellam Township's Police Department is self sufficient but when additional force is needed, the Lower Windsor Police Department is called to assist. Improving police service is always an important endeavor, particularly in light of the growth that has been occurring within the Township. With this growth has come, and will continue to come, an increase in demand for police services. The department strives to improve its service when changes within the community occur or when new technology is developed.

F. FIRE PROTECTION

Fire protection is a basic public safety service that is vitally important to the Township and its residents and businesses. Obviously, fire protection is aimed at minimizing the loss of life and property due to fire and related hazards. The level of availability of fire protection within a given area also affects the rate at which area residents and business owners must pay for fire protection.

To understand how the Township's fire protection services are delivered, and to identify any current and/or future needs, information was obtained from the Township Manager and the Fire Chief of the Friendship Fire Company of Hellam. In addition, a written response to questions was received from the Wrightsville Fire Company. The following information describes the current operation of the fire companies and the issues that impact fire protection delivery in the future.

The Friendship Fire Company of Hellam was formed in 1923, and the Wrightsville Fire Company was created in 1887. The York County "911" radio dispatch system began in 1970. Hellam Township is served by 2 independent volunteer fire companies. Each company is responsible for a section of Hellam Township as their primary response area, and then both companies establish their own mutually exclusive mutual-aid pacts with adjoining fire companies. The primary response area, within Hellam Township, for the Wrightsville Fire Company is the area around Wrightsville Borough. This primary response area extends as far west as the Burg's Lane intersection with PA Route 462. The remaining area of the Township is served by the Friendship Fire Company of Hellam (see Public Facilities and Services Map, Exhibit I). Mutual-aid agreements are in place with surrounding fire companies, including Yorkana, Springettsbury, Mount Wolf, and Lower Windsor in York County, and Columbia Borough and West Hempfield Township in Lancaster County.

The delivery of local fire protection services is highly dependent upon manpower. Like most municipalities in York County, the fire companies serving Hellam Township are staffed entirely by volunteer personnel. Currently, the Friendship Fire Company of Hellam operates with 23 active volunteers, and the Wrightsville Fire

Company has a contingent of 23 active volunteers. Volunteers are expected to perform many tasks, such as fund-raising and fire training, which require many hours. Volunteerism remains strong within Hellam Township. ***The fire company leadership and the Township should act as partners in maintaining this strong level of volunteerism. It is imperative that the Township maintain involvement with this issue.***

Both fire companies describe problems with facilities at their existing fire stations. ***It is recommended that the Township assist the fire companies in overcoming these problems.***

The location of any fire company is important because of its effect on emergency response time. With any emergency service, average response time is a critical indicator used to determine the effectiveness of emergency service delivery. Response time can be broken down into 2 periods. The first period is the amount of time it takes from the minute an emergency call is received, until the time a vehicle has left the fire station. The second period is that amount of time it takes to arrive on the scene of an emergency.

Geographically, the Friendship Fire Company of Hellam station is close to being in the center of its respective primary service area within the Township but favors the southern end of the Township slightly. Overall, the total response time for the Friendship Fire Company averages 4 to 5 minutes for emergency calls, and 10 to 12 minutes for non-emergency calls. Currently, the location of this station poses little problem.

The Wrightsville Fire Company station is located at the far east end of its service areas within the Township. While the company indicates that its response time is usually 1 to 1½ minutes for emergency calls, and 5 minutes for non-emergencies, response times approach 10 minutes for the furthest areas of the Township located in Wrightsville's primary service area.

The following describes the pieces of firefighting equipment housed at the Friendship Fire Company of Hellam station:

1. 1971 Imperial Tanker with a 1000 gallon tank and a 1000 gpm pump;
2. 1974 International Attack truck with a 250 gallon tank and a 350 gpm pump;
3. 1977 Ford Pumper with a 750 gallon tank and a 1000 gpm pump;
4. 1994 International Service truck with a 14 foot walk-in box; and,
5. 1999 F550 Ford Attack truck with a 250 gallon tank and a 500 gpm pump and a foam inducer.

Firefighting equipment housed at the Wrightsville Fire Company includes:

1. 1976 Mac Engine truck with a 750 gpm pump and a 500 gallon tank

2. 1996 Seagraves Rescue truck with a 1500 gpm pump 1,000 gallon tank and 50 gallon tank of 3% to 6% foam.

It appears that most of the above firefighting vehicles are adequate now and for the near future. The Friendship Fire Company of Hellam strives to maintain as modern a fleet of vehicles as funds dictate and will continue to replace obsolete vehicles on an as-needed basis. In 2002, the Hellam Fire Company will be acquiring a 3000 gallon tank truck to replace the current 1971 Imperial Tanker. The Wrightsville Fire Company indicates that its 1976 Mac Engine is becoming outdated.

The following lists the number of fire responses for the Friendship Fire Company of Hellam for the past 5 years (1996-2000):

FRIENDSHIP FIRE COMPANY OF HELLAM FIRE RESPONSES			
Year	Primary Service Calls	Mutual-Aid Calls	Total Calls
1996	128	9	151
1997	125	10	141
1998	134	12	159
1999	139	5	166
2000	141	7	174

Fire responses for the Wrightsville Fire Company for the last 5 years (1996-2000) are as follows:

WRIGHTSVILLE FIRE COMPANY FIRE RESPONSES		
Year	Hellam Township Calls	Total Calls
1996	93	155
1997	76	139
1998	74	154
1999	84	162
2000	119	199

As the above tables reveal, the call volumes for both fire companies have remained fairly steady over the past 5 years with only minor fluctuations. The average number of calls per year during the 5-year period was 158 for the Friendship Fire Company and 162 for the Wrightsville Fire Company. The fire companies respond to many calls that are neither fires nor accidents. With the technology of cellular phones, more people have immediate access to the fire company to report incidents that may not require fire company intervention.

The fire service believes that there is always room for better cooperation among the various emergency service providers serving the Township and the surrounding area. During the last several years, cooperation and communication among the fire

companies and the various municipalities the companies serve seems to have diminished. To date, the Township, ambulance service and both fire companies hold quarterly meetings to discuss problems, goals, future equipment, current daily functions, etc. The meetings were initiated by the Township Emergency Management Coordinator. The meetings promote cooperation among the Township and both fire companies.

According to both fire companies, securing funding for the operation of the volunteer fire companies is very difficult. A percentage of operating funds are contributed by the Township with the remaining monies secured through membership drives, fund-raisers and fees paid by non-members for fire service. In an effort to reduce the need for fund-raising events, the amount of municipal funding should be increased. If municipal funding is not increased, an increase in fund-raising efforts on the part of the fire company volunteers must increase, which then cuts into the time those volunteers have to train and to fight fires.

According to the Friendship Fire Company, the delivery of fire protection suffers because of a lack of quality training. It is important that the Township and the administration of the fire company ensure that well-qualified people are responding to fire calls. In order to gain that quality training, an investment of time on the part of the volunteer is required. The volunteer member finds himself struggling to balance his time between fund-raising and training. He also realizes that his fund-raising effort is required so that the fire company can provide hoses, tools, trucks, and equipment. As a result, the need for fund-raising becomes so important that the time for training is put on hold. When training is not made a higher priority, volunteer members are more likely to be injured while on the scene of an emergency. These injuries are then paid for by Workmen's Compensation Insurance and the fire company opens itself to litigation and public scrutiny and criticism. In an effort to increase overall funding and to reduce the need for fund-raising events, ***it is recommended that the Township and both fire companies begin discussing the enactment of a fire tax that would be collected from the property owners of the Township and passed on to the fire companies. The amount of tax collected should be enough so that fund-raising by the volunteer firefighters can be significantly reduced. This would greatly increase the amount of time fire company members have to perform fire related training and activities.*** The Township could consider the levying of a fire tax if and when paid firefighting personnel are employed.

The Township has a local emergency management coordinator, who, if instructed by the Board, could act on behalf of all emergency service providers.

G. AMBULANCE SERVICE

Ambulance service is an obvious lifesaving service. Ambulance service can be divided into 2 general types. First, emergency ambulance service involves the pick-

up of patients at the scene of an accident or other medical emergency. Then patients are expediently transported to local medical care facilities for treatment. The second form of ambulance service is called routine transportation. In this situation, patients are transported from one medical facility to another, or to their home.

Ambulance service in Hellam Township is provided by the Eastern York County Emergency Medical Services, formerly known as the Kreutz Creek Ambulance Club and the Wrightsville Ambulance Club. In addition, Medic 102, dispatched from Memorial Hospital through County Control, provides total advanced life support capabilities.

The Kreutz Creek Ambulance Club was created in the late 1950s through a cooperative effort between the Kreutz Creek Valley Lions Club and the Borough of Hallam. The Kreutz Creek Ambulance Club was headquartered in Hallam Borough. The Wrightsville Ambulance Club is located at the fire station. The primary service area of the Kreutz Creek Ambulance included much of the central and western portions of Hellam Township. The Wrightsville Ambulance Club served much of the remaining portion of the Township as part of its primary service area. In 2000 the two ambulance services merged to form the Eastern York County Emergency Management Service which has mutual-aid agreements with adjoining ambulance associations. Both ambulance clubs operate 24 hours a day, 7 days a week.

Like the volunteer fire companies that serve the Township, the ambulance club is staffed by volunteer members. Presently, the Eastern York County Emergency Management Service has 13 volunteer members and 2 paid members. The ambulance club requires a minimum of 2 attendants (a driver and an Emergency Medical Technician [EMT]). At a minimum, all drivers are required to be Emergency Vehicle Certified and trained and certified in CPR. EMTs must be Emergency Health Services Federation (EHSF) approved and are currently required to become Defibrillator Certified.

As an all-volunteer group, the ambulance clubs have continual problems with a lack of personnel during the daytime hours. Conversely, there is generally a surplus of volunteers during the evening and overnight hours. As a result of the evening surplus of members, 2 members working 8:00 a..m. to 4:00 p.m. shifts were employed. Evening shifts are broken down into 4 6- hour segments and attendants are expected to fill in wherever possible. Emergency response times are generally 5 to 7 minutes, but that is only when a crew can respond to call. Occasionally, during the daylight hours, there are not enough volunteers available to respond to a call and the call is responded to by a mutual-aid ambulance club.

The Eastern York County Emergency Management Service operates a 1999 Ford Braun Body ambulance vehicle which has been certified by the EHSF. This type of ambulance vehicle can accommodate one Class 1 or Class 2 patient on a portable litter or two Class 3 patients; one on a backboard and the other on a litter. Another patient can be carried on a backboard strapped to the crew seat on the vehicle's right

side. Up to 4 additional patients can be carried seatbelted to the crew seat in the case of a mass casualty incident. An additional vehicle, a 1999 Yankee Coach, is also used.

The major issue facing the ambulance clubs serving Hellam Township is that they are not prepared to handle a major disaster, such as a plane crash, a nuclear accident, flooding, etc. This is due, in part, to the extremely limited number of volunteers the ambulance club has, particularly during the daytime hours. The ambulance club believes that more people would volunteer but are afraid of the time commitment involved with training. ***A possible solution to this problem would be locating combined ambulance groups into a modern facility that is geographically centered in the Township. The proposed site is a six acre site due west of the current Township building and is to include the Eastern York County EMS (inclusive of ALS and BLS) and the Township police with future consideration for fire services.***

POLICY IMPLICATION

1. ***Hellam Township, in its comprehensive planning efforts, is aware of current and future expansion of school facilities in the school district and must participate in future plans with the other six municipalities in the district for development of the school district.***

IMPLEMENTATION TASKS

1. ***The Township should take a pro-active approach toward improved communication and cooperation with the Eastern York School District so that any adverse impacts resulting from financial and demographic associated decisions, made by both the Township and the School District, can be minimized.***

2. ***It is recommended that the Township commit resources toward the creation of new neighborhood parks, especially in planned concentrated growth areas. Given the Township's predominantly rural character, it is recommended that neighborhood parks primarily be focused on the existing and planned concentrated residential neighborhoods.***

3. ***Hellam Township will need to develop a plan for community parkland improvements.***

4. ***Any future development proposals along identified waterways should consider pedestrian access easements paralleling the streams or creeks. The viewsheds of these linear parks should also be protected wherever possible to maintain their natural character. Both access easements and viewshed protection could be encouraged by allowing clustering and/or other site design criteria in land developments.***

5. *The Township should consider locating combined ambulance groups into a modern facility that is geographically centered in the Township. The proposed site is a six acre site due west of the current Township building and is to include the Eastern York County EMS (inclusive of ALS and BLS) and the Township police with future consideration for fire services.*

6. *Township officials need to be mindful of the many benefits that can be derived from linear parks and seize the opportunities for acquiring, preserving and utilizing these unique land areas as they are presented.*

7. *For the coordinated development of recreation lands, facilities and programs within Hellam Township, a Comprehensive Recreation and Open Space Plan should be prepared with a broad base of citizen input. It is recommended that this plan be developed by a committee appointed by the Planning Commission, with the consent of the Board of Supervisors.*

8. *Hellam Township, in consultation with Hallam Borough, will need comprehensive planning for recreational lands, facilities (expanding amenities including athletic fields, playgrounds, etc.) and staff that will pro-actively meet future needs in this area.*

9. *The Township should cooperate with the fire companies to overcome the problems the companies are experiencing with facilities at their existing stations.*

10. *The Township and both fire companies should begin discussing the enactment of a fire tax that would be collected from the property owners of the Township and passed on to the fire companies. The amount of tax collected should be enough so that fund-raising by the volunteer firefighters can be significantly reduced.*

Source: 1996 Hellam Township Comprehensive Plan with updates

S:\WPDATA\Tig\Comprehensive Plan\Section IX Public Facilities and Services

X. PUBLIC UTILITIES

PUBLIC UTILITY-RELATED GOALS

- Analyze and determine the future need for both public water and public sewer within the Township, and plan for additional facilities, capacity and services if needed.

The health and well-being of Township residents are dependent upon adequate wastewater treatment, safe drinking water, the proper disposal of trash, and provision of other utilities. The availability of public utilities also greatly influences density, type and location of development. In those areas where public sewer, water and other utilities are available, a full range of development types and densities is possible. In contrast, those areas of the Township that rely on on-lot disposal systems (OLDS) and on-lot wells, and have limited access to other utilities, generally develop with scattered, low-density, rural uses. This chapter will identify, analyze and evaluate existing public utilities serving Hellam Township and how they will be able to accommodate projected future growth.

A. SEWER SERVICE

The majority of Hellam Township residents are currently reliant on on-lot disposal systems for wastewater treatment and disposal. The Township has 2 privately-operated package sewer plants, which provide service to Brookhaven Mobile Home Park and a privately owned residential facility in the Accomac area. Public wastewater treatment is provided by 2 major utilities which serve approximately 20% of the Township's population. The Public Sewer Map (Exhibit K) depicts existing service areas, as well as system lines, treatment plants and sludge disposal sites.

As required by State law, the Township has recently completed three Official Act 537 Sewage Facilities Plan Updates. The 1992 Act 537 Plan applies to the Township in its entirety while the 1994 Act 537 Plan Update applies to the western part of the Township within the jurisdiction of the Eastern York County Sewer Authority (EYCSA). The 2001 Act 537 Plan, currently being written, also applies to the Township in its entirety. Like this Comprehensive Plan, the Act 537 Plan and Update establish strategies for the management of sewage related to the Township's foreseeable growth and development. Much of the information within the following discussion is taken from these Plans, as well as from interviews held or correspondence conducted with representatives of both major sewer service providers.

1. WRIGHTSVILLE BOROUGH MUNICIPAL AUTHORITY

The Wrightsville Borough Municipal Authority serves the Borough of Wrightsville and Cool Creek Manor in Hellam Township just southwest of, and adjacent to, the Borough. Originally built in 1970, the system was first extended to Hellam Township in 1972. The wastewater treatment plant (WWTP) is located in the southeastern corner of the Borough. With a design capacity of 400,000 gallons per day (GPD), average daily flow in 2001 was 244,000 GPD. The plant utilizes a contact stabilization activated sludge treatment process with disinfection. The solid byproduct of the treatment process (sludge) is land-applied to nearby farms, while the treated effluent is discharged into the Susquehanna River.

A new sewer line has recently been built from Wrightsville Borough, through southern Hellam Township, to a new middle school and existing senior high school just across the Township line in neighboring Lower Windsor Township. Constructed by the School District, the line was dedicated to the Wrightsville Authority. The high school generates 6,500 GPD in wastewater flow to be treated by the Wrightsville system. The Authority does not consider the land adjacent to the new line to be part of a future sewer service area because of steep area slopes.

The Authority utilizes separate storm water and wastewater collection systems. The wastewater collection system consists of 6-inch laterals, 8-inch mains and 15-inch interceptors. According to Authority officials, the system experiences no significant leakage or infiltration problems, based on recorded flows.

Wastewater is conveyed from existing service areas in Wrightsville Borough through gravity lines to the WWTP. Wastewater from Hellam Township is conveyed to the Cool Creek Manor pumping station, just south of the Borough, which then conveys the wastewater via force main north to a main gravity line in the Borough, and thence to the WWTP. The pumping station has a capacity of 200,000 GPD and is currently loaded at about 27% of capacity. A new pumping station at the school site in Lower Windsor Township has a capacity of 80 GPM and is projected to be loaded at about 37% of capacity.

Approximately 472 Township customers are served by the Wrightsville system. While the Township has no specific reserved capacity in the system, a cooperative relationship exists between the 2 municipalities, and the Township foresees no difficulty in obtaining needed future sewer service. Because the Borough is nearly built-out, most of the system's reserve capacity is available to the Township, according to Borough officials. Currently, new users connected to the system are established on a first-come, first-serve basis and must pay for line extensions.

2. EASTERN YORK COUNTY SEWER AUTHORITY (EYCSA)

The EYCSA is a joint operating authority which was created by Hallam Borough and Hellam Township to serve both municipalities. Constructed in 1985, the EYCSA

system was first extended to the Township in 1986. Today, the system serves small areas of the Township adjacent to, and north and west of, the Borough, as well as the Borough itself, which is approximately three-quarters built-out.

The system's wastewater treatment plant (WWTP) is located in the southeastern section of Hallam Borough. The original treatment facility, constructed in 1985, utilized the Rotating Biological Contactors (RBC) process and had a design capacity of 200,000 gpd. In 1997/98, the Authority expanded the plant to upgrade existing raw pumps in the effluent pump station, installed a comminutor at the head of the pre-equalization basin, and installed a Sequencing Batch Reactor (SBR). Ultra-Violet (UV) disinfection system was installed to replace the existing chlorine facilities. An aerobic digester was also built to accommodate 90 days of sludge storage. The SBR plant is designed to process an average flow of 500,000 GPD and a peak hourly flow of 1,000,000 GPD. The existing RBC plant was rehabilitated in 1998. The RBC plant will continue to function as a pretreatment facility. The original pre-equalization basin is utilized for both plants. Average daily flows for 2001 were about 154,000 GPD. Treated effluent is discharged to Kreutz Creek and sludge has been hauled to Springettsbury Township WWTP for disposal for the last three years. The Authority is in the process of closing its agricultural utilization sites located in Lower Windsor Township.

The Authority utilizes a wastewater collection system which is separate from local storm water collection systems. The 17.88 mile gravity sanitary sewer system consists of 4, 6 and 8-inch laterals, 6 and 8-inch mains and 10 to 18-inch interceptors, mostly PVC lines. Because of the relative newness of the system lines, no major infiltration or leakage problems have been identified.

Wastewater is conveyed from existing service areas in Hallam Borough, and adjacent areas within Hellam Township, in a northeasterly direction through gravity lines to the WWTP. The 1994 construction of sewer lines to the Crestwood East area southwest of Hallam Borough also involved the installation of a new pumping station serving this area, with a design capacity of 215 GPM. About one quarter of this capacity was used in 2001. Located on Campbell Road, the pumping station conveys wastewater in a 0.41 mile, 6-inch force main running north, where it joins a gravity line that runs east to the WWTP.

As of the end of 2001, the EYCSA serves 940 accounts, of which 251, or 27%, are within Hellam Township. Of these 251 accounts, 226 are residential, 18 commercial and 7 industrial. The residential accounts include multiple-family dwellings and the Mimosa Mobile Home Park. New users connected to the system are established on a first-come, first-serve basis and must pay for line extensions. Hellam Township has no specific reserved capacity in the system.

3. FUTURE PUBLIC SEWER NEEDS

Future public sewer needs include the need to provide public sewer to developing areas, as well as to remedial areas experiencing malfunctioning on-lot sewage disposal systems. Chapter V of this Comprehensive Plan projects a need for Hellam Township to accommodate 313 new dwelling units, in addition to other commercial, industrial and institutional uses by the year 2010. The Township wants to discourage high density residential developments in areas with no access to public utilities.

The Township's 1992 Act 537 Plan and 1994 Plan Update recommend the extension of public sewer lines into proposed 5- and 10-year future service areas immediately adjacent to Hallam Borough and Wrightsville Borough, where various proposed developments are anticipated to need sewer service in the near future. The 1994 Update anticipates that, by the year 2015, proposed developments in and adjacent to Hallam Borough could require an additional 300,000 GPD in wastewater treatment capacity.

The 1992 Act 537 Plan proposes that the Accomac area along the Susquehanna River, which has been experiencing failing on-lot sewage disposal systems, provide its own community collection and treatment systems because of the distance to existing utilities and intervening rural and resource lands not planned for development. One type of community system not specifically noted by the 537 plan is the alternative wastewater system.

Alternative wastewater systems offer various simple, effective ways to collect, treat and dispose of sewage effluent that are suited to the particular needs of an area. Such systems are especially well-suited to villages and small communities in rural areas because they can be sized to meet limited local needs, and designed to have a positive, rather than negative, impact on the environment. Construction costs are generally low, and maintenance is minimal.

No figures are available on potential future development in Wrightsville Borough which would be sewered. However, because the Borough is nearly built-out, it is assumed that no more than 100 EDUs might be utilized to the year 2010. Borough Authority officials have indicated that the system's remaining treatment capacity would be largely available to the Township. The Wrightsville Sewer Authority has no plans for any plant upgrades at this time.

The EYCSA's expansion to its wastewater treatment plant should provide ample future treatment capacity for all anticipated high density residential, commercial and industrial development in the western half of the Township to the year 2010 and beyond. With a residual treatment capacity of 156,000 GPD, the Wrightsville WWTP is capable of serving over one-third of future area wastewater treatment needs, or approximately 836 new dwelling units.

All 3 existing system pumping stations currently have considerable reserve capacity for adjacent future development. Sewer service to the proposed River Road area north of Wrightsville Borough would necessitate an additional pump station.

As of the date of this Comprehensive Plan, the Township is in the process of updating its Act 537 Plan. This update is studying the River Road Area (a.k.a. Accomac Shores Area) along the Susquehanna River to determine the need for public sewer in that area within 10 years. The update is also studying the possibility of extending public sewer further east of Hallam Borough along PA Route 462.

Areas planned for future sewer service will be coordinated with the Future Land Use Map (Exhibit P).

4. On-Lot Sewage Disposal Systems

Approximately 80% of Hellam Township residents rely on individual on-lot disposal systems for wastewater treatment and disposal. On-lot disposal systems, if constructed and maintained

properly, provide a reliable and efficient means of wastewater treatment in rural and suburban areas where population density is low and individual lot sizes are at least two acres. However, where such systems are improperly installed or not maintained, contamination of on-site water supplies can result. The malfunctioning systems reported in the 1992 Act 537 Plan were fairly dispersed throughout the Township, and were due primarily to obsolete system designs. However, as indicated in the soils analysis of Chapter III of this Plan, certain soil types within the Township may not be suitable for on-lot septic systems.

As previously stated, the Township is in the process of updating its Act 537 Plan. On-site sewage disposal systems and water supply wells are in the process of being tested to determine the extent of malfunctioning systems in the Township to date.

Given the sparse rural development of much of the Township and the extensive reliance upon OLDS systems, it would be prudent of the Township to protect itself from incurring the enormous expenses associated with the extension of public sewer service to areas with potential future OLDS malfunctions. Therefore, the Township's 1992 Act 537 Plan recommends that all nonsewered areas of the Township be subject to an On-lot Disposal System (OLDS) management program. Such a program would require the routine maintenance of systems to include the "pumping-out" of subsurface septic tanks on a 3-year cycle. ***The Township will carefully consider the Act 537 Plan recommendation for implementation of an OLDS management program and the potential for long-term savings and groundwater quality protection it would thereby incur.***

B. WATER SERVICE

The majority of Hellam Township residents depend on private wells to provide their drinking water. Public water is provided by 3 major water utilities, serving approximately 30% of the Township's population. The Township has 1 small community supplier, which provides well water to Brookhaven Mobile Home Park. The Other Utilities Map (Exhibit M) identifies existing public water system lines. Information for this section is derived from the Township's 2 approved Act 537 Plans, as well as interviews held with the 3 major water providers. For more detailed information regarding water quality and purification techniques used by various water suppliers, the public may contact the specific suppliers.

1. WRIGHTSVILLE BOROUGH MUNICIPAL AUTHORITY

The Wrightsville Borough Municipal Authority serves the Borough of Wrightsville and surrounding portions of Hellam Township. Formerly owned by Dauphin Consolidated Water Company, the system was built in the 1890s, and first extended to Hellam Township in 1962. While the system once relied on a well and springs as its water sources, the Authority today draws its water from Miller Lake, a former quarry adjacent to, and to the north of, the Borough line in Hellam Township. Miller Lake, in turn, receives its water from pumps connecting it to the Susquehanna River. The Authority is currently permitted to withdraw 700,000 GPD, of which it actually takes a little more than half.

A 576,000 GPD filtration plant is located adjacent to Miller Lake, currently being rehabilitated. This facility, which is currently operating at about 75% capacity, uses a treatment process consisting of coagulation, sedimentation, filtration, and chlorination, with residual sludge going to the WWTP. High-service pumps at the water treatment plant pump water into the system and to the treated storage facilites. Treated storage is an elevated tank on Route 462 between 6th and 7th streets, with a capacity of 642,000 gallons. This storage capacity effectively provides a 2-day supply of water in the event of water shortfalls or emergencies. Also, there is a tank located at Eastern York High School. Because the system has adequate treated storage capacity, no treatment plant capacity is reserved for peak day usage.

The water distribution system consists of several miles of 4-inch, 6-inch and 8-inch primarily concrete and PVC lines. The part of the system serving the Township utilizes 6-inch and 8-inch lines. Authority officials state that there is no significant water loss problem due to leakage, based on ongoing leak detection work.

Within Hellam Township, 472 customers received water service from the Wrightsville Borough Municipal Authority in 2001. These users represent about 32% of the population base served by the Wrightsville system. Average total daily water use for Township users was 69,786 GPD, about 16% of total system use for that year of 429,068 GPD. Adding an approximate figure of 9,984 GPD for water service to newly-connected schools in Lower Windsor Township, total system usage is

approximately 439,052 GPD. The proportion of water used within the Township is low compared to the share of the total population served which Township residents represent; this is because of high water usage among Borough industries. Average daily residential water use per Township customer was 147 GPD in 1994.

2. YORK WATER COMPANY

The York Water Company serves a multi-municipality area in central-northeastern York County, including Hallam Borough and portions of Hellam Township adjacent to the Borough. The investor-owned Company, founded in 1816, purchased the Hallam Borough water system in 1984, extending a 12-inch main and disconnecting the Borough's source of supply at that time. The Company withdraws water from the East and South branches of the Codorus Creek, for which it has a permit allocation for 30 MGD. The Company operates a filtration plant in Spring Garden Township which utilizes a flocculation, settling and filtration process. The plant's treatment capacity is 30 MGD, of which it currently averages 20.2 MGD. Because the system has adequate treated storage capacity, no treatment plant capacity is reserved for peak day usage.

The Company's distribution system consists of mostly of the 12-inch main and 6-inch lines, but also 4-inch, and even 2-inch ductile iron and cast iron gravity lines, most of the smaller cast iron lines being located in older areas of Hallam Borough. The system experiences some low flow for fighting fires and low pressure problems in parts of the Borough and in an area of the Township to the north of Route 30 around Fox Ridge Lane. System leakage is relatively low, averaging just 12%. Problem lines are upgraded as problems are located.

The low-flow Fox Ridge Lane area to the north utilizes a booster station consisting of 2 35 GPM pumps and a pressure tank. These pumps, which operate at about 65% capacity, serve approximately 30 customers to the north and uphill from the pumps. There are no other pumps within the Township or Borough, however, the Crestwood East area is served by a pump system in adjacent Springettsbury Township. There are four pumps at this location (100 GPM, 150 GPM, 200 GPM and 350 GPM).

Treated storage for the system, totaling 33 million gallons, is in several covered storage tanks located throughout the franchise area, all outside Hellam Township and Hallam Borough. Raw water storage is at 2 reservoirs, also outside the Township and Borough. Treated storage capacity is about 1.5 times average daily water use for the system, creating an effective emergency reserve and buffer against peak day usage.

The York Water Company serves 338 customers within the Township, representing less than 5% of all customers served. Because the Company serves a multi-municipality area, it does not disaggregate actual water use by municipality. Hence, it is not possible to know the exact average daily water use of Hellam Township residents. However, average daily residential water use systemwide in 2001 was 159 GPD.

3. MARIETTA GRAVITY WATER COMPANY

A small area of the Township to the north along the Susquehanna River is served by the Marietta Gravity Water Company, which also serves Marietta Borough and parts of East Donegal Township in Lancaster County. The Company withdraws most of its water from wells within Lancaster County, however, Hellam Township is served by the Wildcat Reservoir on Wildcat Run in northern Hellam Township. This reservoir is fed by natural springs and also receives water from Lancaster County via a pipeline under the Susquehanna River. While the Dugan Reservoir, also in Hellam Township, is available to the Company, it is not currently being used. Both of these reservoirs were removed from the system in 1996 and replaced with 3 wells near the Dugan Reservoir. The Company's water is chlorinated, but not otherwise treated. A 1 MGD elevated storage tank was constructed in Lancaster County. Of 984 total customers, 49, or 5%, live in Hellam Township. A representative of the Water Company states that there are no plans to expand the current water service area in Hellam Township.

4. FUTURE PUBLIC WATER NEEDS

Future public water needs include the need to provide public water to both developing areas and to remedial areas suffering from degraded groundwater. Remedial areas are identified in Section 5 - On-Lot Wells - which follows. Chapter V of this Plan projects a need for the Township to accommodate 313 new dwelling units, as well as other commercial, industrial and institutional uses by the year 2010. The Township wants to discourage high density residential developments in areas without access to public utilities. It is assumed that 100% of new commercial and industrial development will be served by public water.

The total expected year 2010 new public water needs of the Township could be met by the Wrightsville Authority with its residual treatment capacity of 136,488 GPD, sufficient to serve more than the Township's 313 new dwelling units. Also, the York Water Company, has extensive remaining treatment capacity. The Marietta Gravity Water Company has no plans to serve any additional growth in the Accomac area. None of the area water companies have plans for any major system upgrades. At some point in the future, the York Water Company may construct a storage facility within Hellam Township on property it owns between Lincoln Highway and Route 30 near the Springettsbury Township line.

Areas planned for future water service will be coordinated with the Future Land Use Map (Exhibit P). Every effort will be made to locate high density residential, commercial and industrial growth areas adjacent to existing areas with public water service, to reduce the costs to landowners and public water providers of the extension of water service.

The Township and public water providers should consider instituting a water conservation program, including grey-water recycling, and requiring or promoting

water-saving plumbing, such as low-flow toilets and shower heads, in new and potentially existing developments. Such a program could be pursued through a Township newsletter. These steps would enable the Township to maximize the use of the existing water allocations and treatment capacities of its water providers. An additional benefit in rural parts of the Township would be a reduction in wear-and-tear to on-lot septic systems during wet times of the year.

5. On-Lot Wells

Approximately 70% of Hellam Township residents rely on individual on-lot wells to meet their water needs. On-lot wells, if constructed and located properly, can provide a reliable means of water supply in rural areas.

As noted in the Natural and Cultural Features chapter, just less than 40% of wells drilled in Hellam Township have reported yields of 5 GPM or lower; while these wells do not have adequate yields of groundwater for peak domestic use, they do have adequate yields for average domestic use levels, particularly where on-site storage is provided. This finding is consistent with the low water-bearing geologic formations found in the northern half and extreme southern portion of the Township. Only the Fox Ridge Lane area, north of Route 30, is currently served with public water; the pump station and line which serve this area can accommodate several additional users only. ***Without additional public water and sewer service to the northern half of the Township, planned future development will be limited to very low density uses.*** In addition, the Township may wish to consider the adoption of a well-drilling ordinance to require the drilling of wells prior to the subdivision of lots in low-yield areas of the Township.

Results of 50 well-water tests are identified in the 1992 Act 537 Plan. Twelve percent of the wells tested exhibited nitrate levels in excess of 10 mg/l, the maximum legal concentration for drinking water. Another 20% had nitrate levels between 5.0 and 10.0 mg/l. Wells with nitrates were located in the limestone area underlying the Kreutz Valley, and tended to cluster around the farms receiving sludge applications and the golf course adjacent to Wrightsville Borough. Other than in these areas, high nitrates do not appear to be a problem for the Township. Twenty-seven percent of wells tested positive for coliform, and 10% showed evidence of fecal contamination. The incidence of coliform and streptococcus contamination, which is somewhat high, is scattered across the Township and not concentrated in any particular areas. Such contamination is often the result of surface application of fertilizers, improperly-constructed or located OLDS systems and/or wells and cross-contamination of these on-lot systems. The Township may wish to bring this issue and the need for periodic wellwater quality testing to the attention of Township residents, possibly through a Township newsletter. Water quality testing could also be a twin goal of a well-drilling ordinance.

C. OTHER UTILITIES

Aside from the public sewer and water utilities described earlier in this section, several other utility lines pass through Hellam Township and are depicted on the Other Utilities Map (Exhibit M). Many of the rights-of-way (ROW) associated with these utilities have distinct implications for future land use. While this analysis describes and maps major utility lines and presents guidelines and restrictions regarding development within ROW, this analysis should not be used as a substitute for direct contact with representatives of the various utility companies. ***Potential land developers and residents living near ROW should use the PA One Call System at (800) 242-1776 to contact representatives of the various utility companies with regard to any proposed projects.*** The following briefly describes those utility company ROW and the restrictions regarding them.

GPU maintains a substation south of Lincoln Highway and near the Springettsbury Township line, as well as 3 overhead electric transmission lines and ROW that traverse the western part of the Township. The following information on these lines is available:

Line	Voltage	ROW Width
972 Line	115 KV	Between 100'–200'
1055 Line	230 KV	Between 100'–200'
5007 Line	500 KV	Between 100'–200'

In general, no construction is allowed within the GPU ROW. License agreements are sometimes permitted for such facilities as sewer drain fields, as long as these facilities do not interfere with access by the company's maintenance crew. Driveways do not require an agreement when there is no change of grade; however, drawings showing the proposed driveway must be submitted to the company to confirm adequate clearance and to allow it to update its construction plans.

Texas Eastern Transmission Corporation maintains 2 high pressure natural gas pipelines that pass through the northwestern corner of Hellam Township. The 2 lines, which run parallel to each other, are 24 inches and 36 inches in diameter. The ROW width for these pipelines as a rule is 75 feet, with 25 feet between the lines and another 25 feet to the outside of each line. Requirements for construction near Texas Eastern pipelines include, but are not limited to, the following:

"1. No building, structure or obstruction may be erected within the pipeline easement.

2. Wire fencing and decorative fencing that can be easily removed and replaced may cross the pipeline easement with prior written approval from the Company.

3. Planting of trees, shrubs or bushes is not permitted on the pipeline easement.

4. No drainage swales and no reductions in grade are permitted on the pipeline easement. Limited additional fill may be deposited with prior written approval from the Company.

5. A Company representative must give prior approval for heavy equipment to cross the Company pipelines at any location. Minimum cover and other requirements will be determined by the Company on an individual basis.

6. Parking areas should be planned so as to avoid covering the pipeline easement, if at all possible.

7. No roads, foreign lines, or utilities may be installed parallel to the pipeline within the pipeline easement.

8. All foreign lines, roads, electrical cables and other utilities must cross the pipeline easement at an angle as near to 90° as practical."

In addition, other restrictions regarding notification, utilities, blasting, and excavation apply.

Sun Pipe Line Company maintains a 6-inch high pressure gasoline pipeline running east to west through central Hellam Township. The ROW width for the pipeline is generally 40 feet. General restrictions which apply within the ROW are as follows:

"1. A driveway or roadway may cross the right-of-way and pipeline perpendicularly, but at no time will it be parallel to, over and within the ROW.

2. Buildings, trees, shrubs, or any obstruction of a permanent nature will not be constructed, planted or placed closer than 20 feet to any existing pipeline.

3. Wells, leach beds, cesspools, or sewer systems of any type will not be placed within the ROW.

4. All underground facilities crossing the ROW will cross under the existing pipeline with a minimum 1-foot clearance. This includes sewer drain lines.

5. The earth cover over the pipeline will be maintained and never changed in any manner without the express permission of the Company.

6. Any parking area placed over the pipeline by permission of the Company will be subject to an amendment to agreement entered into by subject parties prior to construction of same.

7. If heavy equipment is to cross existing pipeline for any reason, it will be necessary for owner to provide a ramp of sufficient material to protect said pipeline."

Other requirements pertaining to notification and electric service crossings apply.

Columbia Gas Transmission Corporation maintains 2 natural gas pipelines that traverse the northwestern corner of Hellam Township. The 2 lines, which run parallel to each other, are 12 inches and 24 inches. The ROW width is 25 feet to the outside of each line. Requirements for construction near Columbia Gas lines include, but are not limited to, the following:

"1. The existing cover over pipelines, which is normally 36 inches, will be maintained. The minimum earth cover over pipeline at all street and road crossings, including the adjacent ditch line, will be 36 inches and 60 inches minimum cover at stream and river crossings.

2. Above ground or below ground structures or obstructions of any type will not be placed within 25 feet of any pipeline.

3. Pipeline easement will not be shared longitudinally with other utilities. All water valves, curb boxes, manholes, etc. must be outside the easement. Other utilities crossing Columbia's pipeline(s) must maintain a minimum vertical clearance of 12 inches. All crossings must be approved by Columbia prior to commencement of installation.

4. Streets will cross pipelines at or as near 90° as practical, but not less than 45°. If any protective measures are required for the pipeline to accommodate the street, the design and approval for the measures will be provided by Columbia's Engineering. The cost of installing protection for our facilities will be paid for by the entity constructing the street.

5. Paved areas, such as parking lots, are not allowed on Columbia's easement area in most situations. Exceptions may be possible, providing Columbia's Engineering can design an acceptable ventilation system for which the developer will bear the cost.

6. Septic tanks and leach fields should be placed so they will drain away from the pipelines where practical but in no case will they be placed on the right-of-way outlined above.

7. The right-of-way may be planted in lawn and small shrubs or may be used for normal agricultural purposes. However, nothing except grass will be planted within five (5) feet each side of the pipeline. No other planting may be made on the right-of-way."

In addition, other restrictions regarding notification, excavation and heavy equipment apply.

D. SOLID WASTE MANAGEMENT AND RECYCLING

In recent years, the management and handling of solid waste has become increasingly sophisticated, and the amount of refuse generated within York County has been on the rise. As a result of these conditions, and in accordance with the Pennsylvania Solid Waste Management Act of 1980 (Act 100) and the Pennsylvania Municipal Waste Planning Recycling and Waste Reduction Act of 1988 (Act 101), a comprehensive and up-to-date Countywide municipal waste management plan was prepared. The *York County Municipal Waste Management Plan* was adopted by the York County Board of Commissioners in January, 1991, ratified by Hellam Township and a majority of the County's municipalities and total population in the spring of 1991, and approved by the PA DEP in June, 1991.

In preparing the Plan, the County's Solid Waste Management Authority was guided by its policy "to do better than the minimum requirements specified by regulatory agencies." Consistent with this philosophy, the Plan uses a 25-year planning period instead of the required 10-year period, and addresses sludge, septage and medical wastes, which were not previously addressed in the earlier 1985 Plan. The Plan is intended to provide guidelines for the safe and proper storage, collection, transport, processing, and disposal of municipal waste generated within the County.

1. SOLID WASTE DISPOSAL

Hellam Township does not currently provide trash removal service. It is the responsibility of each household to contract independently for this service. Currently, all of Hellam Township's combustible municipal waste, as well as that of all York County municipalities, goes to the County's waste-to-energy incinerator, where the energy produced by the combustion process is harnessed for electrical use. The York County Sanitary Landfill in Hopewell Township, now closed to most wastes, currently accepts the ash residual from the County incinerator. The private Modern Landfill in Lower Windsor and Windsor Townships, just south of Yorkana, receives municipal and residual wastes from 12 or 13 Pennsylvania counties and New Jersey and is the County's major active landfill. In operation since 1978, Modern has 551 acres, 21 acres which are currently active and 54 acres which are closed.

2. RECYCLING

Of the total municipal waste generated in York County, about 65% is estimated as being recyclable. To meet State and Federal goals for reducing the amount of municipal solid waste being generated and processed through waste-to-energy combustion facilities, the County set a recycling goal of 26% to be achieved by

1994. This goal, more ambitious than those of both the United States Environmental Protection Agency and Pennsylvania, was exceeded in 1994, when recycling was estimated at 28.5% Countywide. The York County Solid Waste Management Authority has an additional goal that all areas of the County with curbside collection of municipal waste also have curbside collection of recyclables.

According to the County's Waste Management Plan, Hellam Township is not required to implement a local recycling program pursuant to Act 101 because it does not yet meet the population and density requirements. Nevertheless, Hellam Township officials have considered the possibility of implementing a recycling program. Both neighboring Hallam Borough and Wrightsville Borough, also not mandated to have recycling programs, have curbside pickup recycling programs. Currently, there are no recycling drop-off sites within Hellam Township or either of the boroughs. The nearest drop-off sites are at the Modern Landfill and the County's waste-to-energy facility. The Township should work together with the County's Solid Waste Management Authority and neighboring boroughs to target the Township's higher-density and more readily-accessible areas for its most intensive recycling efforts. The Authority's recycling coordinator is available to assist the Township in developing a workable recycling program. Act 101 also provides for grants to municipalities for this purpose. The Township has adopted and implemented a spring clean-up program as a proactive measure to prevent dumping in the Township. ***The Township will explore the adoption and implemention of a recycling program as a means of reducing waste volume and dependence on landfills for waste disposal.***

POLICY IMPLICATIONS

1. ***Areas planned for future sewer service will be coordinated with the Future Land Use Map. Every effort will be made to locate new high density growth areas adjacent to existing areas with public sewer service.***

2. ***Areas planned for future water service will be coordinated with the Future Land Use Map. Every effort will be made to locate new high density growth areas adjacent to existing areas with public water service.***

3. ***Without additional public water service to the northern half of the Township, planned future development will be limited to low density uses.***

IMPLEMENTATION TASKS

1. ***The Township will carefully consider the Act 537 Plan recommendation for implementation of an OLDS management program, and the potential for long-term savings and groundwater quality protection it would thereby incur.***

2. ***To the extent possible, areas planned to be provided with public sewer should be concurrently provided with public water.***

3. *The Township and public water providers should consider instituting a water conservation program, including grey-water recycling and requiring or promoting water-saving plumbing, such as low-flow toilets and shower heads in new and potentially existing developments.*

4. *Potential land developers and residents living near ROWs should use the PA One Call System at (800) 242-1776 to contact representatives of the various utility companies with regard to any proposed projects.*

5. *The Township will also explore the adoption and implemention of a recycling program as a means of reducing waste volume and dependence on landfills for waste disposal.*

Source: 1996 Hellam Township Comprehensive Plan with updates

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XI. TRANSPORTATION SYSTEM

TRANSPORTATION-RELATED GOALS

- Coordinate future land use scenarios with the Township's roadway functions in order to maximize efficient use of the Township's existing roadway network, reduce congestion and enhance safety.
- Protect the Township's rural character, prime beauty and historical features in planning for roadway maintenance and construction.

A. INTRODUCTION

The Township's highway network serves the general public in a multitude of ways and directly or indirectly affects all aspects of life, including work, school, recreation, social, and cultural activities and the delivery of goods and services. Yet, highways are largely taken for granted until the network shows signs of failure.

Transportation facilities are a basic requirement for community growth and development. The benefits of a properly functioning highway network are immense. Improved personal mobility provides greater opportunity for community involvement. Accessibility and improved travel time provide efficiency in police, fire and medical services and are essential to provide an environment which can support the economic structure of Hellam Township.

Reducing congestion could lead to improved air quality and a reduction of energy waste, while improved mobility is necessary to maintain social and economic activities at existing levels. Adequate mobility is an ever-increasing necessity in our society; travel must be made as safe and efficient as possible.

This chapter draws on several sources of data, including the Pennsylvania Department of Transportation (PennDOT), the Township's 1996 *Comprehensive Plan*, York County's 1992 *Comprehensive Plan*, the 1990 Grove Miller *Comprehensive Traffic Study* completed for the Township, and the Township's Roadmaster.

Before any reasonable attempt can be made to improve the transportation system in a community, facts must be obtained to define the precise location and extent of the problems. These facts are obtained through proper analysis of relevant traffic surveys and studies. Traffic problems that are approached with facts can be rationally solved and support for these solutions can be developed among the various public interests.

This chapter analyzes Hellam Township's transportation network, addressing on a Township-wide basis, roadway functional classifications, roadway design standards, current road conditions, traffic volume data, accident data, regional traffic impacts, and alternative modes of transport. The data and analysis are oriented primarily to the Township's roads, as these are the roads over which the Township has the greatest control. Limited information on State-maintained roads and private lanes is presented where such information provides greater insight into, or understanding of, Township roads. While a number of deficiencies relating to State-maintained roads exist, those not impacting Township roads are not discussed in this chapter.

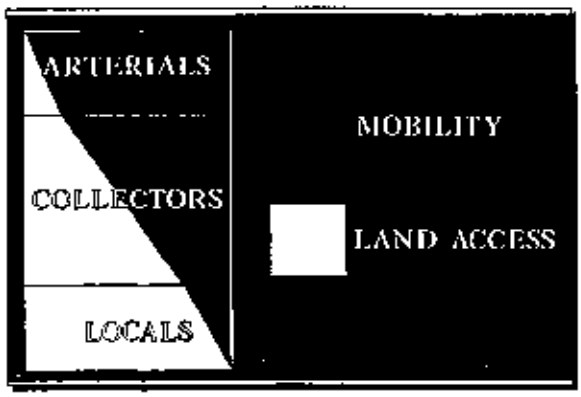
Also presented are an assessment of the potential for future traffic growth, and recommendations for roadway improvements and other actions to provide improved operating conditions. All of this information and data is then applied to the future land use scheme to plan for future transportation needs and implementation strategies.

B. JURISDICTION OF ROADWAYS

Many of the Township's roads evolved from old trails, boundary lines and limitations imposed by the terrain. There are 87.41 miles of public roadways in Hellam Township. Of these, 34.47 miles (43%) are maintained by the State, and 52.94 miles (57%) are maintained by the Township. Bridges along Township roads are maintained by the County, while those along State routes are maintained by the State. The State-maintained roads generally serve higher traffic volumes than the Township-maintained roads.

C. CLASSIFICATION OF ROADWAYS AND DESIGN STANDARDS

Roadways are classified according to their intended function within a network. Theoretically, roads provide for 2 separate functions. First, roads provide for mobility--the ability to go from one place to the next. Second, roads provide a measure of access to adjoining properties. Transportation experts use these 2 roadway characteristics to determine a road's functional classification. The diagram below depicts the relationship between roadway mobility and roadway land access for each of the 3 general road types: arterials, collectors and locals. As the diagram indicates, roads that provide for greater mobility permit reduced land access, and vice versa. This important relationship should always be considered when allocating future land uses along existing or planned roads.



RELATIONSHIP BETWEEN MOBILITY VS. LAND ACCESS IN ROADWAY FUNCTIONAL CLASSIFICATION

1. Functional Classifications

While municipal, County, regional, State, and national level classifications and definitions vary, the classes of roadways as referred to in this analysis are defined as follows:

Arterials
- Serve high volumes of traffic (5,000+ ADT)
- Provide high degree of mobility
- Serve long distance travel
- Link boroughs and villages
- Provide some control of access

Major Collectors
- Serve moderate levels of traffic (3,000-8,000 ADT)
- Provide a mix of access and mobility
- Collect traffic from local streets for distribution to arterials
- Link neighborhoods
- Serve some local-oriented traffic

Minor Collectors
- Serve lower amounts of traffic (1,000-3,000 ADT)
- Provide a mix of access and mobility with a priority on access
- Collect traffic from local streets for distribution to arterials
- Serve as major road through identifiable neighborhoods
- Serve mostly local-oriented traffic

Locals (including private lanes)
- Serve low amounts of traffic (less than 1,000 ADT)
- Provide high level of access to adjacent properties
- Serve as access point for individual parcels
- Provide short-distance travel
- Do not serve through trips

The definitions above were used as the basis for determining highway functional classifications of streets within the Township, as reflected on the Roadway Functional Classification Map (Exhibit N). The subjectiveness of these definitions is complicated by the distinction between urban and rural roads. For example, a minor collector in an urban area might carry double or triple the volumes of traffic as a major collector in a rural area, but both roads provide the same basic functions.

2. Design Standards

The following table describes the design specifications which are the accepted standards of the Pennsylvania Department of Transportation and the American Association of State Highway and Transportation Officials (AASHTO).

DESIGN STANDARDS
URBAN HIGHWAY SYSTEM

Functional Classification	Design Standards	Traffic Lanes x Width	Parking Lanes x Width	Shoulder Areas x Width*	Border Areas x Width	Median Width	Required Right-of-Way	Recommended Right-of-Way	Recommended Building Setback
Arterial	maximum	5 x 12	2 x 10	2 x 10	2 x 14	16	124	80	40
	minimum	2 x 12	2 x 10	2 x 10	2 x 4	—	50		
Collector	maximum	2 x 12	2 x 10	2 x 10	2 x 12	—	68	60	30
	minimum	2 x 10	2 x 8	2 x 10	2 x 2	—	40		
Local	maximum	2 x 12	2 x 10	2 x 10	2 x 12	—	68	50	25
	minimum	2 x 10	2 x 8	2 x 8	2 x 2	—	40		

All dimensions are in feet.
*Where parking lanes are not required, shoulder areas must be provided.

All arterials, as well as both major and minor collectors within the Township, are State-maintained roads. Most local roads are Township roads, while a few are State-maintained.

D. ROAD CONDITIONS

1. Road Design

A number of the Township's local roads do not meet the foregoing recommended minimum design standards. Those that carry less traffic and/or slower-moving traffic may still be considered to function adequately despite not meeting these standards. As will be noted in the Traffic Safety section of this chapter, some areas of the Township are prone to accidents because of a combination of underdesigned roads and the location of objects very close to the road cartway edge.

2. Road Signage

The intersection of Kreutz Creek Road and PA 462 was signalized in 1990, and the intersection of Cool Creek Road and PA 462, just inside the Wrightsville Borough boundary, is also signalized. Due to low traffic counts, no other intersections within the Township have been approved by PennDOT for signalization. However, speed limit signs and other signing improvements, including warning signs, are needed throughout the Township.

3. Cartway Condition

A common occurrence which contributes to poor roadway conditions is the tendency of both the State and Township roads to deteriorate at the cartway edges. This condition results from vehicles running off the cartway to avoid other vehicles because of narrow road conditions. Another cause of this is inadequate provision for surface drainage, especially in areas of steep grades and heavy runoff. Improper

drainage has caused erosion and rutting on several roads. This is a particular problem where fixed objects are located close to the cartway edge.

4. Bridge Condition

Hellam Township's Bair's Mill Road Bridge over the Kreutz Creek (York County Bridge no. 66) is considered to be deficient because of its age and deteriorated condition, and is planned to be replaced in 2002. The Valley Acres Road Bridge (York County Bridge no. 69) will also be replaced by 2003 because of its narrow width and weight limitation.

5. Private Lanes

There are many private lanes within the Township, particularly in the Hellam Hills area to the north. Such lanes can be problematic when they align awkwardly at their intersections with Township roads or where their unpaved surfaces intersect with Township roads. Unpaved private lanes contribute to serious drainage problems on Township roads when rain, mud and stones are washed onto these surfaces. Paved aprons on private lanes where they adjoin Township roads would considerably reduce such drainage problems. All private lanes are dead-ended. The Township's Subdivision and Land Development Ordinance currently requires that all subdivisions of 5 lots or more include roads built to the Township's specifications and offered for dedication.

E. TRAFFIC VOLUMES

Traffic volumes and patterns vary for different types of needs and activities in various areas of the Township. Urbanized areas generally have a high number of shorter local trips. On the other hand, rural areas experience a fewer number of trips which tend to be longer in length. Traffic volume data is collected in order to define existing traffic conditions, and to predict future conditions so that traffic needs and improvements can be anticipated and planned. The 2 types of data most often collected are average daily trips (ADT) and peak hour turning movement intersection counts.

The ADT is defined as the total number of vehicles passing a given point in a 24-hour period, including vehicles traveling in both directions. The ADT is collected along roadway segments. ADTs vary according to the day of the week and the month of the year. Typically, traffic volumes are highest on Fridays, with the highest monthly volumes occurring in July.

1993 ADT data from York County and 1995 ADT data from Township road counts were obtained for the Township's major roads. These ADTs are identified on the Roadway Functional Classification Map (Exhibit N), with 1993 ADT data updated to 1995. Other ADT data from 1988 and 1989 from the Grove Miller Study were obtained for the remaining lower-traffic-volume roads, and updated to 1995. The

updating of ADTs was based on a projected 1.5% annual growth rate in traffic volume, consistent with the projected population growth rate for the Township between 1990 and 2010. ***It is recommended that Hellam Township prepare an updated Comprehensive Traffic Study based on current conditions in the Township.***

Existing traffic volume can be compared to that for 25 years ago. The most notable increase in traffic volume has occurred along U.S. Route 30, which more than doubled its traffic flow between 1973 and 1993, from between 13,600–16,500 ADTs to 31,553–37,924 ADTs. A number of other roads in the Township have experienced significant increases in traffic volume, particularly Cool Creek Road, Mount Pisgah Road, PA 462 west of Hallam Borough, and Frysville Road.

1. PROJECTED TRAFFIC VOLUMES

The table below lists the roadways on which data was collected, along with their respective ADTs, as described above, and ranked by ADT in descending order. For the most part, arterials are followed by major collectors, then minor collectors, and, lastly, local roads. Again, a projected 1.5% annual growth rate for traffic volume to the year year 2010 is anticipated. This rate was applied to completed 1995 ADTs and available 1997 and 2000 ADTs in estimating future traffic volumes in the table which follows:

ROADWAYS AND AVERAGE DAILY TRAFFIC VOLUMES RANKED BY ADT EXISTING VOLUMES AND ANTICIPATED 2010 VOLUMES

No.	Roadway	1995 ADTs	Anticipated 2010 ADTs
1	U.S. Route 30	32,500-39,062*	39,813-47,851
2	Lincoln Highway - Route 462	14,067 (2000)	16,177
3	Cool Creek Road	7,119*	8,721
4	Cool Springs Road (south of U.S. 30)	5,806*	7,112
5	Kreutz Creek Road	1,679-3,772*	2,057-4,621
6	Mount Pisgah Road	2,409*	2,951
7	Old Orchard Road	1,721*	2,108
8	Druck Valley Road	1,679*	2,057
9	Frysville Road (north of Old Orchard Rd.)	1,613*	1,976
10	Yorkana Road	1,559*	1,910
11	South River Drive	460-1,189**	564-1,457
12	Dark Hollow Road	207-1,129**	254-1,383
13	Hauser School Road	1,024*	1,254
14	Run Way Road	1,022**	1,252
15	Campbell Road	1,483 (2000)	1,705
16	South 6th Street	815**	998
17	Shoe House Road	267 (1997)	319
18	Ducktown Road	683*	837

ROADWAYS AND AVERAGE DAILY TRAFFIC VOLUMES RANKED BY ADT EXISTING VOLUMES AND ANTICIPATED 2010 VOLUMES			
No.	Roadway	1995 ADTs	Anticipated 2010 ADTs
19	Accomac Road	597*	731
20	8th Street	561**	687
21	North River Drive	142-508**	174-622
22	Strickler School Road	473	544
23	Tower Road	467	537
24	Tracy School Road	330-450**	404-551
25	Range Road	177-441**	217-540
26	Picking Road	256-434**	314-532
27	Burg's Lane	432**	529
28	Ore Bank Road	389	447
29	Codorus Furnace Road	347*	425
30	Hom Road	198-348**	243-426
31	Owl Valley Road	305**	374
32	Fahringer Drive	286**	350
33	Pleasant Valley Road	277**	339
34	Pheasant Run Road/Beidler Road	276**	338
35	Emig Road	269**	330
36	Millstone Road	267**	327
37	Stricklers Lane	226	260
38	Trout Run Road	225**	276
39	Bair's Mill Road	163	187
40	Keeney Lane	145**	178
41	Spring Road	94**	115
42	Chimney Rock Road	72**	88

*Updated from 1993 data to 1995.
**Updated from 1988-89 data to 1995.

It should be understood that the above projections assume an even, low level of development across the Township over the next 15 years. In fact, growth is much more likely to occur in some places than in others. In particular, concentrated development patterns in certain areas close to existing development could drastically alter anticipated year 2010 ADTs for some roads. For this reason, it is critical that proposed new development include up-to-date traffic counts.

2. Projected Traffic Volumes at Intersections

A.M. and P.M. weekday peak hour traffic volumes and turning movements were recorded at key intersections in the Township in the Grove Miller Study. The inter-

sections and the peak hour total entering volumes are listed in the following table. The existing peak hour traffic volumes at the 9 intersections were then projected to the year 2000 based on anticipated new development in the area plus the use of a 1% annual growth rate for background traffic. Since the completion of the study, about half the previously planned development is no longer anticipated, the Township's planning time-line has been moved up to the year 2010, and projected population growth for the Township is anticipated to be 1.5% annually. While the study's findings with regard to planning time-line and projected percent growth in traffic volume could be updated, re-computing the proportion and destination of traffic to be generated by planned development is not possible based on the information provided in the study. For this reason, the data is presented as it is in the study. However, it should be noted that projections in the vicinity of PA 462 and Ducktown Road, in particular, are likely to be higher than in fact will be the case. Specifically, a 450-unit planned residential development and shopping center and a 497-unit planned residential complex are no longer projected to be built.

TOTAL ENTERING VOLUMES FOR EXISTING AND ANTICIPATED CONDITIONS FOR 9 INTERSECTIONS

Intersection	1987-89 Volumes		Anticipated 2000 Volumes	
	A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour
Lincoln Highway and Kreutz Creek Road/Frysville Road	1,059	1,463	1,290	1,778
Lincoln Highway and Campbell Road	666	921	813	1,110
Kreutz Creek Road and U.S. Route 30 Eastbound Ramps	587	744	713	891
Cool Springs Road and U.S. Route 30 Eastbound Ramps	717	729	864	876
Lincoln Highway and Accomac Road	425	725	509	872
Lincoln Highway and Ducktown Road/Walnut Spring Lane	430	608	1,720	734
Lincoln Highway and Burg's Lane	356	545	440	650
Cool Springs Road and U.S. Route 30 Westbound Ramps	454	504	559	609
Kreutz Creek Road and U.S. Route 30 Westbound Ramps	438	463	522	568

Source: *Comprehensive Traffic Study. 1990*, Grove Miller Engineering.

3. CAPACITY ANALYSES FOR INTERSECTIONS

Capacity analyses evaluate the levels of service (LOS) for traffic movements. LOS is a measure of road function; it indicates the overall capability of a road to handle traffic, considering roadway design, access points and traffic load. The levels of service range from "A" to "F," with LOS "A" providing little or no delay, and LOS "F" exceeding the practical limitations of roadway capacity. Capacity analyses were conducted for the foregoing intersections for existing traffic volumes. LOS figures could not be updated for the same reason that projected traffic volume at intersections could not be updated. In addition, LOS figures are based on a complex formula involving multiple inputs, not all of which were provided in the Grove Miller Study, and, hence, which are unknown. The Grove Miller analyses are summarized in the following table:

CAPACITY ANALYSES SUMMARY, EXISTING 1990 AND ANTICIPATED 2000 PEAK HOUR TRAFFIC VOLUMES, LEVEL OF SERVICE FOR WORST MOVEMENT

Intersection	1987-89 Volumes		Anticipated 2000 LOS	
	A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour
Lincoln Highway and Kreutz Creek Road/Frysville Road	D	F	B*	B*
Lincoln Highway and Campbell Road	B	C	C	D
Kreutz Creek Road and U.S. Route 30 Eastbound Ramps	B	C	C	D
Cool Springs Road and U.S. Route 30 Eastbound Ramps	B	C	C	C
Lincoln Highway and Accomac Road	A	B	B	C
Lincoln Highway and Ducktown Road/Walnut Spring Lane	A	B	B	B
Lincoln Highway and Burg's Lane	A	A	A	B
Cool Springs Road and U.S. Route 30 Westbound Ramps	B	B	B	B
Kreutz Creek Road and U.S. Route 30 Westbound Ramps	B	B	B	B

* = signalized capacity analysis as of 1990

Source: *Comprehensive Traffic Study, 1990*, Grove Miller Engineering.

These analyses indicate that movements at 2 locations will likely experience moderate delays at LOS "D" during peak hours. However, traffic volume at all other times at these locations is relatively low. In addition, it should be remembered that anticipated LOS figures in the vicinity of PA 462 and Ducktown Road are likely to be rated poorer than in fact will be the case.

F. TRAFFIC SAFETY

Along with congestion reduction, traffic safety is also an important consideration in the programming of roadway improvements. High accident rates can result from various factors, such as inadequate road designs standards, an improper relationship between adjoining land use and roadway classification, and driver negligence.

Accident records for all accidents which occurred during the years 1995 through 2001 were obtained from the Hellam Township chief of police for analyses. A total of 717 accidents were reported for the 1995-2001 study period, averaging 143 accidents annually. The accident reports used in the 1996 Hellam Township Comprehensive Plan were reportable accidents obtained from PennDOT. A reportable accident is one in which an injury or fatality occurs, or at least 1 of the vehicles requires towing from the scene. Since the accidents in this plan were obtained from a different source, the two sets of accident numbers should not be compared. Although 717 accidents from 1995-2001 is a large increase from 281 accidents from 1990-94, the 717 includes all accidents, while the 281 only includes reportable accidents. The location of some of the accidents discussed below have been plotted on the Roadway Jurisdiction and Traffic Accidents Map (Exhibit O).

Accidents include those along both State and Township roads, although the Township is able to program safety improvements only along Township roads.

Aside from the obvious contributing factors to traffic accidents in the Township (such as drunk driving, drowsiness, driver distraction, poor weather conditions, speeding, mechanical failure, objects in the roadway, and careless motorist behavior), other factors (such as road design, limited or obstructed sight distance, and developed land uses with multiple access points along roads) also contribute to the occurrence of accidents.

It is these other factors that can be rectified and/or prevented by applying land use design regulations to minimize their negative impacts. Accidents involving fixed objects accounted for 52% of all accidents in the Township. Drinking was a factor in 7% of the accidents and trucks were involved in 12% of all accidents in the Township.

1. Mid-Block Accidents

Specific mid-block accident locations are ranked by frequency for the Township in the following tables. These are accidents that occurred along a road between 2 roads. Only the most frequently occurring (3 or more) accident sites are noted.

MID-BLOCK ACCIDENTS (1995--2001)

Rank	Travel Route	Between	Total No. of Accidents
1	U.S. Route 30	Hellam & Wrightsville Borough exits	104
2	U.S. Route 30	Hallam Borough exit & Township Line	78
3	PA Route 462	Hallam & Wrightsville Borough exits	68
4	U.S. Route 30	Wrightsville Borough exit & Township Line	7
5	PA Route 462	Old Church Lane & Commerce Way	3

The corridor with the highest number of traffic accidents by far is U.S. Route 30, with a total of 189 reported mid-block accidents and 127 intersection accidents. Fully 26% of all traffic accidents in the Township during the study period occurred on U.S. Route 30. Many of the accidents along this corridor involved trucks, or vehicles striking deer. Other high-accident, mid-block locations in the Township include PA Route 462 between Old Church Lane and Commerce Way. There are numerous access points along this stretch; accidents here may be related to the conflicting road functions of access and mobility of this route

2. Intersection Accidents

Accidents that occurred at intersections of 2 or more roads are identified and ranked in the following table. Only the most frequently occurring (10 or more) accident sites are noted:

INTERSECTION ACCIDENTS (1995–2001)		
Rank	Intersection	Total No. of Accidents
1	U.S. Route 30 & Cool Springs Road	68
2	U.S. Route 30 & Kreutz Creek Road	59
3	PA Route 462 & Kreutz Creek Road	31
4	PA Route 462 & Accomac Road	22
5	PA Route 462 & Ducktown Road	20

The intersection with the highest number of accidents for the study period is U.S. Routw 30 at Cool Springs Road.

3. FATAL ACCIDENT SITES

The following describes those fatal accidents recorded within the Township between 1995 and 2001:

TRAFFIC FATALITIES (1995–2001)				
Accident #	Roadway	Location	Type of Accident	Contributing Factors
1	Cool Creek Rd.	at Mount Pisgah Rd.	2 vehicle broadside	Operator error
2	Kreutz Creek Rd.	at Spring Rd.	1 vehicle rollover	Farm tractor
3	U.S. Route 30	Wrightsville exit ramp (westbound)	1 vehicle rollover	Speed in excess of 100 MPH
4	U.S. Route 30	Hellam entrance ramp (eastbound)	1 vehicle rollover	Excessive speed
5	U.S. Route 30	Kreutz Creek overpass (westbound)	vehicle vs. pedestrian	Operator error
6	Accomac Road	300 ft. west of Dark Hollow Rd.	2 vehicle head-on	Too close to center line, alcohol
7	Ducktown Rd.	100 ft. south of Picking Rd.	1 vehicle rollover	Sharp curve, excessive speed, alcohol
8	Furnace Rd.	1 mile north of Tower Rd.	1 vehicle rollover	Excessive speed, alcohol, entrapment, fire
9	PA Route 462	300 ft. east of Burg's Lane	2 vehicle head-on	Dense fog
10	Cool Springs Rd.	2/10 of a mile south of US Route 30	1 vehicle rollover	Excessive speed, alcohol

These traffic fatalities appear to be primarily driver-related and not reflective of any particular road deficiencies.

G. REGIONAL TRAFFIC IMPACTS

Hellam Township is linked to the York urban area, as well as to the Harrisburg and Lancaster urban areas, and places beyond, by its arterial roadways and some of its major and minor collectors. As the Township's major arterial, U.S. Route 30 effectively connects Hellam Township with points east and west, providing access as well to north-south Route I-83 to Harrisburg and Baltimore. This limited access highway carries a high volume of through traffic, as well as local traffic leaving or entering the Township, at 2 interchanges at Hallam and Wrightsville Boroughs.

PA 462 provides the primary local means of east-west transport to adjacent Springettsbury Township and Wrightsville and Columbia Boroughs. Cool Creek Road is a major collector which provides access to neighboring Lower Windsor Township. Minor collectors providing additional links with adjacent townships to the east and south include Druck Valley Road, Old Orchard Road, Yorkana Road, and Mount Pisgah Road. Mount Pisgah and Cool Creek Roads, together with Cool Springs Road south of U.S. Route 30, comprise a well-traveled route utilized by waste-hauling trucks from New Jersey and New York enroute via U.S. Route 30 to the County's solid waste landfill in Windsor Township. All of these routes will continue to experience growing traffic volume due to their importance as links between the Township and other nearby municipalities and urban areas.

The 2001 *York County Comprehensive Plan* Transportation chapter maps, on Map 7, York County Major Road System, what it considers to be the County's major road system, and provides goals and objectives intended to preserve the system as part of a "Long-Range Highway Plan." The county map identifies the following roadways in Hellam Township as being part of this Plan:

- U.S. Route 30
- PA Route 462
- Druck Valley Road to Tower Road to Codorus Furnace Road to Hauser School Road to Dark Hollow Road to Cool Springs Road (SR 1016 and 1014)
- Cool Creek Road (SR 2011)
- Codorus Furnace Road (SR 1008)
- Kreutz Creek Road to Frysville Road (SR 2001)
- PA Route 624

Most of the above roadways are designated in this chapter as either arterials, major collectors or minor collectors. They are thus recognized as significant components of the County's major road system. Tower Road and Codorus Furnace Road, however, are recognized by the Township only as local roads.

H. ALTERNATIVE MODES OF TRANSPORTATION

1. PEDESTRIAN TRANSIT

Walking is an important means of transportation that is often overlooked in land use and transportation planning. Sidewalks in residential, commercial and industrial areas can provide access between residences and nearby neighborhoods, shopping, employment, schools, playgrounds, etc. Road shoulders in rural areas can enable pedestrians to walk safely to nearby villages and other uses. The lack of pedestrian facilities makes residents dependent on the automobile for even short trips that might otherwise be made on foot. Currently, there are no pedestrian walkways in Hellam Township, although there are a few road shoulders that might facilitate walking. Recommendations regarding pedestrian transit are made in a following discussion.

2. Bicycle Transit

Bicycling is another means of transport that has the potential for greater application in Hellam Township. Biking can be for recreational and/or commuting purposes. Like pedestrian traffic, bicyclists need safe and convenient routes to be encouraged in this practice. The provision of road shoulders or bike paths, lanes or routes along specific roads could encourage increased bike use. Such routes could be along scenic roads. The York County Planning Commission is now in the process of updating its Bicycle Plan and encourages all municipalities to identify potential bicycle routes for inclusion in that Plan. Funding for the development of selected bicycle routes may be available from the county in the future. Hellam Township may also be interested in promoting shorter-length bicycle routes in areas planned for future development, as part of integrated neighborhood and community development schemes.

3. Carpooling

York County operates a Park-and-Ride Program for the use of carpoolers and transit riders. While Hellam Township does not yet participate in the program, vehicles can be seen parked on the shoulders of Cool Creek Road and Kreutz Creek Road near the U.S. Route 30 interchange ramps. The York County Planning Commission recommends that such commuter parking lots be formalized through its program to enhance commuter convenience and safety along these roadways.

4. Public and Paratransit

The York County Transportation Authority (YCTA) provides bus service to areas of York County. Bus service is provided in Hellam Township on a route from York City along PA Route 462 to Columbia Borough in Lancaster County, with stops at Kreutz Creek Road and Wilson Lane. This route is served Monday through Friday at one-hour intervals between the hours of 6:00 a.m. and 5:40 p.m. The YCTA also provides public transportation service for all County residents who are either over 60 years of age or who have disabilities. Individuals who are registered with the program may make reservations for curb-to-curb service.

I. RECOMMENDATIONS

Based upon the goals articulated in the Community Planning Vision and Goals chapter of this Comprehensive Plan, the Township's main objective in planning for its transportation system is to facilitate the safe and efficient movement of traffic by coordinating future land use scenarios with the Township's roadway functions. In addition, it is believed that protection of Hellam Township's rural character, scenic beauty and historical features is a foremost consideration in planning for roadway maintenance and construction. ***It is the intent of the Township to balance the need for safe and convenient transportation with the need to preserve the Township's land and quality of life. The most effective way to achieve this balance is to emphasize transportation needs, primarily in the developed and planned future***

growth areas of the Township, while stressing the desire for preservation of rural character in the more undeveloped parts of the Township.

1. Road Design Standards

The root of many traffic-related problems is the inability of roads to handle multiple functions — mobility and access — resulting in traffic congestion and roadway safety hazards. To reduce the root of these problems and encourage motorists to seek the safest and most appropriate routes, roads should be designed according to their intended purposes. ***In general, it is recommended that existing roadways be improved to the applicable design standards described earlier in this chapter.*** The implementation of such design standards for the various functional classifications is meant to maximize traffic flow and minimize safety hazards. To assure adequate future traffic-carrying capacities along major roads, ***it is recommended that zoning ordinance provisions require sufficient front yard setbacks for future development to allow for recommended right-of-way widths.***

The Township shall direct its efforts to improving those routes which are most obviously deficient, have high accident rates, carry high traffic volume, or are in areas planned for development. Though technically deficient, routes passing through agricultural or wooded areas, or bearing low volumes of traffic and otherwise presenting no problems, need not be priorities for improvements.

The future pattern of development in the Township and the concentration of community and commercial activities along the Route 30 and Route 462 corridor means that good routes are needed to allow residents to easily reach these areas from their homes and to get from one side of the designated growth area to the other. Ideally, to follow the existing east-west traffic pattern in the Township, such routes may require construction of new roads on new rights-of way. ***A collector road running parallel to the proposed Mixed Use 1 zone between Route 30 and Route 462 from Accomac Road to Cool Springs Road would allow easy front and rear access to the properties in this area. This would be expected to reduce the amount of traffic on Route 462 due to access from the proposed road and reduce the number of access points onto Route 462. Also, existing property owners along Route 462 would have the option of accessing their property from the rear. It is recommended that Hellam Township adopt an Official Map to identify the desired location of future streets and needed intersections in the Township. A detailed Traffic Impact Study should accompany this map.*** The proposed collector road is shown on Exhibit N.

Township participation is possible in PennDOT's Turnback Program to acquire certain State roads. Under this program, PennDOT will bring a road up to current specifications and then dedicate it or "turn it over" to the participating municipality. Annual maintenance fees up to $2,500/mile are provided by PennDOT. In most instances, the municipality gets a new roadway and funding for maintenance. This is one way of restoring and improving aging and deficient roadways in the Township. ***It is recommended that Hellam Township consider the possible benefits of participating in PennDOT's Turnback Program. In evaluating potential State***

roads suitable for "turnback," the Township should seek roads in need of improvement, which will thereafter be low-maintenance. In so doing, the Township might actually incur cost savings which could be used elsewhere.

Specifications for private lanes shall be included in the Zoning and/or Subdivision Ordinances. In the event the Township permits new private lanes, suitable design standards shall be enforced. It is further recommended that the Township institute a campaign of existing private lane and driveway improvements to promote paved aprons, graveled cartways, proper drainage, and reconstructed cul-de-sacs.

A Traffic Impact Study (TIS) is currently required by the Township's Subdivision Ordinance for any proposed development. This TIS is completed by the Township, but paid for by the developer. It defines existing road conditions and identifies future transportation needs that will result from the development. ***It is recommended that the TIS requirement be revised to mandate on-site road improvements identified as being needed as a result of proposed development. The costs of these improvements would be the responsibility of the developer.*** Up-to-date traffic counts would be part of the TIS requirement.

2. Access Management

A second method of reducing traffic congestion and safety hazards is to minimize the number of points of access onto the Township's arterial and major collector roadways. As described earlier, roads can either provide for greater mobility or greater access, but not both. It is apparent from the number of vehicles traveling on PA 462 west of Hallam Borough that this road is being used for mobility between nearby communities and neighborhoods. Equally apparent is the large number of driveway connections and intersections occurring along this road. The combination of these 2 conflicting road functions can produce serious congestion and safety problems. In other locations of the Township, numerous private roads intersect with major and minor collectors, often aligning awkwardly with the public road and other intersections. ***By limiting the number of driveway, access drive and private road connections through zoning and subdivision requirements, local officials can decrease the potential for congestion and accidents associated with these roads. Requirements that impose setbacks between driveways, incentives for utilizing shared driveways, access drives, parking and loading areas, and required access to the street of lesser classification can also be helpful. Along already-developed portions of PA 462, existing multiple access points can be minimized by the use of curbing.*** Then, traffic control improvements and signage can be installed to adequately and safely manage increased traffic flow.

3. Land Use Planning

Another method of reducing conflicting traffic movements involves the future allocation of land uses along the various road types. ***More intensive commercial, industrial or residential developments are obvious land uses that benefit from the improved mobility offered by arterial and major collector roadways. However these more intensive uses must be designed in a manner that minimizes driveway cuts.***

Stripped-out land uses of any type create multiple access points and worsen road congestion. ***Lower volume minor collector roads and local roads, designed to provide local access to adjoining properties, provide ideal locations for low density residential use.***

To further reduce congestion, it is recommended that future land uses be integrated as much as possible so as to reduce vehicle trip lengths and encourage the use of alternative modes of transport. This means, among other techniques, locating local shopping, public uses, recreation areas, etc. within walking distance of residents, wherever possible. Hellam Township is interested specifically in promoting village-style, self-contained neighborhoods and communities, with a network of pedestrian, bicycle and vehicular linkages. Another method of reducing traffic congestion is requiring interconnected streets. This provides many options for travel for people and reduces the distances they must drive to reach their destinations.

4. SAFETY IMPROVEMENTS

A number of improvements to the Township's existing road system should be made to increase safety. Based on the Grove Miller study, a windshield survey of local roads, PennDOT data, and consultation with Township officials, these include the following:

a. ***Provide vertical realignment of the intersection of Druck Valley Road, Kreutz Creek Road, and Spring Road to improve sight distance;***

b. ***Provide some combination of the following at all intersections where the major flow of traffic is intended to turn right without stopping:***

1) stop signs, noted to except right turns,
2) realigned T-intersections with 1 stop sign, and/or
3) realigned 4-way intersections with 2 or 4 stop signs;

c. ***Provide signage for all road bends in the Township;***

d. ***Provide horizontal alignment and elimination of the island at the intersection of Dark Hollow Road, Grand Drive and Cool Springs Road;***

e. ***Promote the improvement of Bair's Mill Road Bridge, Valley Acres Road Bridge and Libhart Mill Bridge consistent with their historical status;***

f. ***Provide horizontal alignment to the intersection of Ore Bank Road and Kreutz Creek Road to improve sight distance at such time as Ore Bank Road may be paved; and,***

g. ***Provide posted speed limits along all roads in the Township.***

5. Scenic and Rural Areas Protection

Roadways should blend with the landscape, not change it. Additionally, since agriculture is a major industry in the Township, vehicles needed to support that industry are welcomed and encouraged on the community's roadways.

It is recommended that unimproved roads remain unimproved unless a change is required by significant development or unreasonable maintenance costs.

It is recommended that roadways be kept to the minimum safe width in order to reduce their impact on the land.

For the bridges under the jurisdiction of the County (Bair's Mill, Valley Acres and Libhart Mill), improvements should be in keeping with the picturesque and historical nature of the Township. To this end, it is recommended that the Township submit a listing of the bridges it considers to have historical value to the York County Planning Commission and the York County engineer in charge of bridge inspections, and request involvement in any decision regarding the major repair or proposed replacement of the bridges.

6. Alternative Modes of Transport

It is recommended that Township residents be provided with greater pedestrian and bicycle access, particularly in developed and developing areas. Such walkways and paths should seek to link existing and future residential, commercial, industrial, and recreation areas. This can be accomplished through Zoning and Subdivision Ordinance provisions requiring or encouraging pedestrian walkways and bike paths, or the Township could initiate such improvements in already built areas, utilizing assessments together with new Federal funding. The density of development would determine the need for sidewalks. ***It is recommended that Hellam Township work with York County to establish formal Park-and-Ride lots at the 2 interchange ramps for the use of area commuters.***

POLICY IMPLICATIONS

1. ***More intensive commercial, industrial or residential developments are obvious land uses that benefit from the improved mobility offered by arterial and major collector roadways. However these more intensive uses must be designed in a manner that minimizes driveway cuts. Lower volume minor collector roads and local roads, designed to provide local access to adjoining properties, provide ideal locations for low density residential use.***

2. ***To further reduce congestion, it is recommended that future land uses be integrated as much as possible so as to reduce vehicle trip lengths and encourage the use of alternative modes of transport.***

3. *It is the intent of the Township to balance the need for safe and convenient transportation with the need to preserve the Township's land and quality of life. The most effective way to achieve this balance is to emphasize transportation needs, primarily in the developed and planned future growth areas of the Township, while stressing the desire for preservation of rural character in the more undeveloped parts of the Township.*

IMPLEMENTATION TASKS

1. *In general, it is recommended that existing roadways be improved to the applicable design standards described earlier in this chapter.*

2. *It is recommended that zoning ordinance provisions require sufficient front yard setbacks for future development to allow for recommended right-of-way widths.*

3. *The Township shall direct its efforts to improving those routes which are most obviously deficient, have high accident rates, carry high traffic volume, or are in areas planned for development.*

4. *It is recommended that Hellam Township consider the possible benefits of participating in PennDOT's Turnback Program. In evaluating potential State roads suitable for "turnback," the Township should seek roads in need of improvement, which will thereafter be low-maintenance.*

5. *Specifications for private lanes shall be included in the Zoning and/or Subdivision Ordinances. In the event the Township permits new private lanes, suitable design standards shall be enforced. It is further recommended that the Township institute a campaign of existing private lane and driveway improvements to promote paved aprons, graveled cartways, proper drainage, and reconstructed cul-de-sacs.*

6. *It is recommended that the Traffic Impact Study requirement be revised to mandate on-site road improvements identified as being needed as a result of proposed development. The costs of these improvements would be the responsibility of the developer.*

7. *The Township may wish to research impact fees to determine their viability in assisting with the necessary improvement of roads due to development.*

8. *By limiting the number of driveway, access drive and private road connections through zoning and subdivision requirements, local officials can decrease the potential for congestion and accidents associated with these roads. Requirements that impose setbacks between driveways, incentives for utilizing shared driveways, access drives, parking and loading areas, and required access to the street of lesser classification can also be helpful.*

9. *Explore opportunities to improve and install curbing along already developed portions of PA 462, including the northwestern corner of the intersection of PA 462 and Kreutz Creek Road.*

10. *A number of improvements to the Township's existing road system should be made to increase safety. Based on the Grove Miller study, a windshield survey of local roads, PennDOT data, and consultation with the Township's Roadmaster, these include the following:*

    a. *Provide vertical realignment of the intersection of Druck Valley Road, Kreutz Creek Road, and Spring Road to improve sight distance;*

    b. *Provide some combination of the following at all intersections where the major flow of traffic is intended to turn right without stopping:*

        1) stop signs noted to except right turns,
        2) realigned T-intersections with 1 stop sign, and/or
        3) realigned 4-way intersections with 2 or 4 stop signs;

    c. *Provide signage for all road bends in the Township;*

    d. *Provide horizontal alignment and elimination of the island at the intersection of Dark Hollow Road, Grand Drive and Cool Springs Road;*

    e. *Promote the improvement of Bair's Mill Road Bridge, Valley Acres Road Bridge and Libhart Mill Bridge consistent with their historical status;*

    f. *Provide horizontal alignment to the intersection of Ore Bank Road and Kreutz Creek Road to improve sight distance at such time as Ore Bank Road may be paved; and,*

    g. *Provide posted speed limits along all roads in the Township.*

11. *It is recommended that unimproved roads remain unimproved unless a change is required by significant development or unreasonable maintenance costs.*

12. *It is recommended that roadways be kept to the minimum safe width in order to reduce their impact on the land.*

13. *For the bridges under the jurisdiction of the County (Bair's Mill, Valley Acres and Libhart Mill), improvements should be in keeping with the picturesque and historical nature of the Township. To this end, it is recommended that the Township submit a listing of the bridges it considers to have historical value to the York County Planning Commission and the York County engineer in charge of bridge inspections, and request involvement in any decision regarding the major repair or proposed replacement of the bridge.*

14. *It is recommended that Township residents be provided with greater pedestrian and bicycle access, particularly in developed and developing areas. Such walkways and paths should seek to link existing and future residential, commercial, industrial, and recreation areas.*

15. *It is recommended that Hellam Township work with York County to establish formal Park-and-Ride lots at the 2 interchange ramps for the use of area commuters.*

16. *A collector road running parallel to the proposed Mixed Use 1 zone between Route 30 and Route 462 from Accomac Road to Cool Springs Road would allow easy front and rear access to the properties in this area. This would be expected to reduce the amount of traffic on Route 462 due to access from the proposed road and reduce the number of access points onto Route 462. Also, existing property owners along Route 462 would have the option of accessing their property from the rear. It is recommended that Hellam Township adopt an Official Map to identify the desired location of future streets and needed intersections in the Township. A detailed Traffic Impact Study should accompany this map.*

XII. FUTURE LAND USE PLAN

A. BASIS FOR FUTURE LAND USE PLAN

The Future Land Use Plan (Exhibit P) ties together all the elements that make up the Hellam Township Comprehensive Plan. It thus becomes the primary reference against which land use decisions, as well as decisions on major public expenditures, can be measured for the next nine years. The Land Use Plan is concerned with the proposed location, intensity, and amount of different uses. It strives to be in harmony with trends affecting economic development in the township and its environs, the county, and the region, while mirroring the values, needs, and expectations of the residents of Hellam Township.

The Land Use Plan is oriented toward planned development of Hellam Township through 2010, and reflects steady population growth, stable local employment levels, a balanced land-use mix, conservation of natural and cultural resources, efficient utilization of the existing local road network, and the expansion of central sewer and water systems. The Plan is based upon a 2010 township population of 6,700 persons, and an increase of about 313 housing units above the present inventory.

General Description

The Future Land Use Plan incorporates a growth area concept surrounded by a growth area boundary line to provide for the orderly extension of development. Growth is directed primarily toward the center of the Township along Route 462 and Route 30 and adjacent to Hallam and Wrightsville Boroughs. This area already has the greatest concentration and mix of land uses in the township and is highly accessible. The central part of the Township can most easily be served by extensions to existing public water and sewer lines and expansions of existing public water and sewer facilities over the planning period.

The intent is to direct high density growth to areas with community facilities, having a high level of accessibility, and with potential for public water and sewer systems, and to limit the amount, intensity, and character of any residential or other urbanizing uses outside of the designated growth area. The growth-area concept provides an efficient and economical way to allow new growth to occur while limiting urban uses spreading throughout the still-largely rural and agricultural portions of the Township. High density residential development, as well as new commercial, industrial, and institutional development, is intended to take place within the designated growth area. Areas outside the growth area are planned primarily for agricultural use, as well as natural and cultural resource protection, and low density housing, recreational and open space uses.

The Future Land Use Plan acknowledges the majority of existing land uses and it reflects the commercial development along PA Route 462 midway between Wrightsville and Hallam Boroughs. This creates a "future vision" of the Township toward which local regulatory efforts can strive.

B. LAND USE OBJECTIVES

The vision, goals and policies which are expressed in the foregoing chapters of the Plan and which are used to guide the preparation of the Future Land Use Map can be distilled in the following land use objectives:

1. Maintain the Township's traditional rural agricultural character by promoting high density development within proposed growth areas where public utilities and services can be efficiently provided.

2. Establish a growth boundary line to encompass proposed growth areas and to provide a balanced separation between urban and rural areas in Hellam Township.

3. Protect sensitive ecosystems that are vital to the health and economy of the Township, with particular emphasis on, steep slopes, groundwater recharge areas, streams, wetlands, and floodplains and other natural features.

4. Provide land use for the future growth and development of the Township. Protect both the quality and quantity of the groundwater on which most of the Township residents depend for their water supplies.

5. Provide for the future growth and development of Hellam Township, by providing areas for agricultural, residential, commercial, industrial, institutional, recreational, public and natural uses.

6. Protect productive farmlands to ensure the continued viability of the farming industry within the Township.

7. Within proposed growth areas, provide sufficient acreage for residential development potential based on population and dwelling unit projections so that high density residential growth within the Township projected by the year 2010 can be readily accommodated without the need for rezoning.

8. Establish mixed-use and village-type developments that accommodate public buildings (e.g., libraries, police offices, etc.), new community-based commercial uses (e.g., offices, convenience/food stores, services, entertainment, dining, etc.), and light industrial uses at appropriate locations to enhance convenience and to provide additional employment opportunities in the Township.

9. Develop in-fill residential growth areas around existing villages and other settlements before additional farmlands are rezoned for high density growth.

10. Stimulate start-up businesses, local job creation and tax revenues by promoting small-scale commercial and light industrial businesses as the preferred form of land use in the mixed-use, commercial and industrial zones.

11. Preserve and protect lands and/or settings in the Township endowed with historical and archaeological value.

12. Provide for the compatibility of future land uses with adjoining uses in neighboring municipalities.

C. PLAN DESIGNATIONS

The Future Land Use Map utilizes a number of Plan designations, each identifying a recommended land use category. These Plan designations are intended to specifically guide and provide a framework of support for the applicable zoning in the area. ***Generally speaking, each Plan designation is intended to be implemented by a specific corresponding zone in the applicable zoning ordinance, thereby providing consistency between planning and zoning.*** To determine the actual zoning of a property, the Township's Zoning Map should be consulted. Plan designations on the Future Land Use Map are applied utilizing property lines, roads and natural features, except where impractical.

The Plan designations utilized on the Future Land Use Map are as follows:

Rural Agriculture	Commercial/Industrial
Residential	Interchange
Village Overlay	Quarry
Mixed Use 1	Restricted Development Overlay
Mixed Use 2	Historic Overlay

The following describes each of the recommended Plan designations depicted on the Future Land Use Plan Map.

1. Rural Agriculture

Areas planned Rural Agriculture (RA) are those areas with large concentrations of prime farmlands and existing or historically-farmed lands, including a number of farms in Agricultural Security Areas. These areas are located primarily in the Kreutz Creek Valley area, but also north and south of U.S. Route 30.

The intent of the Rural Agriculture plan designation is to provide the opportunity to maintain the agricultural basis of the Township and the most productive lands for agricultural use, to discourage the excessive conversion of farmland to

nonagricultural use, and to protect the farmer's ability to farm free from adverse impacts due to the intrusion of nonfarm uses in agricultural areas. It is recommended that an effective Rural Agriculture Zone be used to implement the Rural Agriculture plan designation. Agricultural Preservation Zoning, which has been upheld by the Pennsylvania Supreme Court, should be used to reduce development on lands suitable for farming. While farming is the predominant land use within this zone, other limited uses can provide benefits to the farming community.

First, rural housing should be permitted in agricultural areas based on landownership size and effective agricultural zoning provisions. High density development should be strongly discouraged, as it would result not only in the conversion of agricultural land, but would introduce incompatible adjacent uses into agricultural areas that would conflict with normal farm operations.

The minimum lot size for nonfarm dwelling units for this zone will be 2 acres as recommended by the pending 2001 Hellam Township Act 537 Plan Update. ***Additionally, proposed nonfarm dwelling units should be (1) located to minimize loss of valuable farmland, (2) grouped with other adjoining residences, and (3) designed to minimize property lines shared by active farmland.***

Second, farm occupations can provide important income-earning opportunities for farm family members. Such uses should be permitted where they would be secondary to the primary farm use, and subject to zoning regulations, assuring their compatibility within a rural context. Farm-related businesses can provide convenient goods and services for local farmers and should be permitted, subject to zoning regulations that assure their utility to the farm community. Finally, a variety of other uses which are accessory to and/or compatible with farming should be allowed in agricultural areas.

In an effort to support the intent of the Rural Agriculture Zone two methods of land preservation, which provide for just compensation, are recommended for Township consideration and implementation. The first recommendation involves the use of Transferable Development Rights (TDRs) and the second recommendation pertains to Act 153 - Open Space Preservation.

<u>Transferable Development Rights</u>: Transferable Development Rights (TDRs) is a zoning tool that allows conservation and development to coexist within a municipality. Development rights are established for a given piece of land and can be separated from the title of that property. These rights can then be transferred to another location within a municipality.

The sale of TDRs leave the rural landowner in possession of title to the land and the right to use the property as a farm, open space or for some related purpose. However, it removes the owner's right to develop the property for other purposes. The transfer of development rights allows the purchaser of the development rights to then develop another parcel more intensively than would otherwise be permitted.

While the TDR program is part of the municipal zoning ordinance, the actual buying and selling of development rights remain with the property owner. TDRs are implemented on a voluntary basis.

Act 153 of 1996 - Open Space Preservation: Is an Act Amending the act of January 19, 1968, entitled "An act authorizing the Commonwealth of Pennsylvania and the counties thereof to preserve, acquire or hold land for open space uses," expanding its scope to include all local government units throughout this Commonwealth.

The purpose of the act is to clarify and broaden the existing methods by which the Commonwealth and its local government units may preserve land in or acquire land for open space uses. The State Legislature finds that it is important to preserve open space in and near urban areas and to meet needs for recreation, amenity, and conservation of natural resources, including farm land, forests, and a pure and adequate water supply. "... for the concentrating of more dense development in nearby areas."

Act 153 enables municipalities to obtain land development rights from landowners, which offer them voluntarily. Obtaining the development rights may be by purchase, contract, or gift. A public hearing is required informing all persons affected by the proposed acquisition of land. Once the land is acquired, the development rights are paid for via a Real Estate Millage or by Earned Income Tax. The tax increase is to be voted upon. Throughout the entire process Planning Commission involvement is required. It is recommended the Township review the contents and requirements of Act 153 with the Township solicitor before implementing this state legislation.

Also available to municipalities is the Farm and Natural Lands Trust and the York County Agricultural Land Preservation Board's Conservation Easement Program.

Farmers should also be encouraged to maintain their farms in Agricultural Security Areas and in the Clean and Green tax deferral program as ways to obtain various legal, financial and tax benefits. To reduce local groundwater and regional surface water pollution, farmers should be encouraged to use sound conservation practices, including streambank protection, riparian buffers, and nutrient management plans.

2. Residential

Groundwater testing in the Township has revealed elevated levels of nitrates in the Kreutz Creek Valley, as well as high coliform levels and malfunctioning on-lot sewage disposal systems at various locations throughout the Township. The PA DEP has been requiring an increased reliance on the use of public utilities for planned growth areas, and imposing greater restrictions on the use of on-lot disposal systems in rural areas. These policies dovetail with local goals and provide a sound basis

against widespread rural growth beyond the proposed growth area boundary line. Consequently, higher density residential growth has been targeted for planned utility areas. Lower density residential growth will occur primarily as infill within existing largely-developed areas and within the Rural Agriculture area. ***These planned residential areas should be largely developed before any additional farmlands are rezoned and proposed for public utility service.***

Next, many are becoming aware that farming and residential development are not particularly compatible. The impacts associated with normal farming operations often produce dust, odors and pests that are bothersome to nearby homeowners unaccustomed to an agrarian lifestyle. Impacts generated by residents (litter, illegal dumping, crop damage, traffic, etc.) can, in turn, make farming more difficult. For these reasons, wherever possible, planned residential areas are separated from farmlands by significant natural or man-made boundaries, such as roads and streams, to improve compatibility.

It is the responsibility of every municipality to provide for a variety of housing types. Furthermore, it is important that the proper amount and location of these various housing types remain compatible with existing development and/or adjoining planned uses. ***Residential areas have been located around existing neighborhoods with similar prevailing densities. Where possible future residential areas have been sized and block-shaped to encourage developments that run perpendicular to adjoining major roads, rather than in a strip-development pattern paralleling major roads. In addition to areas specifically planned for residential use, limited residential development will be accommodated in areas planned Rural Agriculture.***

Chapter V of the Plan identifies a need for 313 new housing units to the year 2010. Based on the policies expressed in this Plan to locate new growth areas adjacent to existing areas with public utilities and historical building permit data, provided by the York County Planning Commission, it was assumed that most development will be in the form of single family detached dwellings. The following table shows buildable lands allocated for residential uses on the Future Land Use Map:

Residential Land Allocations

Land Use	Total Acreage	Built-out Acreage	Buildable Acreage	Adjusted for space taken by Infrastructure (35%)	Base Density (Dwelling Units per Acre)	#of Units
Mixed Use 1	410.7	208.4	202.3	131.5	.45*	59
Mixed Use 2	264.1	171.9	92.2	60	.9*	54
Residential	360.9	272.8	88.1	57.3	3.6*	206
Total	1035.7	653.1	382.6			319

* Increases in base densities are proposed through the use of TDRs, to encourage migration of dwelling units into the growth area.

The housing projection for 2010 is 313 new dwelling units. There is land available for 319 housing units within the growth area.

The preceding table illustrates that there is sufficient land available for development in the Residential and Mixed Use plan designations, based on projected population growth and public utility availability. In addition, the Rural Agriculture plan designation will also accommodate rural dwellings.

RESIDENTIAL- ***The Residential plan designation is intended to recognize existing residential developments utilizing public utilities, as well as take maximum advantage of the availability of these utilities and other public services in proximity to Wrightsville and Hallam Boroughs, by directing the bulk of projected residential growth into these areas.*** The Residential plan designation has been applied to lands in low-to-medium density residential use in the Crestwood East area to the southwest, lands adjacent to Hallam Borough, lands in medium-to-high density residential use in the Cool Creek area adjacent to Wrightsville Borough. These areas together include approximately 88.1 buildable acres.

The Residential Zone would permit a wide variety of housing types and densities in an effort to meet a broad spectrum of needs. This zone would permit 3.6 single-family dwelling units per acre without the use of TDRs. Beyond this, a cluster option would permit slightly higher densities for single-family as well as multi-family development. In areas adjacent to Hallam Borough and Wrightsville Borough, this plan designation is intended to permit the application of a Village Overlay Zone to promote the extension of village-type development. In these areas, it is recommended that innovative design standards be developed which will provide a density bonus to encourage prospective developers to utilize desired innovative designs that recreate traditional village settings that:

(1) Allow flexible design options to encourage the preservation of important natural and cultural features;
(2) Provide for a diversity of housing types, sizes and costs, with particular emphasis on scattered-site affordable housing opportunities;
(3) Provide for convenient vehicular access to the neighborhood's edge, but increased reliance upon pedestrian movements within its bounds;
(4) Integrate local businesses and trades to enhance resident convenience and offer limited employment opportunities;
(5) Make efficient use of local infrastructure and services;
(6) Reflect the historic and traditional building styles of York County;
(7) Reserve and feature civic uses and open spaces as community focal points;
(8) Provide safe, efficient and compatible linkages with existing nearby land uses, streets, sidewalks, etc.;
(9) Invite regular social interaction among its inhabitants; and,
(10) Blend all of these above-described features in a way that promotes community identification and a "sense of belonging" for the residents.

The Village Overlay Zone is also intended to provide for neighborhood goods and services in a community setting, within walking distance of local residents. Such uses would be those typically used on a regular basis by community residents.

Regulations should limit the types and sizes of such uses to ensure their local orientation.

To accomplish the above-described objectives, innovative approaches to zoning and subdivision and land development would be required. Interconnected streets, sidewalks, parks, utilities, and services all contribute to this linkage. Building and landscape architectural considerations are also vital if neighborhoods are to successfully create an atmosphere of identity and regular social interaction. These issues often transcend local powers to enforce through zoning, but can be offered as part of an unseverable complete package that is voluntarily self-imposed by the developer, in return for density bonuses.

3. MIXED USE 1

The Mixed Use 1 plan designation is intended to provide reasonable standards for the development of compatible residential and commercial uses that do not require the use of public utilities along the Route 462 and Route 30 corridor where such uses already exist and where the development of such uses is feasible and appropriate. The Mixed Use 1 plan designation should be implemented with a Mixed Use 1 Zone that would include commercial uses as well as single-family dwellings. Approximately 202.3 buildable acres have been allocated for this designation along the Route 462 and Route 30 corridor stretching between Accomac Road and Bairs Mill Road.

This designation, which will act as a linkage zone between Hallam and Wrightsville Boroughs, would include strict design standards encouraging campus-like, attractive sites when viewed from adjoining properties and roads. Specific guidelines should be developed to manage access, outdoor storage, height, off-street loading and parking, signage, and required landscaping and screening.

4. MIXED USE 2

The Mixed Use 2 plan designation is intended to provide reasonable standards for the development of compatible residential, commercial and light industrial uses which require public utilities. The Mixed Use 2 plan designation should be implemented with a Mixed Use 2 Zone. Approximately 92.2 buildable acres have been allocated for this designation adjacent to Hallam and Wrightsville Boroughs.

This designation will serve as an extension of the Boroughs, allowing for a mixture of uses. The Mixed Use 2 Zone would also include strict design standards encouraging campus-like, attractive sites when viewed from adjoining properties and roads. Specific guidelines should be developed to manage access, outdoor storage, height, off-street loading and parking, signage, and required landscaping and screening.

5. COMMERCIAL/INDUSTRIAL

Although many of the goods and services needed by the residents of Hellam Township may be obtained in Wrightsville and Hallam Boroughs and other nearby urban areas, there still exists a market within the Township for commercial services to serve developing residential areas and light industrial development to provide jobs for residents. ***The Commercial/Industrial plan designation is meant to serve local and regional residents, as well as motorists and truck traffic passing through the Township.***

The Commercial/Industrial plan designation is intended to be applied to areas with excellent transportation access, proximity to other commercial and industrial uses, and availability of public utilities. This designation has been applied to that area west of Hallam Borough along PA 462 and Campbell Road characterized primarily by existing highway commercial and industrial uses. The location of this area with its access to a major arterial, proximity to a PA 30 interchange, full availability of public utilities and separation from most residential areas recommends its continued utilization for these purposes. The Commercial/Industrial plan designation at this location includes approximately 39 acres of vacant, buildable land. Approximately 118 additional acres of vacant, buildable land has also been designated for Commercial/Industrial north of PA 462 just west of Wrightsville Borough, and immediately north of the Borough. Most of this land has access to a major arterial or collector, as well as the availability of public utilities.

The Commercial/Industrial plan designation should be implemented with a Commercial/Industrial Zone suitable for a wide variety of community and highway-oriented commercial uses, as well as both light and heavy industrial uses. Zoning regulations for industrial uses should allow for small start-up businesses and light industry as permitted uses. Other heavier and potentially more objectionable industries should require the obtainment of a conditional use permit. The benefits of the conditional use process will (1) require the developer to fully explain the nature of the proposed uses, (2) give local citizens the opportunity express support or concern over the use, (3) provide the municipality time to engage professional review assistance of the use and its expected impacts; and (4) allow local officials to attach reasonable conditions of approval to mitigate any negative effects of the use. Prospective industries should demonstrate compliance with all applicable Federal and State operations standards.

Regulations developed for Commercial/Industrial areas should require and promote the integration of uses and improved access through shared parking, access drives, curbing and walkways. Signage, landscaping, screening, and loading and outdoor storage regulations should be applied to create an attractive setting. Existing strip commercial properties within this area should be limited via nonconforming use provisions in the hopes that their joining and redevelopment will occur.

6. INTERCHANGE

The Interchange plan designation is intended to provide for appropriate planned land uses at the Township's highly-accessible and as-yet largely undeveloped highway interchanges. Appropriate zoning for the Interchange plan designation would include high-technology, non-polluting, light industrial uses, as well as high-quality office parks. Uses would be those compatible with a serene, campus-like setting. Professional office parks can create substantial employment opportunities and tax revenues without many of the negative impacts associated with other forms of industry.

Approximately 61 buildable acres have been allocated for this use at the southeastern corner of the Wrightsville Borough interchange and 34 buildable acres have been allocated at the Hallam Borough interchange, based on excellent access to PA Route 30, the proximity of public utilities, the large site size, and the virtual absence of development constraints.

Zoning regulations applicable to this plan designation would include strict design standards encouraging functional, yet attractive sites when viewed from adjoining properties and roads. Specific guidelines should be developed to manage access, outdoor storage, height, off-street loading and parking, signage, and required landscaping and screening.

7. QUARRY

The Quarry plan designation recognizes the large quarry operation adjacent to Wrightsville Borough. It is recommended that the Township adopt a Quarry zone which would regulate such operations to minimize adverse impacts on adjacent neighborhoods, roads and the environment. Quarrying should be required at all times to demonstrate compliance with the Pennsylvania Noncoal Surface Mining Conservation and Reclamation Act. As part of compliance with this State Act, quarry uses are required to propose a reclamation land use once quarrying operations cease. Local officials should carefully scrutinize such reclamation uses to determine their compatibility with long-range comprehensive planning for that locale. Should the current quarry use desire to expand, or should a new quarry be proposed, local officials can examine potential locations via a rezoning hearing process.

8. RESTRICTED DEVELOPMENT OVERLAY

The Restricted Development Overlay plan designation encompasses those areas throughout the township with natural features that have been identified throughout this Plan as essential to the environmental health, economy and rural character of Hellam Township. These include lands with severe development constraints, such as steep slopes, wetlands, flood-prone areas and floodplains, woodlands, hazardous geology, and lands characterized by such sensitive natural

features as, streams, watersheds, and unique geological formations. The proposed Restricted Development Overlay Zone is shown on Exhibit Q.

From the Township's perspective, protection of sensitive natural features represents a sound policy. The following recommendations are designed to address this:

(a) Directing Growth - *The Township will encourage and promote the preservation of its natural resource base and rural character by directing, wherever possible, future land development to appropriate growth areas, and away from environmentally sensitive areas, such areas containing steep slopes, wetlands, woodlands, and floodplains.*

(b) Restricted Development Overlay Zone - *It is recommended that a Restricted Development Overlay Zone be used to implement the Restricted Development Overlay plan designation. The Restricted Development Overlay Zone should be established on performance-based densities and standards. Accordingly, all development should be located or clustered on that portion of the land where such development would have the least impact on important natural, scenic and cultural features.* Land design standards will be flexible so that land use plans will preserve the continuity of woodland and other natural habitat areas located within and between adjoining properties. Open space areas will also be connected where possible by stream corridors and/or linear trails. All such design options will be in accordance with the Comprehensive Recreation and Open Space Plan for the Township, when developed. Density bonuses may be awarded for added amenities sought by the Township, such as linear trails, parkland or historic site rehabilitation.

(c) Protection of Major Conservation Features - *In addition to the provisions of the Restricted Development Overlay Zone, other provisions should be added to the Township Subdivision and Land Development Ordinance to provide for the protection of important conservation features, such as steep slopes, wetlands, woodlands, and floodplains.*

(d) Site Plan Review - *To minimize disturbance of sensitive environmental and cultural areas, subdivision and land development applications will include an inventory of all conservation features in these areas and written verification that all of these features have been identified. Applications will include a statement that describes measures for the protection of these conservation features. The conservation features inventory and protection information will also be presented by the applicant either as an overlay to site plan drawings or as a separate map at the same scale. Sketch plans for larger developments will be required prior to formal preliminary plan submittal.*

9. HISTORIC OVERLAY

Hellam Township, like much of York County, is fortunate to possess a rich cultural and historic heritage. Today, this heritage is apparent by the many older buildings, structures and related settlements that are scattered throughout the Township. Local officials and residents alike recognize the value in conservation and rehabilitation, plus restoration or adaptive reuse, of these historic features as a means of providing a glimpse into the area's important past. Additionally, historic preservation can provide educational opportunities regarding historic lifestyles and architectural styles. Well-maintained historic areas can create a sense of unique identity that stimulates civic pride and economic vitality. ***It is the intent of this Plan to protect the Township's significant historic resources through the application of a "Voluntary" Historic Overlay designation to the Township's most significant historic areas, structures and other features worthy of protection. For the present, this plan designation will be applied to structures of historic or architectural significance, which are at least 100 years of age. A new survey will be conducted to refine previous historical inventories, employing criteria similar to those used by the National Historic Register. At such time, the Historic plan designation may be extended to apply to additional sites.***

A historic features overlay zone will be developed which is intended to:

(a) Ensure that future development in the Township takes historic resources into account in a manner in keeping with their historical nature.

(b) Trigger the local review of proposed demolitions. All recommendations made during the local review process should be voluntary on the part of the landowner as to whether or not the recommendations are followed.

10. ARCHAEOLOGICAL

While Hellam Township's areas of suspected archaeological significance are not shown on the Future Land Use Map, archaeological sites are to be protected through other mechanisms.

It is the intent of this Plan to preserve significant archaeological resources within the Township, as part of this area's rich historic and prehistoric cultural heritage. Preservation and conservation of these resources provide educational opportunities, a sense of cultural identity and pride in the deep roots of local traditions, and a better understanding of the time, depth and cultural complexity of the earliest human occupation in the Township. Floodplain zoning and stream buffers, which are intended to protect conservation features within the Rural Conservation plan designation, will provide protection for many archaeological resources as well.

Beyond this, the Subdivision and Land Development Ordinance will be amended to require the protection and/or surveying of significant archaeological resources

where the development is proposed, using the Cultural Features Map (Exhibit F) as a "trigger." The ordinance will specify:

(a) At the earliest stage of the subdivision review process developers will be required to conduct an archaeological survey if the subdivision has known archaeological sites or a high probability of containing sites. This requires early coordination on the part of the developer with the PHMC's Division of Archaeology and Protection, as well as with the Township's Planning Commission.

(b) Developers will avoid significant sites or mitigate their destruction by retrieving information through data recovery. A management plan describing measures to be taken to avoid or mitigate sites must be submitted to the Township.

11. Designated Growth Area

As stated in the 2001 York County Comprehensive Plan, growth areas provide a full range of land uses, accommodating residential, commercial, and industrial needs. Expansion of public utilities within these areas is encouraged, while extensions beyond growth areas are discouraged. In an effort to support the County concept of "growth without sprawl", a designated growth area within Hellam Township is recommended. The designated growth area is defined by two growth boundary lines which delineate an interim growth area and a future growth area, as shown on Exhibit O. The "growth without sprawl" concept, as stated in the County Comprehensive Plan, seeks to maintain both a commitment to growth and economic development, as well as to preserve and enhance identified preservation areas, including agricultural land, natural resources, parks and recreation lands, and scenic, historic, and cultural resource areas. ***The future growth area holds acreage in reserve for setting the framework for future growth of the Township within the interim growth area beyond this planning period and into the next ten (10) year planning period. This phasing of the growth area is recommended. This phased process can:***

- ***correspond to the availability of sewage capacity and staged extensions of sewage lines in a cost-efficient manner; and***

- ***control the growth rate by creating a progression of development that is more easily monitored and guided.***

The interim growth area and future growth area separate areas of Hellam Township which are appropriate for more urbanized uses and from the extension of services and utilities from areas intended for rural and agricultural uses.

As provided in the York County Growth Management Plan, the benefits of growth area designation can be summarized as follows:

1. ***Existing Communities*** - Existing communities will benefit through the redirecting of growth to established areas, and by encouraging re-investment and redevelopment. By limiting the outward expansion of growth through definition of a boundary, there will be less likelihood of communities eventually merging together with the resultant loss of community character and identity.

2. ***Community Facilities and Services*** - Provision of community facilities and services such as roads, water and sewer lines, schools, fire stations, and police protection will become more cost-efficient, and service costs and property taxes will be minimized. Capital improvements planning will be facilitated due to a more reliable picture of where future development will take place.

3. ***Transportation*** - Overall coordination of transportation planning and budgeting will be enhanced by a more concentrated pattern of development. The number and length of trips needed to reach destinations will be reduced, and mass transit planning will become more efficient through the provision of a more concentrated pattern of origins and destinations. Reduction in auto mobile dependence and gasoline consumption will also result in energy conservation benefits.

4. ***Housing*** - Decreased public service costs will reduce housing prices through lower and land costs and development fees. Providing a variety of housing types at a variety of densities will promote affordable housing opportunities.

5. ***Agriculture*** - Establishment of growth areas will minimize leap-frog development into agricultural areas, reducing the loss of farmland, and minimizing the intrusion of non-farm uses into farming areas. The value of agricultural lands will stabilize, based on farmland rather than potential development prices, and farmers, encouraged by a greater likelihood of long term agricultural viability, will be less reluctant to reinvest in the farming operation.

6. ***Natural Resources*** - Directing development to appropriate lands within growth areas will lessen the threat of destruction or alteration of important natural resource lands. A more compact pattern of development will help to protect resources such as floodplains, wetlands, wildlife habitats, prime soils, and steep slope areas.

7. ***Economy*** - Sufficient lands will be allocated in growth areas to meet projected commercial and industrial needs, and to provide locations with the necessary infrastructure available. The farming community will also benefit through an improved stability in farmland areas and less intrusion of urbanized uses.

8. ***Cooperative Planning*** - The ability to plan on a regional and county basis will be improved. The existence of established regional growth areas will make municipal decision making simpler, more consistent, and more predictable. Coordination of planning with adjacent municipalities will be enhanced by the joint acceptance of growth area boundaries, and consistency between County

and municipal plans will provide additional support to municipal planning efforts, as well as potential priority in State funding decisions. Regional efforts will provide the opportunity to identify and reduce the number of zoning inconsistencies between neighboring municipalities, and lead to more uniformity of development controls throughout the growth area.

The growth areas are intended to provide for a mix of uses, as well as utilities and services, which will serve, along with the proposed use of TDRs, to direct growth and development into this area. The future growth area contains 610 acres of Rural Agriculture land which has close proximity to public utilities and services. Expansion of development into the future growth area will require a rezoning request using the following criteria as a guide. ***To minimize "leap-frog" rezoning and development into the Rural Agricultural acreage within the future growth area, during this planning period, specific rezoning criteria are recommended. These criteria are to be used in determining whether or not a rezoning request pertaining to the future growth area is valid. The decision to rezone shall be at the discretion of the governing body, based, at a minimum, on the following recommended criteria:***

1. ***There are no available, adequately sized and appropriately zoned parcels within the interim growth area for the proposed use.***

2. ***Depending on the use and rezoning that is requested, public utilities must be available to the parcel intended for rezoning.***

In the event of a rezoning, the interim growth area boundary would move to encompass the rezoned area accordingly.

POLICY IMPLICATIONS

1. ***The development of the Future Land Use Plan utilizes all of the background information collected on natural features, public facilities, existing land use, population studies, and traffic patterns. Planned land uses are allocated in a manner that responds to this information and the community's desires, as expressed in Chapter II, Community Planning Vision and Goals, as well as in the Policy Implications noted at the end of each Plan chapter. What results is a future land use map that should be used to establish zoning boundaries, and help properly allocate future municipal investments, to maximize their efficiency.***

2. ***The Hellam Township Comprehensive Plan Update is intended to address future growth and development until the year 2010. Accordingly, future growth areas encompassed by a growth area boundary line have been deliberately located and sized to accommodate the growth that is projected during this time frame. This results in a future land use scheme that (1) reduces the conversion of productive farmlands, (2) confines high density development areas so that public and private improvements and services can be provided efficiently to a compact area, and (3) focuses infill development in and around existing settlements.***

3. *The overall concept of the Future Land Use Plan is to promote future development primarily within proposed growth areas in order to prevent blurring of traditional urban/rural distinctions.*

4. *Generally speaking, each Plan designation is intended to be implemented by a specific corresponding zone in the applicable zoning ordinance, thereby providing consistency between planning and zoning.*

5. *Areas designated Rural Agriculture (RA) are those areas with large concentrations of prime farmlands and existing or historically-farmed lands, including a number of farms in Agricultural Security Areas. These areas are located primarily in the Kreutz Creek Valley area, but also north and south of PA 30.*

6. *The intent of the Rural Agriculture plan designation is to provide the opportunity to maintain the agricultural basis of the Township, to discourage the excessive conversion of farmland to nonagricultural use, and to protect the farmer's ability to farm free from adverse impacts due to the intrusion of nonfarm uses in agricultural areas.*

7. *The Restricted Development Overlay Zone will encompass those areas with natural features that have been identified throughout this Plan as essential to the environmental health, economy and rural character of Hellam Township. The intent of this overlay zone is to minimize the negative impacts of development on sensitive natural areas.*

8. *The Township will encourage and promote the preservation of its natural resource base and rural character by directing, wherever possible, future land development to appropriate growth areas, where necessary roads and public utilities are available or can be readily extended, and away from environmentally sensitive areas, such as steep slope areas, groundwater recharge areas, wetlands, and floodplains.*

9. *Planned residential areas should be largely developed before any additional farmlands are rezoned and proposed for public utility service.*

10. *Residential areas have been sized and block-shaped where possible to encourage developments that run perpendicular to adjoining major roads, rather than in a strip-development pattern paralleling major roads. In addition to areas specifically planned for residential use, limited residential development will be accommodated in areas planned Rural Agriculture.*

11. *The Residential plan designation is intended to recognize existing residential developments utilizing public utilities, as well as take maximum advantage of the availability of these utilities and other public services in proximity to Wrightsville and Hallam Boroughs.*

12. *In areas adjacent to traditional village development patterns in Hallam Borough, the Residential plan designation is intended to permit the application of a Village Overlay Zone to promote the extension of village-type development.*

13. *The Mixed Use 1 and 2 plan designations are meant to provide reasonable standards for the development of compatible residential, commercial and light industrial uses along the Route 462 and Route 30 corridor where such uses already exist and where the development of such uses is feasible and appropriate.*

14. *The Interchange plan designation is intended to provide for appropriate planned land uses at the Township's highly-accessible and as-yet largely undeveloped highway interchanges.*

15. *The Quarry plan designation recognizes the large quarry operation adjacent to Wrightsville Borough.*

16. *It is the intent of this Plan to protect the Township's significant historic resources through the application of a Historic plan designation to the Township's most significant historic structures and other features worthy of protection. For the present, this plan designation will be applied to structures of historic or architectural significance, and at least 100 years of age.*

17. *It is the intent of this Plan to preserve significant archaeological resources within the Township, as part of this area's rich historic and prehistoric cultural heritage.*

18. *The future growth area holds acreage in reserve for setting the framework for future growth of the Township within the interim growth area beyond this planning period and into the next ten (10) year planning period. This phasing of the growth area is recommended. This phased process can:*

    (1) correspond to the availability of sewage capacity and staged extensions of sewage lines in a cost-efficient manner; and

    (2) control the growth rate by creating a progression of development that is more easily monitored and guided.

IMPLEMENTATION TASKS

1. *It is recommended that an effective Rural Agriculture Zone be used to implement the Rural Agriculture plan designation. Agricultural Preservation Zoning, which has been upheld by the Pennsylvania Supreme Court, should be used to reduce development on lands suitable for farming. While farming is the predominant land use within this zone, other limited uses can provide benefits to the farming community.*

2. *A minimum lot size for nonfarm dwelling units of 2 acres, as recommended in the pending 2001 Hellam Township Act 537 Plan Update, will be adopted. Additionally, proposed nonfarm dwelling units should be (1) located to minimize loss of valuable farmland, (2) grouped with other adjoining residences, and (3) designed to minimize property lines shared by active farmland.*

3. *Farmers should be encouraged to maintain their farms in Agricultural Security Areas and in the Clean and Green tax deferral program as ways to obtain various legal, financial and tax benefits. To reduce local groundwater and regional surface water pollution, farmers should be encouraged to use sound conservation practices, including streambank protection, riparian buffers, and nutrient management plans.*

4. *In an effort to support the intent of the Rural Agriculture Zone, two methods of land preservation, which provide for just compensation, are recommended for Township consideration and implementation. The first recommendation involves the use of Transferable Development Rights (TDRs) and the second recommendation pertains to Act 153 - Open Space Preservation.*

5. *It is recommended that a Restricted Development Overlay Zone be used to protect lands with severe development constraints, such as steep slopes, wetlands, flood-prone areas and floodplains, woodlands, hazardous geology, and lands characterized by such sensitive natural features as streams, watersheds, and unique geological formations.*

6. *In addition to the provisions of the Restricted Development Overlay Zone, other provisions will be added to the Township Subdivision and Land Development Ordinance to provide for the protection of important conservation features, such as steep slopes, wetlands, woodlands, and floodplains.*

7. *To minimize disturbance of sensitive environmental and cultural areas, subdivision and land development applications should include an inventory of all conservation features in these areas and written verification that all of these features have been identified. Applications should include a statement that describes measures for the protection of these conservation features. The conservation features inventory and protection information should also be presented by the applicant either as an overlay to site plan drawings or as a separate map at the same scale. Sketch plans for larger developments will be required prior to formal preliminary plan submittal.*

8. *The Residential Zone would permit a wide variety of housing types and densities in an effort to meet a broad spectrum of needs. This zone would permit single-family and multi-family dwelling units. Beyond this, a cluster option would permit higher densities for single-family as well as multi-family development.*

9. *In areas suitable for Village Overlay zoning, it is recommended that innovative design standards be developed which will provide a density bonus to encourage prospective developers to utilize desired innovative designs that recreate traditional village settings.*

10. *The Village Overlay Zone is also intended to provide for neighborhood goods and services in a community setting, within walking distance of local residents. Such uses would be those typically used on a regular basis by community residents. Regulations should limit the types and sizes of such uses to ensure their local orientation.*

11. *The Mixed Use 1 and 2 plan designations should be implemented with a Mixed Use 1 Zone and Mixed Use 2 Zone suitable for a variety of residential, commercial, and light industrial uses.*

12. *The Commercial/Industrial plan designation should be implemented with a Commercial/Industrial Zone suitable for a wide variety of community and highway-oriented commercial uses, as well as both light and heavy industrial uses.*

13. *Appropriate zoning for the Interchange plan designation would include high-technology, non-polluting, light industrial uses, as well as high-quality office parks. Uses would be those compatible with a serene, campus-like setting.*

14. *A historic features overlay zone will be developed which is intended to:*

    (a) *Ensure that future development in the Township takes historic resources into account in a manner in keeping with their historical nature.*

    (b) *Trigger the local review of proposed demolitions.*

15. *The Subdivision and Land Development Ordinance will be amended to require the protection and/or surveying of significant archaeological resources where the development is proposed, using the Cultural Features Map (Exhibit F) as a "trigger." The ordinance will specify:*

    (a) *At the earliest stage of the subdivision review process developers will be required to conduct an archaeological survey if the subdivision has known archaeological sites or a high probability of containing sites. This requires early coordination on the part of the developer with the PHMC's Division of Archaeology and Protection, as well as with the Township's Planning Commission.*

    (b) *Developers will avoid significant sites or mitigate their destruction by retrieving information through data recovery. A management plan describing measures to be taken to avoid or mitigate sites must be submitted to the Township.*

16. *To minimize "leap-frog" rezoning and development into the Rural Agricultural acreage within the future growth area, during this planning period, specific rezoning criteria are recommended. These criteria are to be used in determining whether or not a rezoning request pertaining to future growth area is valid. The*

decision to rezone shall be at the discretion of the governing body, based, at a minimum, on the following recommended criteria:

1.There are no available, adequately sized and appropriately zoned parcels within the interim growth area boundary for the proposed use.

2.Depending on the use and rezoning that is requested, public utilities must be available to the parcel intended for rezoning.

Source: 1996 Hellam Township Comprehensive Plan with revisions

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XIII. IMPLEMENTATION

The Hellam Township Comprehensive Plan has extensively detailed a future direction for Hellam Township through the year 2010. This future direction is premised upon the comprehensive set of recommendations in the form of implementation tasks set forth throughout this Plan. In order to implement these recommendations and the locally-expressed goals and objectives they reflect, an implementation strategy that should be put into motion. This strategy will incorporate the various municipal planning tools available to the Township, including its Zoning Ordinance, Subdivision and Land Development Ordinance, and other planning policy documents.

A. RECOMMENDED TASKS

Initially, it is recommended that the Township's zoning ordinance be revised so that they may closely follow the recommendations articulated throughout this Plan. By updating the Township Zoning Ordinance to incorporate such recommendations, a proper type and sequence of growth will be detailed that will efficiently utilize existing and anticipated infrastructure, while preserving those areas of the Township vital to farming and abundant with significant natural resources. Ideally, several new zones should be created and others modified consistent with this Plan's recommendations. Local officials should resist the amendment of zoning policies that would deviate from the recommendations made in this Plan, unless local officials are convinced that the Plan failed to consider some unforeseen condition, or that a significant change in the character of the community has occurred since the Plan's adoption, which would necessitate a change in zoning policy.

At the same time as the Zoning Ordinance update, the Township should revise its Subdivision and Land Development Ordinance for consistency with the recommendations made in this Plan. The simultaneous updating of the Subdivision and Land Development Ordinance and the Zoning Ordinance will assure the coordination of these documents and promote consistency between them. In addition, other ordinance provisions should be adopted to protect groundwater quality as information comes to light on appropriate methods to do this.

Next, the Township should begin work on an Official Environmental Resource Inventory and Comprehensive Natural Features Map as recommended in the Plan. This will be an ongoing project that will take some time to complete. When completed, it will facilitate the Township's review of proposed developments as well as provide valuable background information in the future preparation of a Comprehensive Recreation and Open Space Plan. At the same time, the Township should begin to look for opportunities to create and acquire neighborhood, community and linear park sites that will serve existing and developing areas of the Township into the future.

Another ongoing effort should be directed at improving the Township's road system to increase safety, improve access and upgrade private lanes.

It is also advised that the Township carefully consider the Act 537 Plan recommendation for implementation of an On-Lot Disposal System (OLDS) management program to require the periodic pumping out and maintenance of such systems. Such a program promotes groundwater quality and can avoid the possible future need to extend public sewer and/or water into rural areas.

Finally, the Township should direct its attention to the possible implementation of a recycling program, the development of public education programs to promote sound land management and conservation practices, and the coordination of planning efforts with adjacent municipalities, Eastern York School District, York County and public service providers to improve the level of services that are provided to Township residents.

The preceding paragraphs depict an abbreviated but ambitious list of tasks that are suggested for the Township. These tasks are vital for effective growth management and important natural resource protection. Successful implementation of these tasks will assist the Township in avoiding future problems that currently plague other municipalities within the region. Cooperation among all administrative bodies and levels of government is an essential component to a streamlined and successful implementation strategy. Public participation is also a very important duty of municipal officials.

B. PLAN UPDATE

Township officials are responsible for monitoring and evaluating the implementation strategy aimed at achieving the recommendations and the locally-expressed goals set forth in this Plan. If, for some reason, the recommendations of this Plan do not appear to address current conditions, Township officials should not hesitate to amend portions of this Plan or any other policy to rectify those deficiencies. Proposed Plan amendments must proceed through the public review process before they may be adopted. It is recommended that future proposed zoning map changes be accompanied or preceded by appropriate amendments to the Plan's Future Land Use Map and text to assure continued consistency between these two documents. Finally, the Comprehensive Plan should be periodically reviewed and updated at no greater than 10-year intervals as mandated by Act 67 of the Pennsylvania Municipalities Planning Code to assure that it continues to serve the needs of Hellam Township residents.

In conclusion, this Plan holds a wealth of information which is easily available and understood. Its implementation should be equally understood so that all residents, businesses, and visitors know the Plan is vital, and that planning for the future of Hellam Township is the result of considerable and continuous reflection and analysis.