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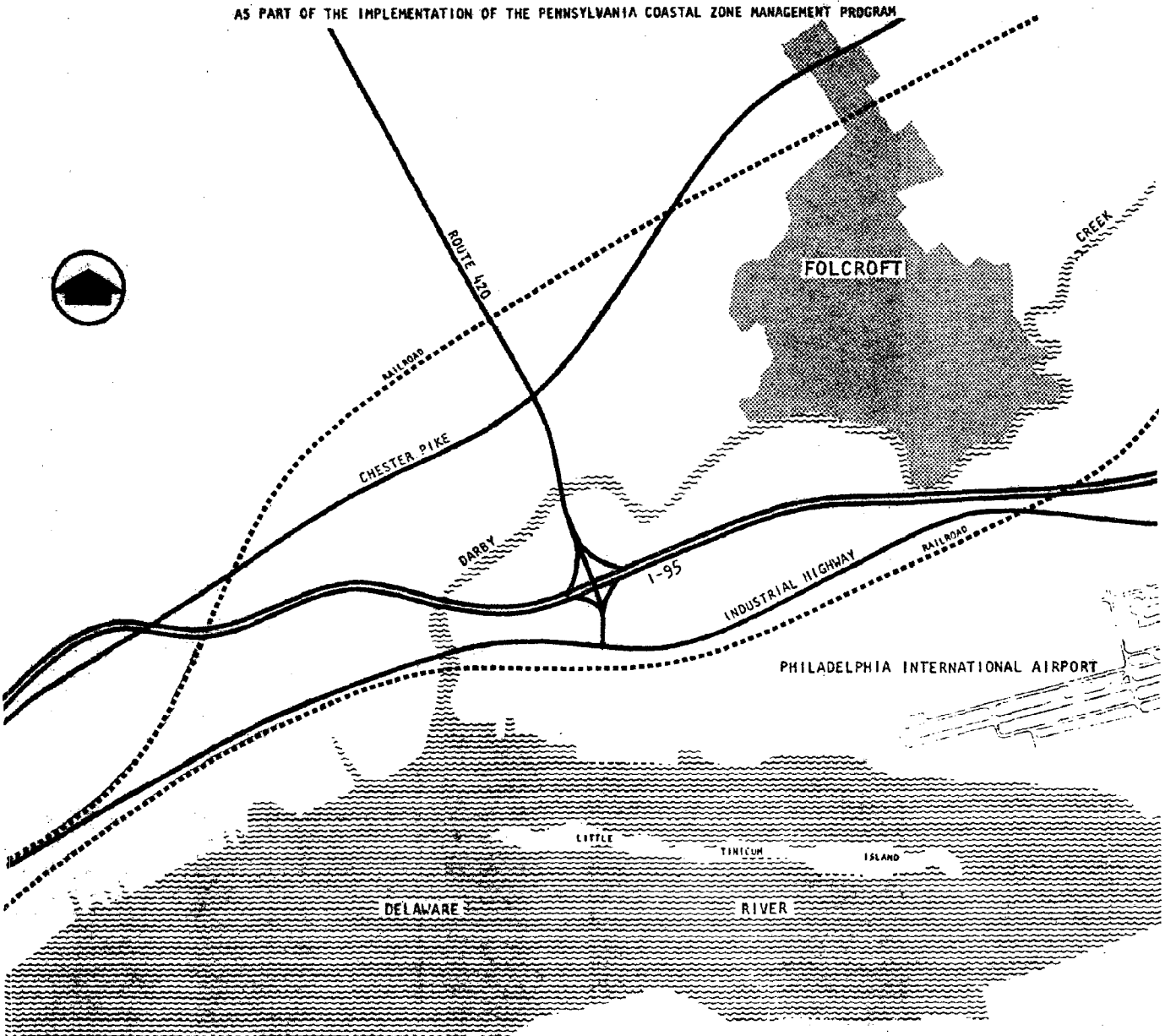
COMPREHENSIVE PLAN

AS PART OF THE IMPLEMENTATION OF THE PENNSYLVANIA COASTAL ZONE MANAGEMENT PROGRAM



PREPARED FOR:

The Borough of Folcroft,
Delaware County,
Pennsylvania

PREPARED BY:

Direction Associates, Inc.
Planning Consultants

BOROUGH OF FOLCROFT

COMPREHENSIVE PLAN

FOR THE BOROUGH OF FOLCROFT

As Part of the Implementation of The

PENNSYLVANIA COASTAL ZONE MANAGEMENT PROGRAM

HT168.F65C66 1982

NOVEMBER, 1982

Coastal Zone
Funded and Coordinated through
Dept. of Environmental Resources
Office of Resources Management
Coastal Zone Management Office

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The preparation of this report was financed through the Pennsylvania Coastal Zone Management Program under provisions of the Federal Coastal Zone Management Act of 1972, (as amended), administered by the Coastal Zone Management Office, Office of Resources Management, Pennsylvania Department of Environmental Resources.

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Borough Council

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INTRODUCTION

NEED FOR A PLAN

Webster's International Dictionary defines the word "plan" as "a proposed method of action." By nature, most individuals plan their activities to one degree or another to insure their continued existence. For most businesses and other organizations, planning for the future is vital to their continued viability. Yet, many modern American communities have allowed their futures to be determined not through a rational planning process but, rather, through the vagaries of market conditions and political processes.

Over the course of history, some of the most successful urban communities have been those which resulted through conscious planning, London, Rome, Paris, Center City Philadelphia, and Savannah, Georgia, were all planned to some extent. These places, because they are vital, ordered, and diversified places to live have all survived hundreds of years of changing conditions and cultures, and remain relatively successful even today.

Eddystone, Folcroft, and Norwood are obviously not places of this magnitude, nor should they hope to be. However, planning is still extremely important to these communities and their futures. While there are examples of places which have thrived without planning, the conditions of the 20th Century have made these accidental successes all but impossible to achieve.

Modern urban communities are highly complex structures. Numerous support systems exist, and interrelationships among these systems are extensive. A change in land use, for example, has potential impacts on the transportation network, sewer and water facilities, schools, parks, and public services such as police and fire protection. These interactions occur not only within a community but between communities in a region, and even between regions of the country.

One ironic aspect of modern urban America is that, although the series of interrelationships between communities exists, the governmental structure is such that, in most cases, each separate community acts independently. An action by one community may have an impact on another, with the

impacted community having little or no input into this action. To protect its citizens against decisions over which they have little or no control, it is important that each community, to the extent possible, provide a diverse environment where its residents cannot only live, but enjoy opportunities to work, shop and play.

A Comprehensive Plan has the potential to produce a diversified community structure by setting up goals, objectives, and guidelines for future decision making in the community based on a series of studies to determine community strengths and weaknesses. Unfortunately, until this point in time, the Boroughs of Eddystone, Folcroft and Norwood have not had a plan on which to base their futures.

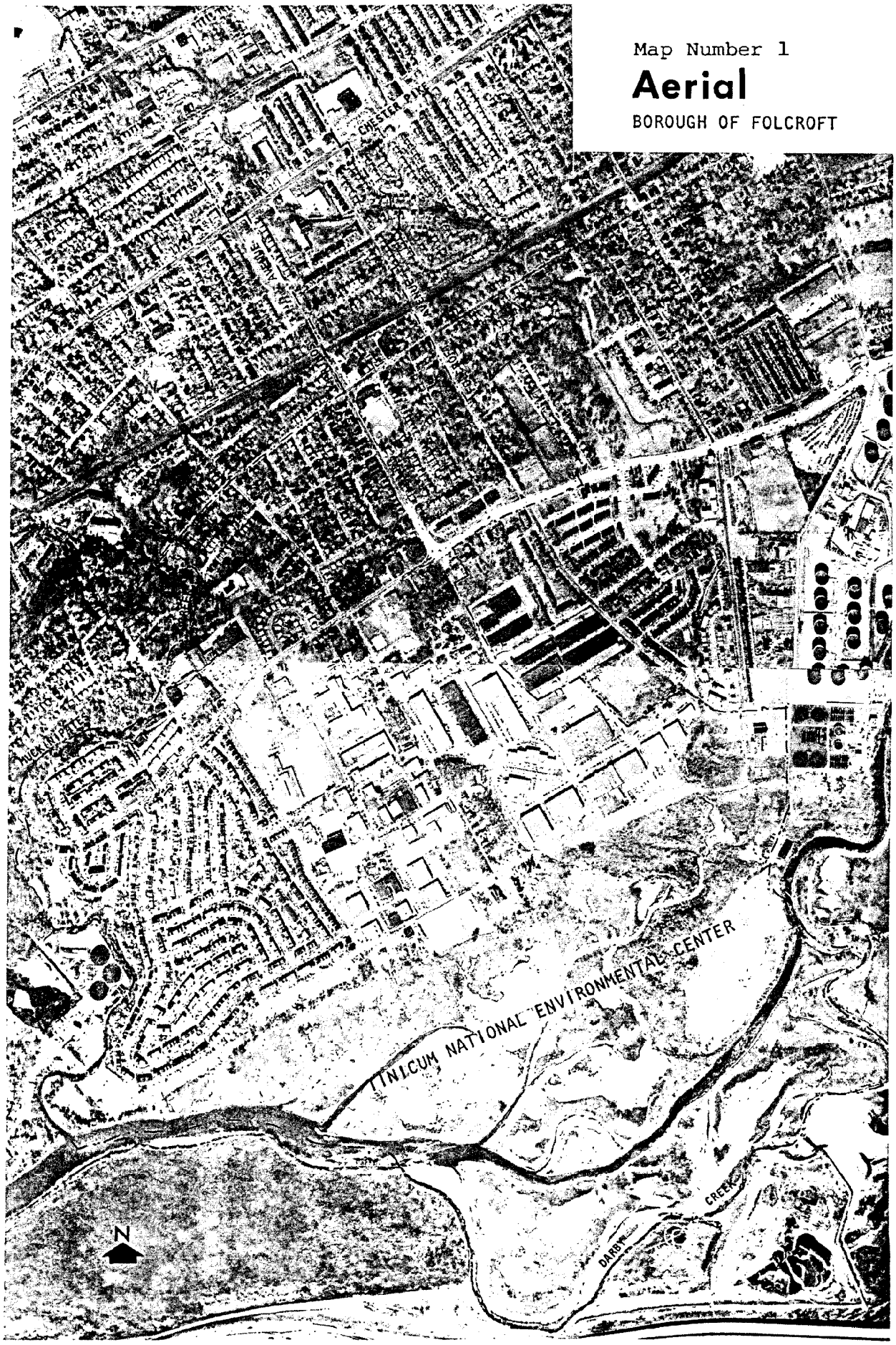
By allowing growth to be controlled by market forces and zoning ordinances not based on a Comprehensive Plan for rational decision making, these communities have not developed a healthy diversity of land uses necessary to their vitality. For example, Eddystone has become highly dependent on manufacturing as its dominant land use; while manufacturing industries in the northeast have experienced many problems over the past twenty years. Folcroft and Norwood, on the other hand, are dominated by residential uses, which historically have experienced difficulties generating revenues sufficient to cover the costs of services needed for residential quality.

Eddystone, Folcroft and Norwood are already highly developed communities; and it may seem that a Comprehensive Plan is not necessary. However, urban areas are continuously evolving and changing. Every individual action has some impact on the character of these areas. A Comprehensive Plan which establishes a framework for these changes is necessary to insure that these impacts are not negative but, rather, positive steps into the future.

Map Number 1

Aerial

BOROUGH OF FOLCROFT



GOALS AND OBJECTIVES

GENERAL GOALS

It is the aim of every government, borough, township, city or state, to insure the quality of life within its environs. Among the many elements which measure the quality of life for citizens are a secure job, decent housing, convenient and safe recreation, adequate and efficient community facilities and services, and an environment which is relatively pollution free. In light of these basic goals, it is the general goal of the Borough of Folcroft to:

- Stabilize, improve and/or expand the tax base.
- Plan for improvements which will be required by the community within the next ten years.
- Retain the current population.
- Preserve the housing stock.
- Preserve and enhance recreation areas.
- Provide adequate, efficient and economic community facilities and services.

SPECIFIC GOALS - NATURAL ENVIRONMENT

- Protection and development of the coastal zone.
- Preservation of the waterways, in particular Muckinpates Creek and Darby Creek.
- Preservation and protection of the Tinicum Marsh.
- Preservation of Hermesprota Run as a natural drainageway.
- Preservation of flooding from Hermesprota Run along Chester Pike.

- Protection of flood plain areas.
- Maintenance of open space, such as parks and green areas.

SPECIFIC GOALS - POPULATION

- Maintenance of the current population.

SPECIFIC GOALS - HOUSING

- Maintenance of the Borough's existing housing stock.
- Provision of housing types adequate in fulfilling the needs of current and future residents in light of prevailing economic and social conditions both locally and nationally, and conditions which are anticipated in the future.

SPECIFIC GOALS - LAND USE

- Update of zoning and completion of a zoning ordinance.
- Protection of specific land uses to prevent encroachment from other land uses so as to retain the character of the Borough as a suburban residential area.
- Designation of the area within the Borough which is a part of the Tinicum National Environmental Center as open space.

SPECIFIC GOALS - COMMUNITY FACILITIES

- Maintenance and protection of recreational areas, including Tinicum Marsh.
- Maintenance of the local highway transportation system.

SPECIFIC GOALS - JOBS

- Maintenance of the current skilled, semi-skilled, and unskilled work force through encouragement of industry to maintain their operations in the community.

SPECIFIC GOALS - TRANSPORTATION

- To eliminate existing hazardous traffic areas by establishing priorities in street improvements and signalization of key intersections.

HISTORICAL DEVELOPMENT

BRIEF HISTORY

The origin of what is now Folcroft can be traced to the mid-1600's and early Swedish settlements. Originally productive farmlands, its development as a residential suburb of Philadelphia resulted from the construction of the Pennsylvania Railroad through the area in 1874. A passenger station was subsequently constructed, and the stop was given the name Folcroft, meaning "leafy fields".

Originally located in Darby Township, Folcroft was incorporated as a Borough in December of 1922.

Chester Pike, the oldest road in the Borough, was a toll road until the early 1920's. Another original road still existing is Calcon Hook Road, which leads to the meadow land along Darby Creek. Prior to 1900, Darby Creek was kept within its channel by adjacent property owners. What is now marsh land at the southern end of the Borough was, at that time, highly productive farm land. Much of this marsh land is now included in the Tinicum National Environmental Center and accounts for the southern one-third of the Borough.

The Shallcross Homestead (1788) on Ashland Avenue south of Elmwood Avenue and the Swayne House on Elmwood Avenue (late 1700's) are two of the oldest structures in the Borough.

The present day Lorup Farm was, at the turn of the Century, engaged in turtle and frog raising, with its primary market for their products being New York. This was discontinued after the passage of the Interstate Commerce laws prohibiting shipment out of the state.

In November of 1903, the Folcroft Fire Company was founded as the Darby Township No. 1. After the Borough incorporated, the name was changed to Folcroft Fire Department No. 1. The original firehouse was on Baltimore and Avenue A. In 1925, the company moved to a firehouse on Primos and Shallcross Avenues. In 1978, the company again moved to their present location on Delmar Avenue.

The original school house, on Hook Road, is still standing. However, it has been converted to a private residence.

A post office was formed in 1895, and has since that time been housed at six locations, including its current location in the Delmar Shopping Center.

Today, Folcroft is a highly developed, predominantly residential suburb of Philadelphia with a population of 8,231. Folcroft offers residents numerous amenities including the Folcroft Public Library, Folcroft Boy's Club, numerous civic associations, and a swim club.

THE REGIONAL SETTING

The Boroughs of Eddystone, Folcroft, and Norwood are affected by a variety of local, regional, and national conditions.

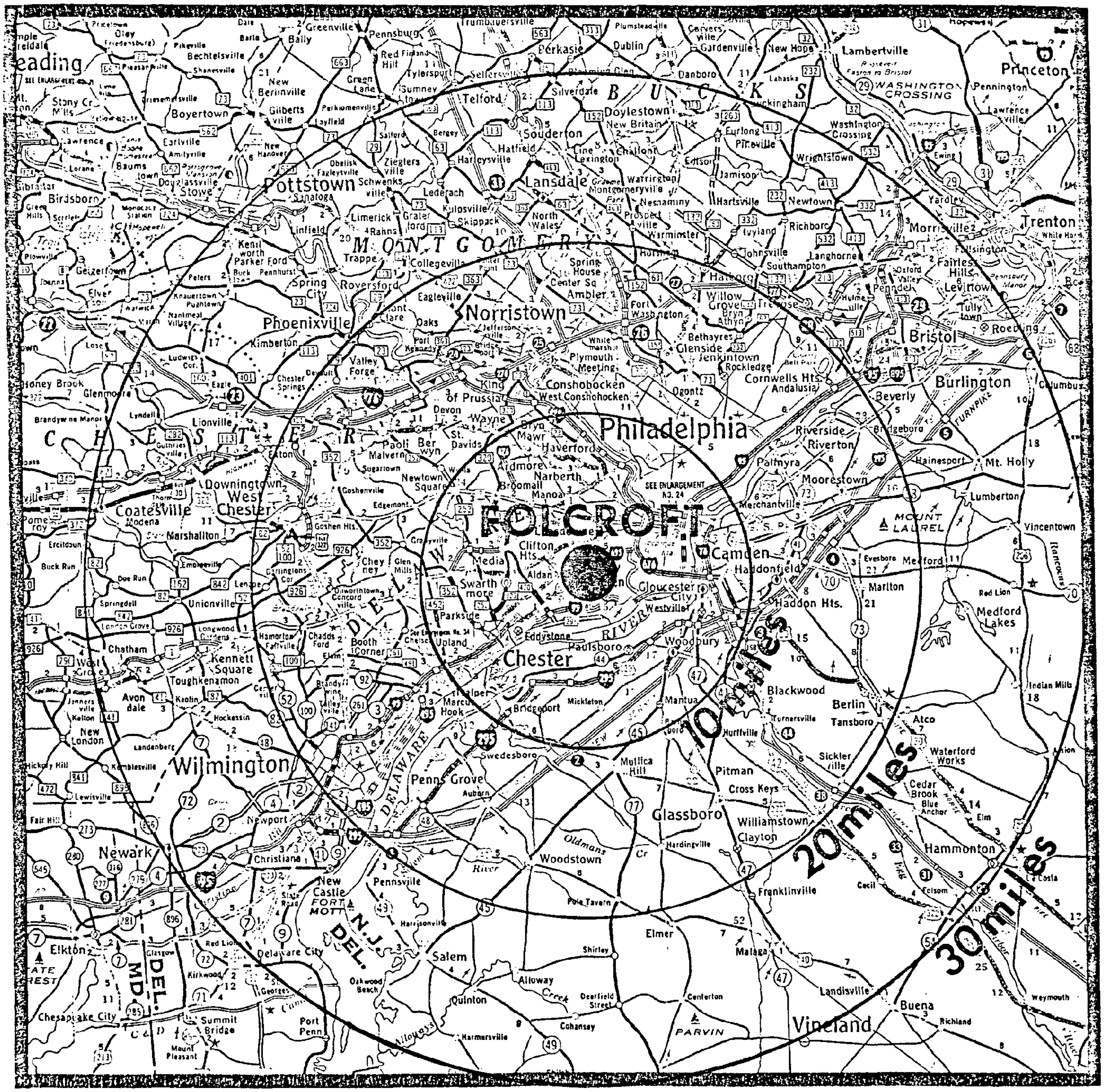
Locally, the three Boroughs lie in the southeastern portion of Delaware County to the southwest of Philadelphia. Eddystone is approximately 5.5 miles west of the Philadelphia city limits. It is bordered on the north by I-95, and on the south by the Delaware River. Access to the City is provided by I-95 and the river, and also by the Penn Central Railroad. The proposed Blue Route from I-95 into Montgomery County is planned to intersect I-95 north of Eddystone.

Folcroft and Norwood are contiguous communities to the west of Philadelphia. Folcroft lies within one mile of the City's southwestern boundary, and Norwood is located adjacent to Folcroft on the west. Both Boroughs are served by the Penn Central Railroad and enjoy easy access to Philadelphia via Chester Pike and I-95. Darby Creek flows along their southern boundaries into the Tinicum National Environmental Center. Southern Folcroft encompasses approximately 44% of the Center, while Norwood contains about 4%. Philadelphia International Airport is approximately three miles to the southeast of these communities.

Delaware County is a part of the eight-county Philadelphia SMSA, and the larger 3,833 square mile Delaware Valley Region. The Delaware Valley lies in the center of what has been commonly known as the Eastern Megalopolis, that densely populated urban region stretching from Boston, Massachusetts, to Washington, D.C.

Many economic and demographic changes have occurred in the Megalopolis over the past twenty years. The economy of the region has been transformed from one heavily dependent on manufacturing and industrial production to one increasingly dependent on service industries. This has been necessitated in part by the migration of both population and industry, not only to suburban and rural areas of the region, but to the more economically attractive southern and western states.

As Eddystone, Folcroft, and Norwood are part of the older suburban areas of Philadelphia, they have not avoided the effects of these trends. All three Boroughs have experienced a decrease in population since 1970. In addition, Eddystone has suffered some damage to its industrial base, most notably the closing of the Baldwin Locomotive Factory, which remains vacant, and the uneasy future of the Penn Shipbuilding Company, formerly operated by the Sun Shipbuilding and Drydock Company.



Map Number 2

Locality Map

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POSSIBLE EFFECTS ON THE BOROUGH OF FOLCROFT

BY REGIONAL/COUNTY PLANS

The Borough of Folcroft is a part of a large, interdependent region. Therefore, when planning for the future of a community such as Folcroft, it is important to understand the impacts on the community resulting from regional and county plans.

PHILADELPHIA INTERNATIONAL AIRPORT

The Philadelphia International Airport, which lies less than one mile from the Folcroft southeastern boundary, services over 60,000 scheduled air carrier departures each year. Two of the airport's three runways are oriented east-west, and it is from these runways that Folcroft receives its greatest noise impact.

In the 1980 Environmental Protection Agency (EPA) and Department of Transportation sponsored report to Congress entitled, "Effects of Airport Noise on a Neighboring State", Philadelphia International's noise impacts were analyzed and proposals formulated aimed at minimizing these impacts. Noise levels from the airport were mapped as a series of noise contours superimposed on a map of the region.

The unit of measurement utilized in this mapping was the Ldn. Ldn measures sound in decibels over a twenty-four hour period. Noise is considered to have a cumulative effect, and noise which occurs at night is weighted higher than noises which occur during daylight hours. A typical farm would register an Ldn level of 40 decibels (db), while an apartment by a freeway registers 90 db.

Most Federal agencies accept 65 db as the level above which sleep and speech interferences and other adverse responses

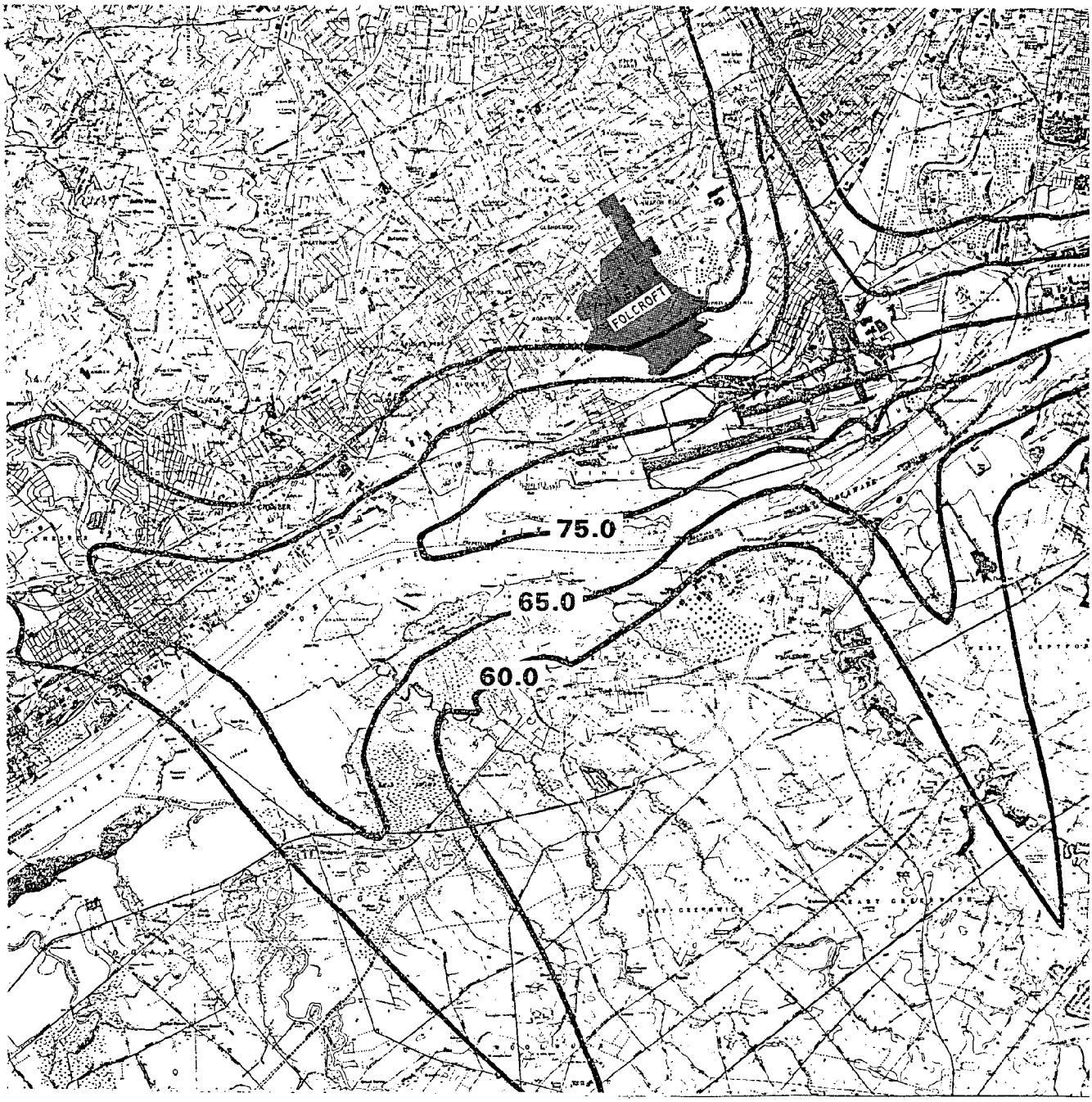
occur. Ldn levels below 65 db are generally considered acceptable for residential uses. The EPA, however, has recommended 55 as the acceptable level and indicates that between 55 and 65 db, measures should be taken to ensure the public health and welfare.

Illustrated on Map No. 3 is the fact that the southern fourth of the Borough is experiencing noise levels of 60 to 65 db. Projections for 1990 (Map No. 4) and 2000 (Map No. 5) indicate that the increased reliance on quieter aircraft anticipated in the future will have little impact on noise levels.

Of the five alternatives aimed at reducing noise levels proposed in the report to Congress, only the curfews eliminating flights from 10:00 p.m. to 7:00 a.m. would have any significant effect on Folcroft. However, the practicality of this measure is highly questionable.

The continued existence of the Tinicum National Environmental Center in the southern half of the Borough and use of sound proofing insulation in new construction appear to be the Borough's most effective means to minimize noise impacts on residents.

However, Philadelphia International Airport brings with it some positive aspects. Due to the airport and the need for easy access to this important facility, Borough residents benefit from ease of access to the airport, central city Philadelphia, and points north through Route 291, and the completion of the Airport High Speed Line, as well as the completion of I-95 in 1985.



Map Number 3

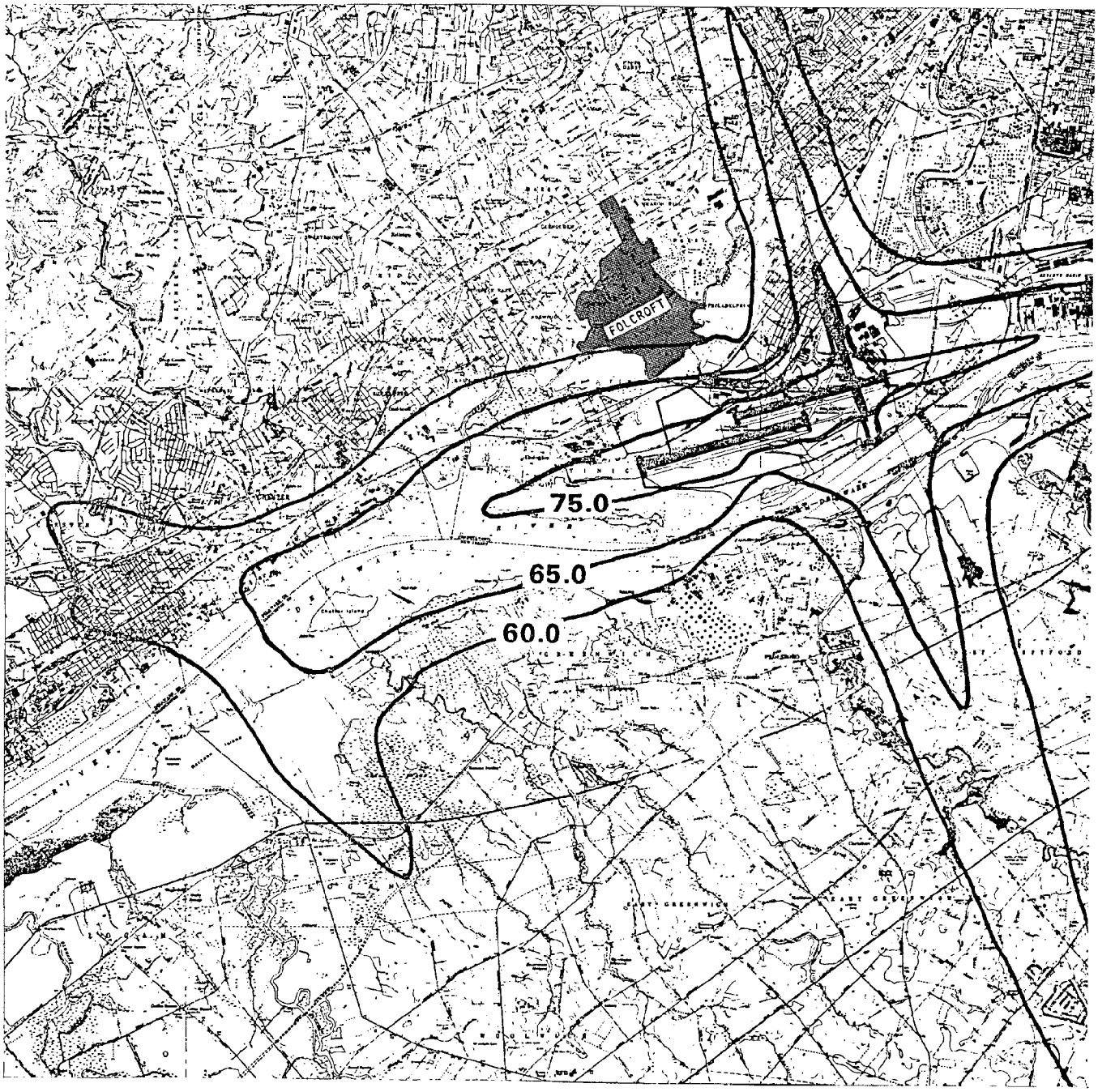
Airport Noise Impacts 1980

Source: Report to Congress, Effects of Airport Noise on a Neighboring State, October, 1980, Prepared by the Office of Noise Abatement and Control, Environmental Protection Agency, AND Office of Environment and Energy, Federal Aviation Administration, Department of Transportation.

Map Number 4

Airport Noise Impacts 1990

Source: Report to Congress, Effects of Airport Noise on a Neighboring State, October, 1980, Prepared by the Office of Noise Abatement and Control, Environmental Protection Agency, AND Office of Environment and Energy, Federal Aviation Administration, Department of Transportation.



Map Number 5

Airport Noise Impacts 2000

Source: Report to Congress, Effects of Airport Noise on a Neighboring State, October, 1980, Prepared by the Office of Noise Abatement and Control, Environmental Protection Agency, AND Office of Environment and Energy, Federal Aviation Administration, Department of Transportation.

BLUE ROUTE (I-476)

The Blue Route or Mid-County Expressway (L.R. 1010) is a proposed six lane divided limited-access highway facility with provision in the median for expansion to eight lanes or possibly exclusive mass transit lanes. It is planned as part of the Interstate Highway System and is designated I-476.

The proposed Expressway will extend 21.5 miles from the Delaware Expressway (I-95) at Crum Lynne, Delaware County, to the intersection of the Pennsylvania Turnpike (I-276) at the Turnpike's Northeast Extension (Pa.-9) in Plymouth Meeting, Montgomery County. See Map No. 6 for illustration.

In Delaware County, the Expressway will extend 15.2 miles long and is an integral part of the Delaware Valley Regional Planning Commission's 1985 Adopted Freeway Network for the Philadelphia Metropolitan Area. It will become the western link of a beltway route around Philadelphia, and provide a limited-access highway system for north-south travel.

The routing of the Blue Route is between communities rather than through them. It is believed that the Expressway will provide the link to other transportation channels which will assist in the economic revitalization of southern Delaware County.

Information gathered from the Pennsylvania Department of Transportation indicates that the earliest possible date for completion of the Blue Route is 1988. Chart 1, following, illustrates the timetable for construction of various sections of the Expressway.

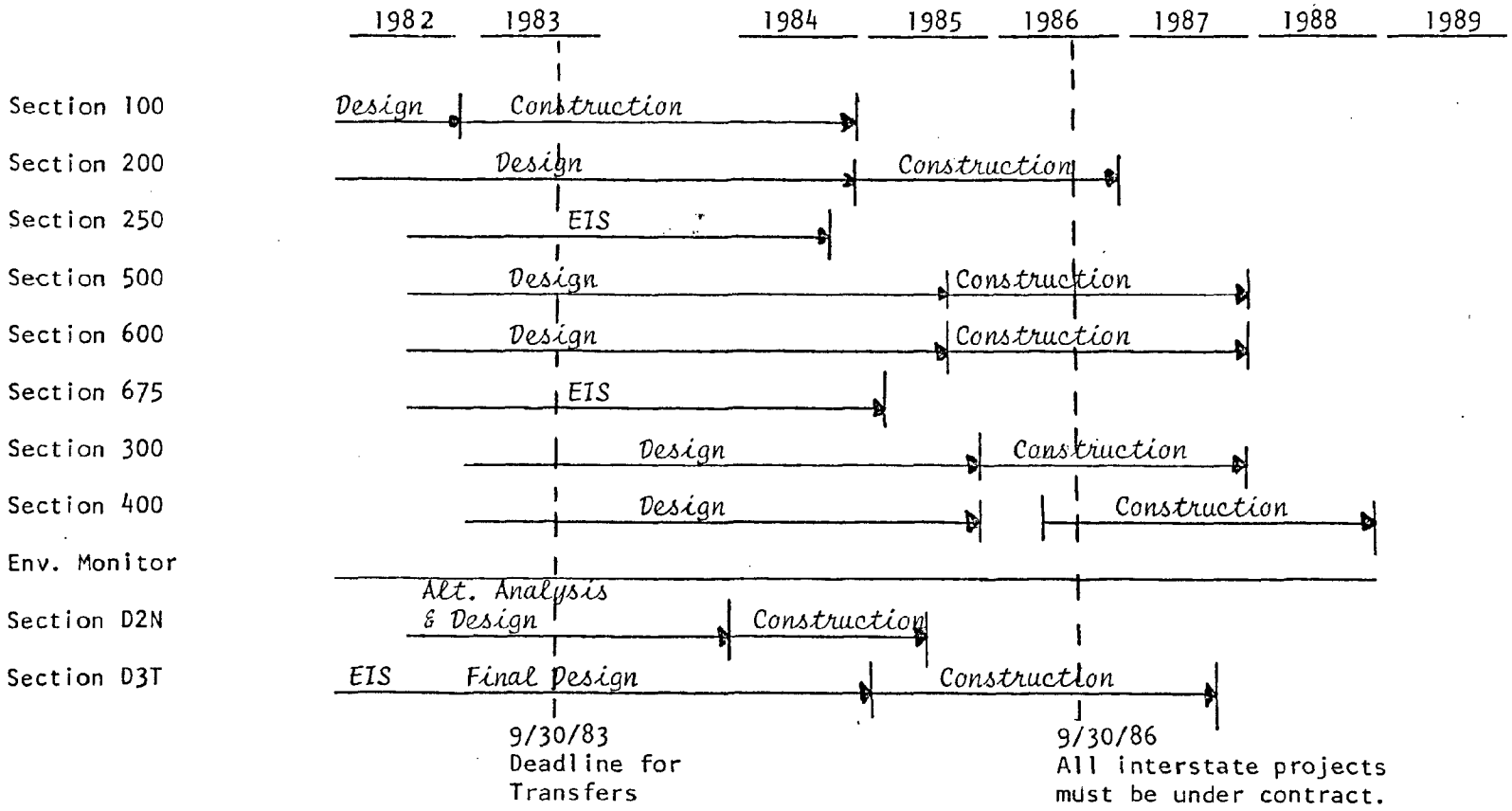
Also included is a simplified map illustrating the sections of the Blue Route which have been completed and those which are to be built. The map is keyed to the timetable for clarity.

Although the construction of the Expressway will create an impervious surface, runoff is not expected to significantly

CHART NO. 1

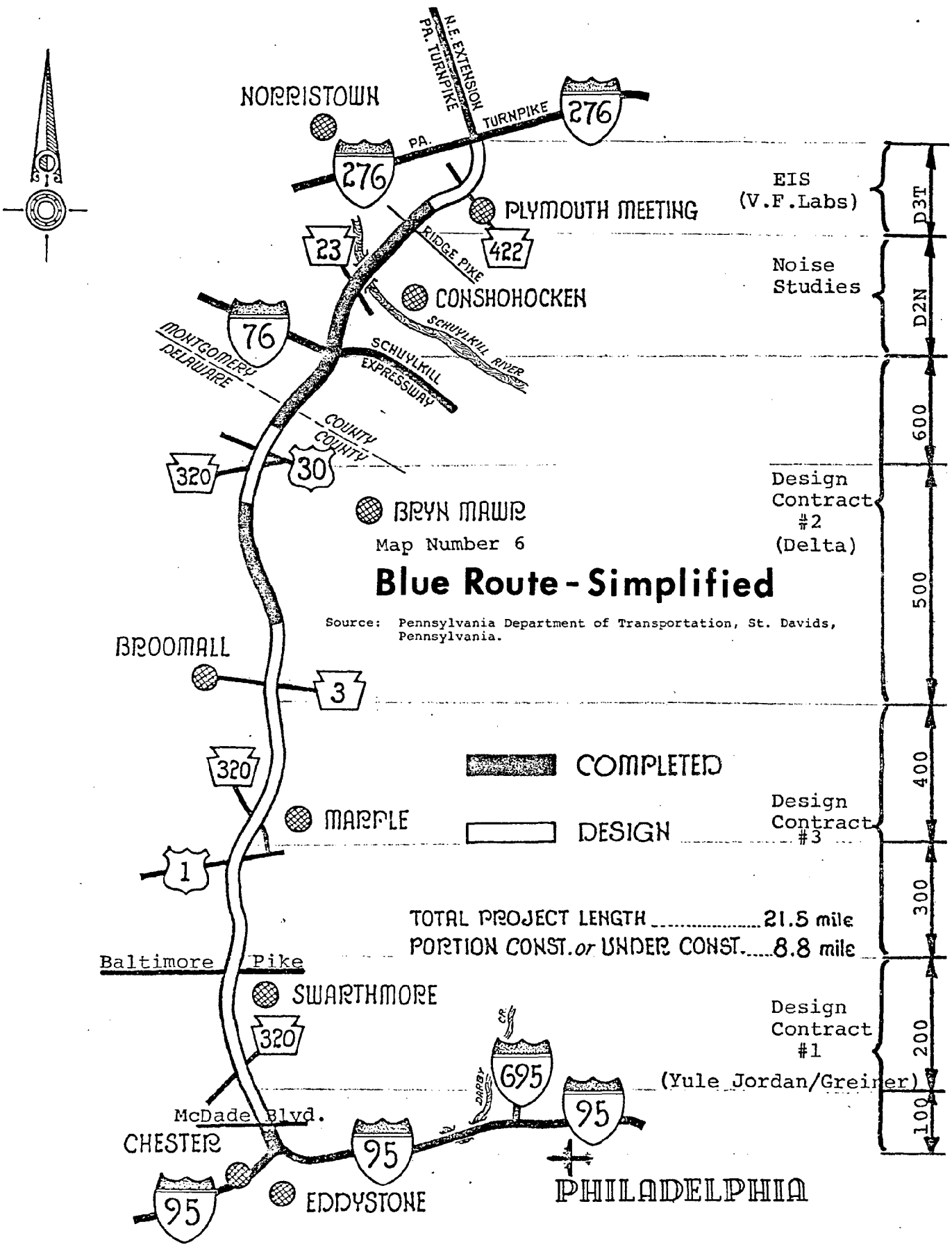
I-476 - MID-COUNTY EXPRESSWAY

BLUE ROUTE CONSTRUCTION SHCEDULE



NOTE: EIS: Executed contract to FHWA signoff.
Design: Executed engineering agreement to letting.
Construction: Letting to final inspection.

SOURCE: Pennsylvania Department of Transportation
St. Davids, Pennsylvania


NORRISTOWN
N.E. EXTENSION
PA. TURNPIKE
TURNPIKE
276
PA.
276
PLYMOUTH MEETING
422
23
RIDGE PIKE
CONSHOHOCKEN
SCHUYLKILL RIVER
76
MONTGOMERY
DELAWARE
SCHUYLKILL
EXPRESSWAY
COUNTY
COUNTY
320
30
BRYN MAWR
Map Number 6
Blue Route - Simplified
Source: Pennsylvania Department of Transportation, St. Davids, Pennsylvania.
BROOMALL
3
320
COMPLETED
DESIGN
MARPLE
1
TOTAL PROJECT LENGTH ..... 21.5 mile
PORTION CONST. or UNDER CONST. ..... 8.8 mile
Baltimore Pike
SWARTHMORE
320
695
95
McDade Blvd.
CHESTER
95
95
EDDYSTONE
PHILADELPHIA
EIS
(V.F.Labs)
D3T
Noise
Studies
D2N
600
Design
Contract
#2
(Delta)
500
400
Design
Contract
#3
300
Design
Contract
#1
(Yule Jordan/Greiner)
200
100

increase flooding potential in surrounding flood-prone areas. Crum and Darby Creeks will drain most of the area. No significant adverse effects will occur at the Tinicum National Environmental Center. The final design of the Blue Route will incorporate significant noise abatement measures.

The major impact of the Blue Route will be ease of transportation. The Blue Route will connect with three Interstate Highways: the Schuylkill Expressway (I-76), the Delaware Expressway (I-95), and the Pennsylvania Turnpike (I-276). The Blue Route will also connect with existing major radial highways, including the Media Bypass/State Road (US-1), Lancaster Avenue/Lincoln Highway (US-30), West Chester Pike (US-3), and Baltimore Pike and MacDade Boulevard.

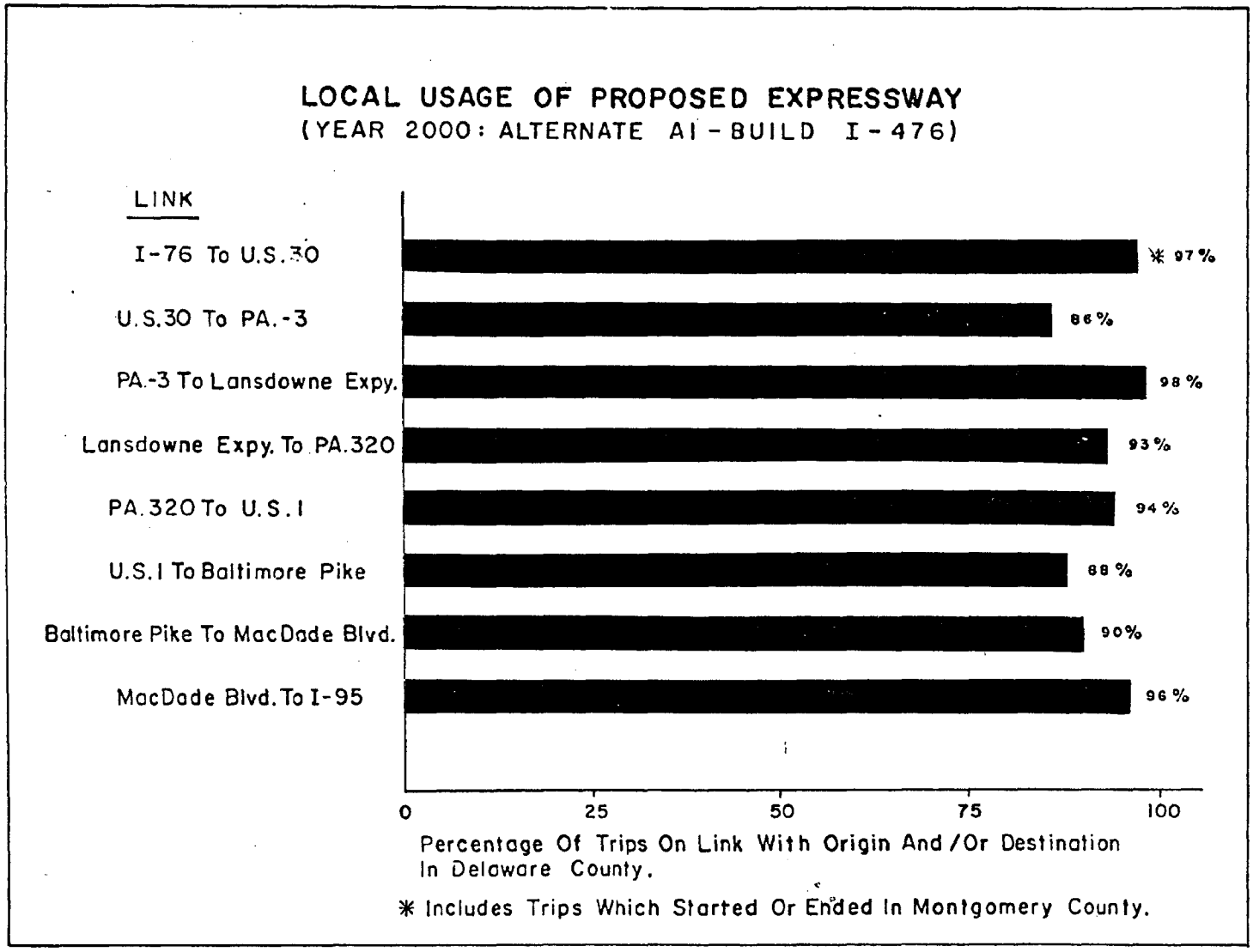
The Pennsylvania Department of Transportation has provided an estimate of Year 2000 uses of the Blue Route including both long and short-distance commuting. These can be found on Charts 2 and 3, which follow. Among its many uses, the Expressway will provide easier access to the Philadelphia International Airport and could encourage mass transit service, such as a bus link between Chester and Norristown.

It is expected that new development will occur at the Blue Route's interchanges, although not at a rapid pace since these areas can be classified as moderate to low suburban built-up areas. As a result of this development, some eventual traffic congestion can be expected.

No part of the Blue Route is or will be within the Borough limits. Therefore, Folcroft escapes the adverse impacts of construction and utilization of the highway.

Folcroft may, in fact, benefit from the Expressway. Via the Blue Route's interchange with MacDade Boulevard, Borough residents will find easier access to points north which could open up greater employment opportunities. In addition, the Blue Route's expected impact on industrial development in southern Delaware County should result in job opportunities for Borough residents who live in close proximity to industrial areas located particularly in Chester and on the riverfront. These new job opportunities, in turn, could help to stabilize the Borough's population.

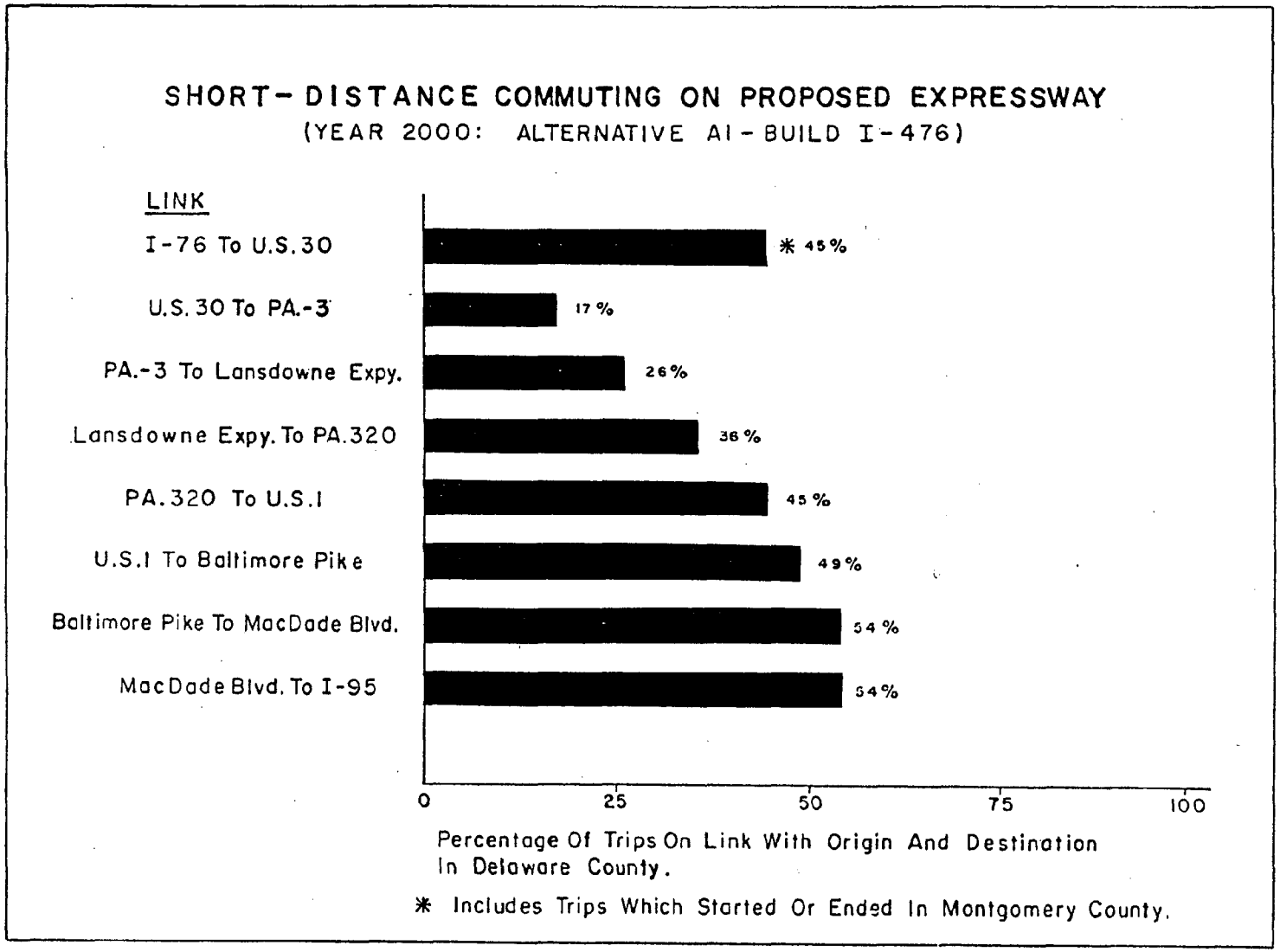
Chart Number 2



Source: Mid-County Expressway (I-476).

Final Environmental Impact/Section 4(f) Statement, August 8, 1980, Pennsylvania Department of Transportation, St. Davids, Pennsylvania.

Chart Number 3



Source: Mid-County Expressway (I-476).

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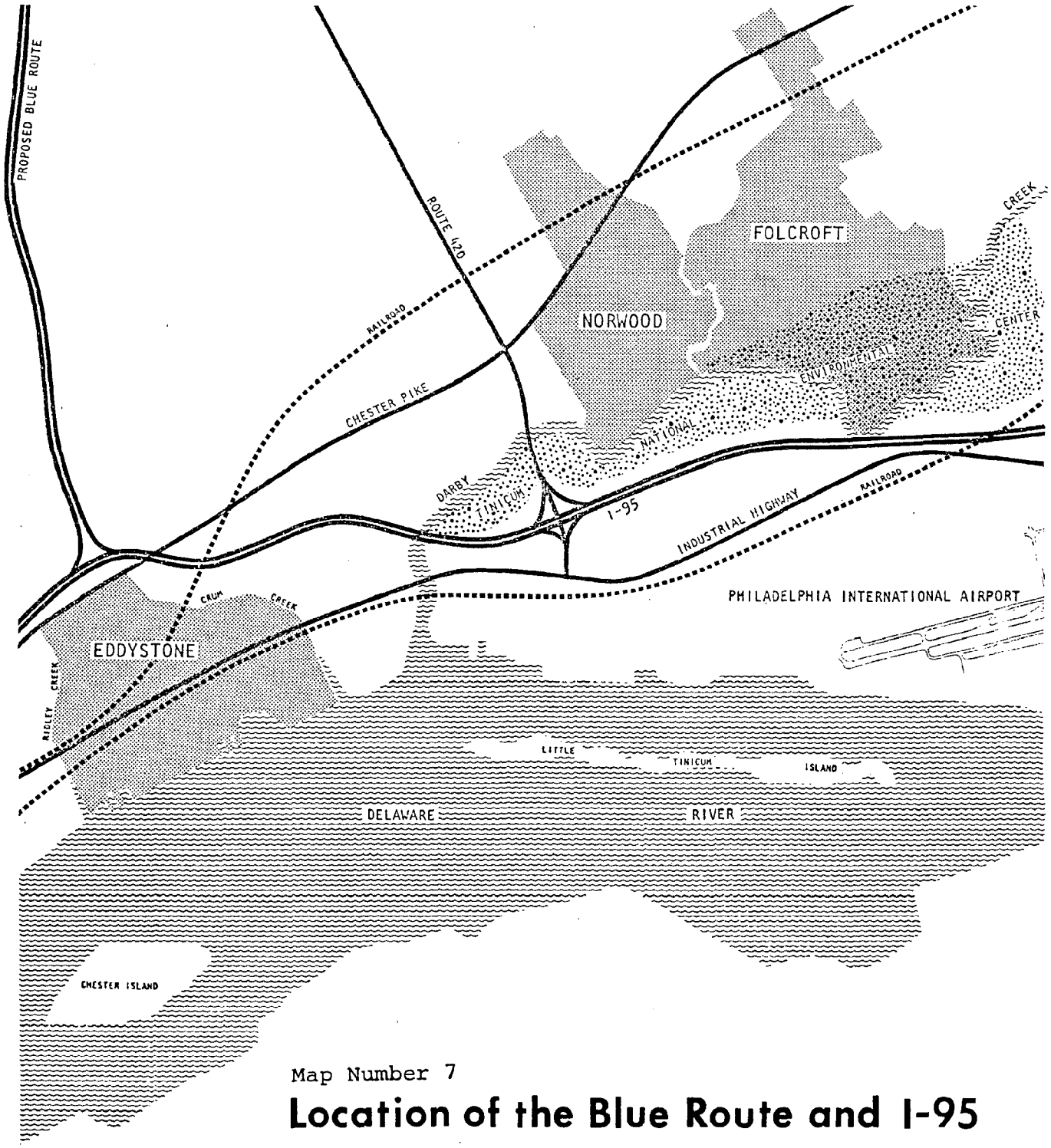


Map Number 7

Location of the Blue Route and I-95

YEAR 2000 PLAN FOR THE DELAWARE VALLEY

To guide change in the region, the Delaware Valley Regional Planning Commission (DVRPC) has prepared a regional plan. This plan is important because it looks at Folcroft and other communities not as independent entities, but rather as interdependent components of the region. Each component, because of its unique characteristics, is best suited to perform some function or functions in the economy of the region.

In its Year 2000 Plan for the Delaware Valley, the Delaware Valley Regional Planning Commission identifies Folcroft as a highly developed community with potentially valuable open space lands in its southern section. As a developed area, Folcroft possesses an extensive system of infrastructure. As it becomes increasingly expensive to construct roads, water lines, and sewer and utility lines, DVRPC feels that it will become necessary to utilize existing infrastructure to near maximum capacity as a means of minimizing costs. Therefore, the areas of Folcroft which are not developed to their maximum potential such as the east central area to the boundary with Darby Township, and along the northern boundary with Glenolden Borough, are designated as areas which should be developed by the year 2000. Also, any vacant structures or land in other parts of the Borough should be filled to the extent possible. This does not include the land in the Tinicum Environmental Center, as this area is more valuable as undeveloped open space.

Because of its proximity to Philadelphia International Airport, any changes in the airport's operating procedures have a potential impact on the community. However, the airport is highly developed with little land on which to expand its operations. The only proposed change in the immediate future is the possible extension of the north-south runway to accommodate commercial air traffic at times when crosswinds make landing those aircraft on the east-west runways difficult. As these crosswinds affect only about 5% of the flights, its only impact on Folcroft would be the slight reduction in noise levels in most of the community. The

Airport High Speed Line scheduled to open in 1983 or 1984 will have no physical impact on the Borough.

Interstate 95 as it passes through southern Delaware County is a six to eight lane, limited-access highway running the length of the County from the Delaware State border into Philadelphia. The Expressway is largely completed with the last segment at the Philadelphia International Airport scheduled for completion in 1985.

Although there is no direct physical impact on the Borough, at one point it passes within 200 feet of Folcroft's southern boundary on Darby Creek in the Tinicum National Environmental Center. Its impact on the marsh, of which much of southern Folcroft consists, was of some concern during the planning of the route. Its location at the southern border of the marsh is the result of these concerns as its original route was directly through the marsh. Runoff from the Expressway is not thought to pose any threat to the marsh.

In addition, there was originally some concern over the fact that part of the road in this area was to be constructed on a bridge spanning sludge lagoons created in the area by the City of Philadelphia. While the silty clay soils in the area helped prevent leaching of waste materials into the aquifer layer below, the bridge construction required that support pilings be driven through the lagoons and the two aquifer layers. These pilings could potentially contaminate the aquifer by forcing sludge materials into them, or by acting as a conduit, allowing the wastes to drain into the aquifers. By driving a hollow pipe through the sludge into the clay, removing the sludge from the pipe, driving the piling through the hollow pipe and aquifers into subsoil, and artificially sealing the joint between the pilings and the clay layer, potential for aquifer contamination has been virtually eliminated.

As a result of these measures, the Environmental Impact Statement for the project indicates that the environmental impact on the area will be minimal.

The only real impact on Folcroft appears to be a positive one. The Expressway will make Philadelphia more accessible to residents via Chester Pike and Route 420, and may play a role in stemming the Borough's population loss.

TINICUM NATIONAL ENVIRONMENTAL CENTER

The Tinicum National Environmental Center (TNEC) is a part of the Delaware Estuary. Extending from the mouth of Delaware Bay to the falls at Trenton, the Estuary and TNEC are part of Pennsylvania's Coastal Zone Management Program.

The Coastal Zone Management Improvement Act of 1972, amended in 1980, has as its goal the encouragement of states to achieve significant improvements in meeting national coastal management objectives, including among others, "the protection of natural resources, including wetlands, floodplains, estuaries, beaches, dunes, barrier islands, coral reefs, and fish and their habitat, within the control zone", and "the management of coastal development to minimize the loss of life and property caused by improper development in flood-prone areas and in areas of subsidence and saltwater intrusion and by the destruction of natural protective features such as beaches, dunes, wetlands, and barrier islands.

Since Folcroft contains approximately 44% of the marsh the Tinicum National Environmental Center is of particular interest to and has significant impact on the Borough.

Tinicum Marsh occupies the lowlands along the channel of Darby Creek in Delaware and Philadelphia Counties and is located on the primary Atlantic Flyway. It is heavily used as a resting place by migratory birds and contains a wide variety of vegetative species, while playing a significant role in improving the water quality of Darby Creek.

Most of the marsh was in private ownership and plans for developing it for industry were often considered. However, legislation (PL 92-326 of June 30, 1972, amended by PL 94-548 of October 18, 1976, amended by PL 95-152 of November 4, 1977) authorized the TNEC to carry out the intent of Congress which was to establish a center to provide for the preservation of the last remaining marshland in Pennsylvania. The U.S. Department of the Interior, Fish, and Wildlife Service was instructed to acquire lands necessary to preserve the marsh and make necessary adjustments to the land.

When the lands of the Tinicum National Environmental Center are fully acquired, they will encompass 1,220 acres. Some 350 of those acres were Borough lands in private ownership. At the present time all of this acreage has been acquired except for 55 acres owned by PECO. Negotiations, while unsuccessful in the past, have been halted due to the lack of funds to continue acquisition.

Effects on the Borough of Folcroft by current and future development of the Tinicum National Environmental Center are varied but not extreme. It is estimated that Folcroft will lose a total of $16,900 in assessed valuation of privately owned lands. No compensation will be made to the Borough for this loss. Instead, the Fish and Wildlife Service will make annual payments to Delaware County equaling .75% of the adjusted cost of the land which must be used for schools and roads.

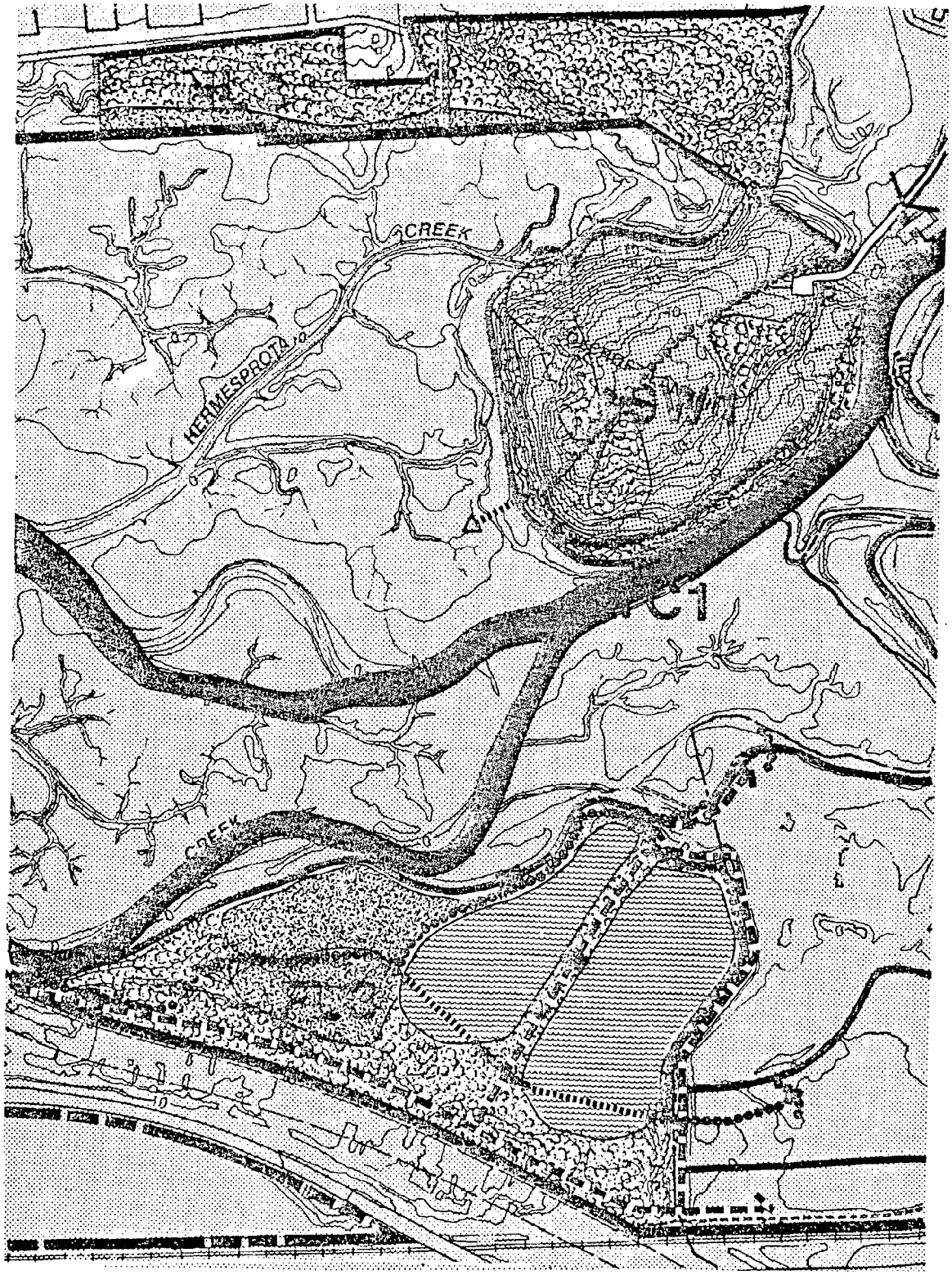
Most of the land being acquired is not suitable for development. However, the Folcroft Landfill might possibly have been used for light industrial development.

Most public services will be provided by the City of Philadelphia including police, fire, and ambulance service. The Tinicum National Environmental Center expects that local police will continue to patrol near their respective borders. It is expected that local fire and ambulance services would respond in time of extreme emergency, such as a widespread fire.

On the positive side, since authorization for the Tinicum National Environmental Center, investigation has been undertaken concerning pollutants found in the Folcroft landfill which are downgrading waters in the Darby Creek. The Tinicum National Environmental Center proposal would allow treatment and eventual termination of pollution.

The Tinicum National Environmental Center has already begun and will continue to remove trash and debris from all areas of the Center. The Tinicum National Environmental Center as a preservation area will provide a nearby safe and educational recreation area for Borough residents.

No increased traffic flow is expected to result from the Tinicum National Environmental Center since the major public entrances to the preserve are from Lindbergh Boulevard through Darby Township from the east, and Wanamaker Avenue through Prospect Park Borough from the west.



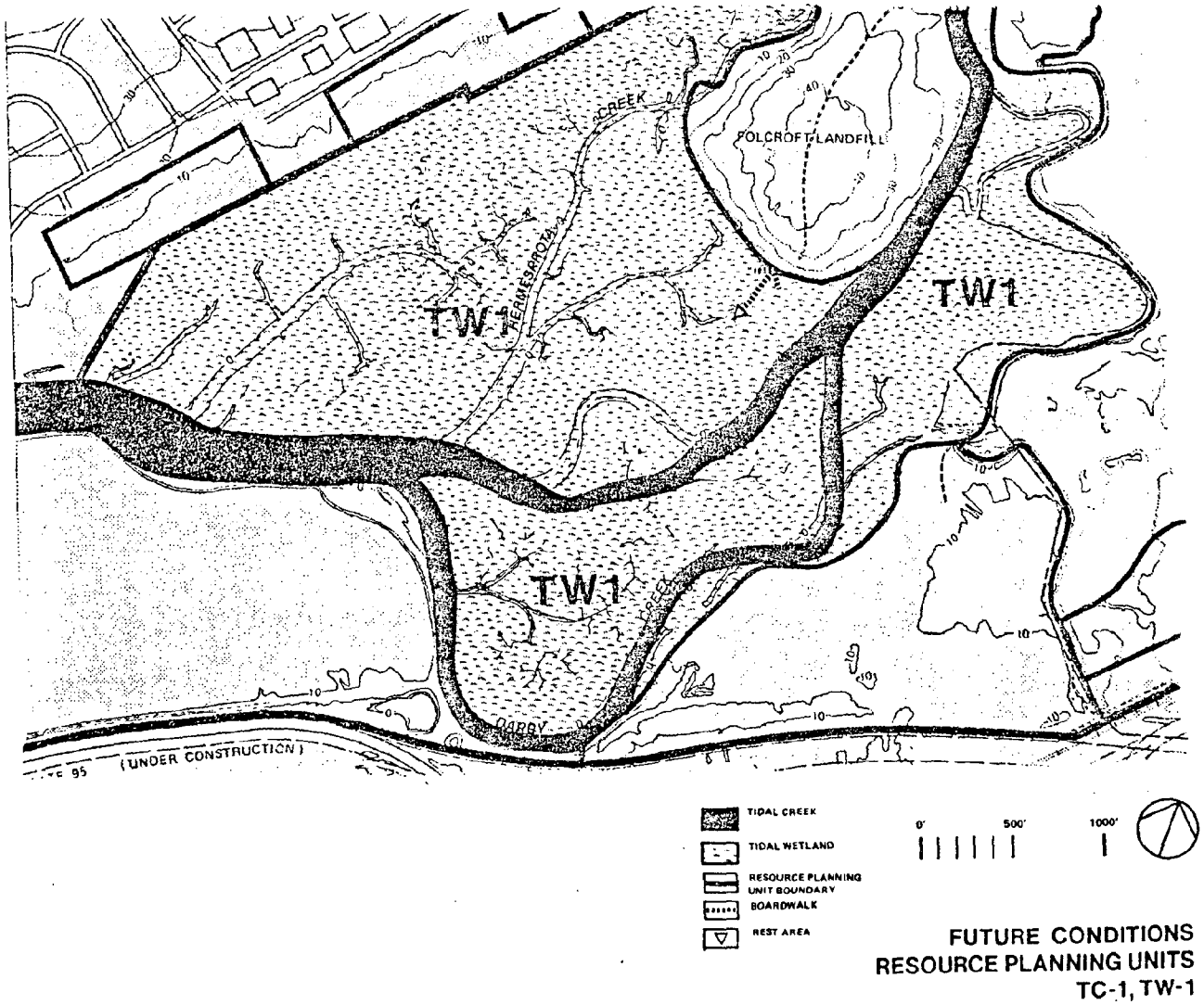
TIDAL CREEK
OLD FIELD
REST AREA
IMPOUNDMENTS
SERVICE ROAD
OBSERVATION / RAIN SHELTER
LOWLAND TRANSITIONAL FOREST
PEDESTRIAN TRAIL
PARKING
UPLAND FOREST
BOARDWALK
RESOURCE PLANNING UNIT BOUNDARY
WATER CONTROL STRUCTURE

0' 500' 1000'

Source: Draft Master Plan, Tinicum National Environmental Center, Philadelphia, Pennsylvania, Department of the Interior, U.S. Fish and Wildlife Service, September 1978.

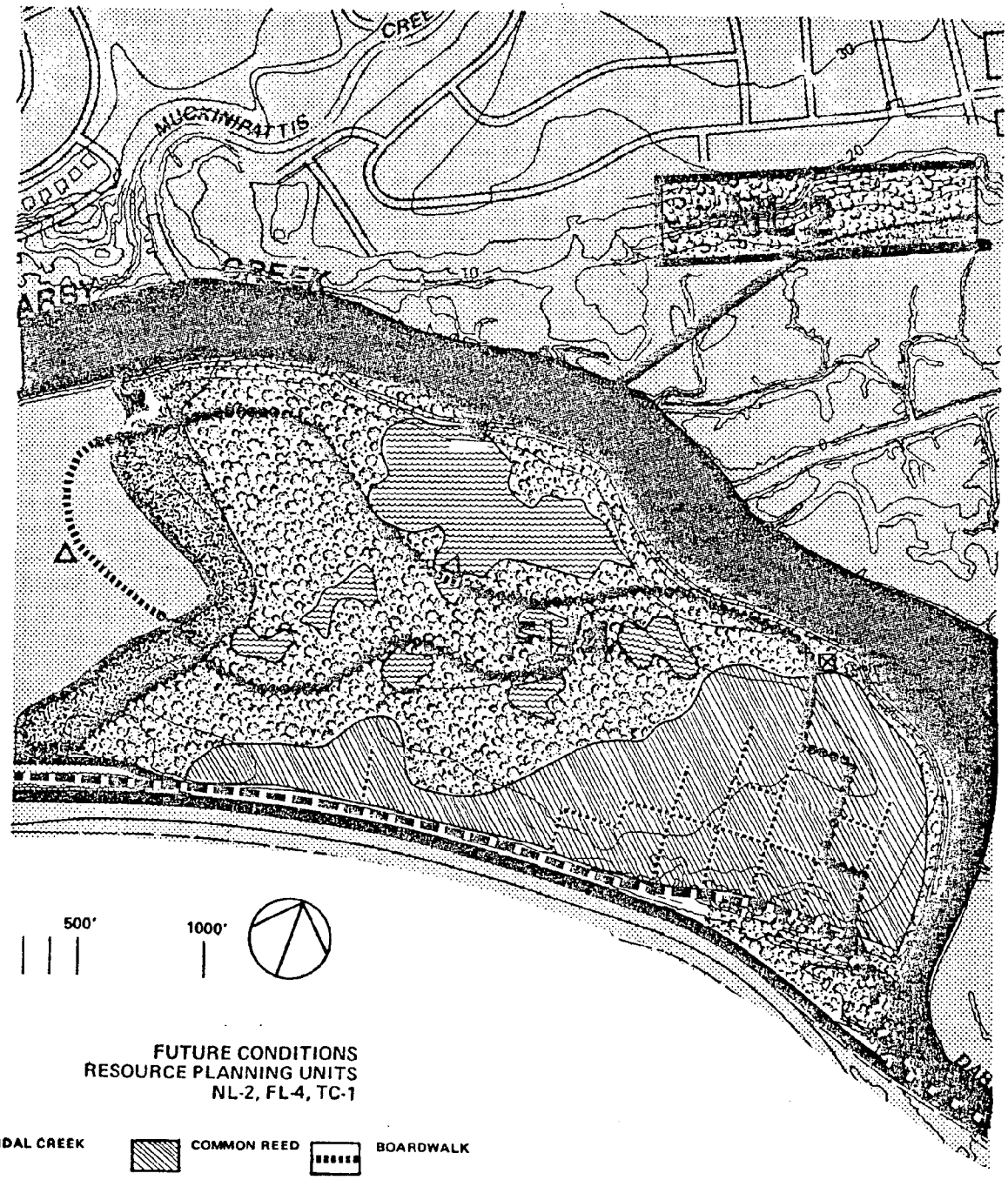
FUTURE CONDITIONS
RESOURCE PLANNING UNITS
NL-3, SW-1, TC-1, FL-3

MAP NO. 8.a.



MAP NO. 8.b.

Source: Draft Master Plan, Tinicum National Environmental Center, Philadelphia, Pennsylvania, Department of the Interior, U.S. Fish and Wildlife Service, September 1978.



FUTURE CONDITIONS
RESOURCE PLANNING UNITS
NL-2, FL-4, TC-1

TIDAL CREEK	COMMON REED	BOARDWALK
UPLAND PONDS	SERVICE ROAD	OBSERVATION PHOTO GRAPHIC BLINDS
LOWLAND TRANSITIONAL FOREST	FIRE LANES	REST AREA
UPLAND FOREST	UPLAND TRAIL	OBSERVATION TOWER
RESOURCE PLANNING UNIT BOUNDARY		WATER CONTROL STRUCTURE

Source: Draft Master Plan, Tinicum National Environmental Center, Philadelphia, Pennsylvania, Department of the Interior, U.S. Fish and Wildlife Service, September 1978.

MAP NO. 8.c.

NATURAL FEATURES

INVENTORY AND ANALYSIS OF IMPORTANT SOIL CONDITIONS

Some 13 different soil designations make up the Borough of Folcroft, including:

BeA	-	Beltsville Silt Loam (0 to 3% slopes).
BeB2	-	Beltsville Silt Loam (3 to 8% slopes).
ByA	-	Butlertown Silt Loam (0 to 3% slopes).
ByB2	-	Butlertown Silt Loam (3 to 8% slopes).
Cn	-	Congaree Silt Loam.
GeE	-	Glenelg Channery Silt Loam (25 to 35% slopes).
Mc	-	Made Land, Silt and Clay Materials.
Me	-	Made Land, Schist and Gneiss Materials.
MgB2	-	Manor Loam.
OtA	-	Othello Silt Loam.
Tm	-	Tidal Marsh.
We	-	Wehadkee Silt Loam.
WnA	-	Woodstown Loam.

For ease of reference, Folcroft is divided into four sections, as shown on Map No. 9. These sections are listed below along with the soils found to exist in those areas:

Upper Section:

- Location: Encompasses the area north of Delmare Drive to the Borough boundary.
- Soils: ByB2, Cn, GeE, Mc, Me, and MgB2.

Middle Section - I:

- Location: Encompasses the area between Delmar Drive and the Tinicum Marsh and west of School Lane to the western Borough boundary.

- Soils: BeA, Cn, Mc and We.

Middle Section - II:

- Location: Encompasses the area between Delmar Drive and the Tinicum Marsh and east of School Lane to the eastern Borough boundary.

- Soils: BeA, BeB2, ByA, ByB2, OtA, and WnA.

Lower Section:

- Location: Encompasses the Tinicum Marsh.

- Soils: Tm.

BeA - Beltsville Silt Loam is found in the Middle Section II area. This soil designation makes up about 45% of the land in the Middle Section - II area. Land uses in place on this soil include residential, public, semi-public and industrial. Vacant parcels are scattered in this area.

BeB2 - Beltsville Loam is also found in the Middle Section II area, making up about 20% of the soil. A small section of ground at the extreme southern portion of Middle Section I is also made up of this soil type. This is a residential area.

In general, the Beltsville Series of soils consists of moderately well-drained soils formed in silt over coastal plain unconsolidated sand, clay, and gravel. The surface layer of the soils is dark grayish brown silt loam. The subsoil is yellowish brown. The soils have moderate to slow permeability and are acid. With respect to BeB2 - Beltsville Silt Loam, in particular, nearly 50% of the original surface has been lost through erosion. These soils have a seasonal high water table each year which can cause sealing and drainage problems. This land is favorable for stores, factories, schools and similar commercial, industrial, or institutional construction.

ByA and ByB2 soils are a part of the Butlertown Series consisting of moderately well-drained soils on coastal plain silt. The surface layer of these soils is dark grayish-brown silt loam. The subsoil is a yellowish-brown silt loam that becomes mottled and more compact with increasing depth. The difference between the soils is that in the case of ByB2 material from the subsoil has been mixed with the remaining original surface layer.

ByA soils are found in the Middle Section II area along the Hermesprota Creek. Land uses in place are industrial uses.

The land uses in place where ByB2 soils prevail include residential and commercial uses found in the Upper Section area and make up about 15% of the soil found in that section. This soil is also found in the Middle Section - II area, lower eastern quarter, and includes industrial, public, and vacant parcels encompassing about 15% of the soil in this section.

These soils have favorable slopes for stores, factories, and schools. They all provide suitable foundations without a seasonal high water table. There is a perched water table for a short time after rains. Drainage and aeration are good.

A small section of land along the Muckinipates Creek as it intersects with Delmar Drive consists of Cn - Congaree Silt Loam. This soil is made up of deep, well-drained soils of the flood plain, with thick light brown, silty surface layer underlain by stratified silty or loamy material. The land is vacant and in the flood plain. The area is not suitable for homes or other buildings.

In the Upper Section, adjacent to the Muckinipates Creek in the vicinity of the terminus of Warwick Avenue, a small section of GeE - Glenelg Channery Silt Loam can be found. The Glenelg Series consists of deep, well-drained soils of uplands. The soils developed in material weathered mainly from granite, gneiss and mica schist. The surface layer is dark brown silt loam. The subsoil is dark brown to strong dark brown silt loam, and it contains a little more clay than the surface layer. In some places there are flat channery fragments, as much as two inches across, in the surface layer; slightly larger fragments are in the subsoil. Beneath the subsoil is strong brown or reddish brown loam that

contains many bright fragments of mica. This is well drained soil with slopes steeper than 25%, too steep for ordinary housing. The predominate use existing at the present time is public. The best uses would be parks or forests, game preserves or luxury housing.

Mc - Made Land, Silt and Clay Materials is the predominate soil type found in the Upper Section and in the Middle Section - I areas of the Borough of Folcroft. The present use is predominately residential.

The term "Made Land" means areas in which the soil has been covered by other materials from which the soil has been moved about or removed to provide materials for urban or industrial development. The Mc - Made Land, Silt, and Clay Materials is a miscellaneous land type consisting of areas in which the profile of normal soil has been destroyed or covered by earthmoving equipment. In most places, the exposed materials consist of silt and clay, but small areas of sandy and gravelly materials are intermingled with the silt and clay. These are deep, well drained, moderately slow to moderately permeable soils with slopes of 0 to 8 percent, favoring stores, factories and schools. This soil type provides good foundations with no seasonal high water table. However, there is a perched water table for a short time after rains. Drainage and aeriation are good.

Me - Made Land, Schist and Gneiss Materials is found in the Upper Section area near the northwestern boundary of the Borough. The area is generally bounded by Muckinipates Creek on two sides and Delmar Avenue and Grant Avenue.

This miscellaneous land type consists of areas in which the profile of the normal soil has been destroyed or covered by earthmoving equipment used for urban or industrial development. In these areas, the soil consists of a mixture of grayish-brown material from the surface layer, silt loam from the subsoil, and partially weathered micaceous schist and gneiss rocks.

These are well-drained, permeable soils with slopes of 0 to 8 percent. They have few natural limitations. The Made Land is suitable for homes and buildings. At the present time, existing uses include residential, commercial, and a minimum of industrial.

In the Upper Section area of Folcroft is a relatively small portion of ground which is made up of MgB2 - Manor Loam. This is shallow, well-drained soil. The parent materials of this soil are mostly mica, schist, and gneiss. The schist is fairly soft and weathers easily. The surface soil is dark brown with a yellowish red or yellowish brown subsoil which is micaceous. The soil may have a slippery or greasy feeling because of the mica content. The texture of the surface layer is loam or light silt loam. The MgB2 soil has lost about 50% of original surface due to erosion.

MgB2 - Manor Loam has slopes of 9 to 8 percent. This land is suitable for schools, factories, stores, or similar structures. In many places, the Manor soils are underlain by rotten rock to a depth of 20 feet. This rotten rock is not stable under heavy weight. The Made Land is subject to settling and is a poor foundation. Current land uses include public and commercial parcels.

In the Middle Section - II area of Folcroft, the OtA - Othello Silt Loam soil is found in the form of an "X" encompassing about 25% of the soil in that Section.

The Othello series consists of deep, poorly drained soils of uplands. The soils formed in coastal plain deposits consisting of silty material over a sandy and gravelly substrata. They have a thin surface layer of dark grayish-brown silt loan. The substratum is coarse sand and fine gravel that is mixed with lenses and pockets of clay loam. These soils are low-lying or basinlike areas and in seepy areas around the heads of streams. OtA - Othello Silt Loam has a high water table, is poorly aerated, and has slow permeability. This land is generally unsatisfactory for foundations for heavy structures. Fill is needed to raise floors above the level reached by the water table. The fill requires adequate drainage so that the water will not rise to the new level. At the present time, land uses are mainly industrial and public.

The Tm - Tidal Marsh designation appears only in the Lower Section area of the Borough. This encompasses the Tinicum Marsh. This land type is made up of a mixture of mineral soil materials. This area is subject to tidal overflow and is frequently under water.

The soil material consists mostly of dark gray, gray, or black smooth silty clay or clay. At a distance of 1 or 2

miles from the mouth of Darby Creek, the silty deposits that make up the tidal marsh have been capped by coarse-textured material washed from coastal plain sediments.

These are soils of the flood plain and are subject to overflow. The soil is not suitable for homes or other buildings. The current land use is the Tinicum National Environmental Center.

In the Middle Section - I area, in the southeastern corner of the Borough, bounded by the Muckinipates Creek and the Tinicum Marsh, We - Wehadkee Silt Loam soils can be found.

The Wehadkee series consists of deep, poorly drained soils on flood plains. The soil formed is generally allivium washed by streams from upland soils underlain by schist, gneiss, quartzite, anorthosite, quartz, monzonite, and granite. The surface layer is dark, grayish brown silt loam. The subsoil is yellowish brown silty clay loam that is mottled with various shades of gray. In most places stratified layers of sand and silt occur in these soils.

We - Wehadkee Silt Loam soil is moderately permeable. The water table is high and the land is subject to frequent flooding. Deposits of silt and sand added to this soil by overflow are greater than the amount removed by erosion. The soil is not suitable for homes or other buildings. The existing land use in this area is public.

WnA - Woodstown Loam soil is found in the Middle Section-II, southeastern corner running in a narrow band from the water's edge to the eastern boundary of the Borough in an upward direction.

The Woodstown series consists of deep, moderately well-drained soils of uplands. The soils have a surface layer of dark brown silt loam. Their subsoil is yellowish brown to reddish brown and is mottled. The substratum consists of coastal plain deposits of sand, silt, and gravel, and also of Bryn Mawr gravel.

The soil is moderately permeable. The water table is high for prolonged periods. This high water table causes sealing and poor drainage. The soil has gentle slopes and is favorable to stores, factories, schools, and similar large construction. Prevailing land use is entirely industrial.

DRAINAGE PATTERNS AND LOCALIZED PROBLEMS

The Borough of Folcroft can be considered one of hilly topography ranging from 10 feet above sea level to 80 feet above sea level.

The northernmost portion of the Borough is 79 feet above sea level forcing drainage into the Hermesprota Run (also known as Hermesprota Creek) where it crosses beneath Chester Pike.

West central in the Borough, the terrain is 80 feet above sea level shifting drainage in that area into the Muckinipates Creek.

From mid-Borough, the topography drops steadily, draining into Darby Creek.

In sum, Darby Creek, which forms the Borough's southern boundary, acts as the major drainageway of the Borough. Muckinipates Creek, forming a portion of the western Folcroft boundary, flows into the Darby Creek and acts as a second major drainageway. Hermesprota Creek forms the northernmost and final major drainageway in the Borough.

The major problem experienced with drainage is the flooding which occurs in times of heavy rain along Hermesprota Creek where Chester Pike crosses.

FLOOD PLAIN AREAS

Very little development has taken place within the flood plains in Folcroft Borough. The U.S. Department of Housing and Urban Development, Federal Insurance Administration, has determined that there are no major flood problems in existence in Folcroft.

Muckinipates Creek causes little or no flooding in the Borough. Tidal surges and riverine flow on Darby Creek cause no problems in Folcroft. A high natural bank along the tidal marsh of Darby Creek protects the southern portion of the Borough from flood waters.

The Federal Insurance Administration has designated the following areas as in the flood plain:

Zone A:

- Description: Areas of 100 year flood; base flood elevations and flood hazard factors not determined.
- Area: Hermesprota Creek in the northern area of the Borough south of Chester Pike.
- Area: Muckinipates Creek along Folcroft's western boundary.
- Area: The entire area of the tidal marsh in the southern portion of the Borough.

Zone A8:

- Description: Areas of 100 year flood; base elevations and flood hazard factors determined.
- Area: Along the Hermesprota Creek in the northern portion of the Borough from the Borough boundary to the north side of Chester Pike.

Zone B:

- Description: Area between limits of 100 year flood and 500 year flood; areas of 100 year shallow flooding where depths less than 1 foot.

- Area: Along the Hermesprota Creek in the northern portion of the Borough from the Borough boundary to the north side of Chester Pike to the east of Flood Zone A8.

Zone C:

- Description: Areas outside 500 year flood.

- Area: Remainder of the Borough.

WATER RESOURCES

Water has played an important role in the history of Delaware County and the Borough of Folcroft. Industrial development took place along waterways because those streams provided both power and transportation.

In Delaware County, an overwhelming majority of communities are serviced by private water companies. In Folcroft, the supplier of water is the Philadelphia Suburban Water Company (PSWC). While other sources of water include ground water and surface supplies, geology, physiography, and land use, as well as climate, bear on the quality and amount of these water sources.

Supply capacity for ground water is dependent upon rock and soil foundations, and its purity is the result of the soils and rocks through which it passes. Surface supplies are dependent upon precipitation, runoff, and ground water discharge.

In Delaware County, surface water supplies, accounting for most of the public water in the County, are drawn from streams, lakes and reservoirs. In the case of the Philadelphia Suburban Water Company, the source of supply is Crum Creek which flows a distance of 15.5 miles through Delaware County. Northwest of the Borough is a main pump station. Crum Creek forms a reservoir known as Springton Lake, from which water is released on a timed basis to supplement the yield of the creek during periods of low flow.

PSWC's treatment plant is located in Nether Providence Township, Delaware County, known as the Crum Creek Treatment Plant, and processes an average of 16 million gallons daily. Increased demand from the County will be met by PSWC at its Pickering Creek station near Phoenixville and the Upper Merion Station in Bridgeport.

SANITARY SEWER

The Henderson Group owns and maintains a pumping station for its industrial park area along Carpenters Crossing. This organization also installed and owns the sewer line on Ashland Avenue. All residential homes on Ashland are connected to this line. The Henderson pumping station pumps to the Darby Creek Joint Sewer Authority.

WETLANDS

Wetlands are lands or areas with soils which contain much moisture, such as tidal flats or swamps. The area of wetlands located within the boundaries of Folcroft Borough makes up the southern third of the Borough and is a part of the Tinicum Marsh.

Folcroft contains 44.4% of the tidal marsh, including the Folcroft Sanitary Landfill. The landfill had been used for the disposal of municipal trash and covers approximately 50 acres. The high ground resulting from years of dumping trash has the potential for development of a recreation area with an excellent view across the Tinicum Marsh. The site is easily accessible by car or foot, and can be reached by boat or canoe.

However, about three years ago, the Environmental Protection Agency did three test borings in the landfill. Although the findings were benign, there is concern about what might be buried in the landfill. It is known that several major industries dumped waste material, and the effect of this dumping is directly related to the strength of the cannisters in which the material has been sealed.

The Federal Government, through the U.S. Department of the Interior, Fish and Wildlife Service, proposed to acquire 278.8 acres of land within the Borough limits for inclusion in the Tinicum National Environmental Center. These parcels included those owned by Folcroft Landfill Corporation, PECO, C.E. Frank, W.C. Henderson, Haldt et al, W.C. Henderson, Jr., the Watts estate, and Richard Pike et al. These tracts are considered "core" tracts which were "recommended unequivocably for federal acquisition". In addition, 82.5 acres of "northern" tracts in Folcroft Borough were designated as having acquisition potential and becoming part of the Tinicum National Environmental Center; 6 acres were owned by G.A. Franks and the remainder by PECO.

At the present time, approximately 55 acres remain to be acquired; all owned by PECO. Negotiations for this land

have been unsuccessful in the past. At the present time, negotiations have been halted due to a lack of funds to continue the acquisition process.

The Department of the Interior has divided into Resource Units the portions of the Borough which it wants acquired by the Federal Government. Three Future Conditions Maps are reproduced herein to illustrate those Resource Units and to assist in detailing proposed actions which have been or will be undertaken by the Federal Government.

NL-3: Natural land, containing approximately 16 acres.

Proposed Actions: This tract is to be used as a transitional area between northern industrial uses and the tidal wetlands. The Department proposes maintaining lowland transitional vegetation in the south and establishing upland vegetation in the remainder. No structures are planned for this area.

TC-1: Tidal Creek, includes 90 acres throughout the entire Tinicum National Environmental Center.

Proposed Actions: The Department of the Interior has a number of proposed actions in connection with the Tidal Creek, including: implementation of a water quality monitoring program and installation of trash racks to prevent movement of trash into the tidal marsh with the tides, which could directly affect the Borough of Folcroft.

SW-1: Solid Waste Resource, containing approximately 60 acres.

Proposed Actions: Implementation of water quality monitoring to determine the extent pollution is affecting the quality of aquatic habitat and elimination of contamination and prevention of severe erosion are planned for the area. The Department expexts to construct a foot bridge across Darby Creek connecting with the dike trails to the west of the impoundment, construct trails, and an observation platform, and build a parking lot adjacent to the landfill entry.

TW-1: Tidal Wetland, containing approximately 270 acres.

Proposed Actions: The Department proposes to construct boardwalks and viewing areas in and along the perimeter of this tract for wildlife observation. In addition, efforts are being undertaken to clean up and prevent trash in the area.

NL-2: Natural land, containing approximately 6 acres.

Proposed Actions: It is proposed to establish lowland transitional vegetation in the southern section and upland vegetation in the remainder of this tract. No building is proposed for this area.

Concerning the Tinicum National Environmental Center (TNEC) in general, of the 1,200 acres proposed to be acquired, 900 acres are now owned by TNEC. A Youth Conservation Corps Program is operating at TNEC this summer, as it has done for the last eight summers. Youth involved in this program perform tasks ranging from litter control to erosion prevention. Some 500 white pine seedlings have been planted. A dike has been constructed at the eastern boundary of TNEC within the Philadelphia city limits and forms a new water control structure.

With respect to Folcroft, TNEC is attempting clean up of various sites and has demolished structures located there.

TOPOGRAPHY

Located in the southeast corner of the County of Delaware, Pennsylvania, the Borough of Folcroft is approximately 6.8 miles southwest of center city Philadelphia. Folcroft is approximately 1.38 square miles in size and lies within the Delaware River Basin.

As a part of the Philadelphia SMSA, the Borough is bounded by Darby Township, Sharon Hill Borough, Glenolden Borough, and Norwood Borough. It is bounded on the south by Darby Creek and on the central and southwest by the Muckinipates Creek.

Buildable land in the Borough is built up and supports a variety of land uses. Approximately two-thirds of the Borough, mostly in the north above Delmar Drive and in the central portion west of Ashland Avenue, is in residential use. Scattered throughout the northern portion of the Borough, in addition to residential use, are commercial, public and semi-public, as well as a scattering of mixed uses.

In the central area south of Delmar Drive and east of Ashland Avenue, the major land use is industrial with public uses near the residential areas to the north and west. Some commercial use also exists in this area.

The southern portion of the Borough is predominantly made up of tidal marsh.

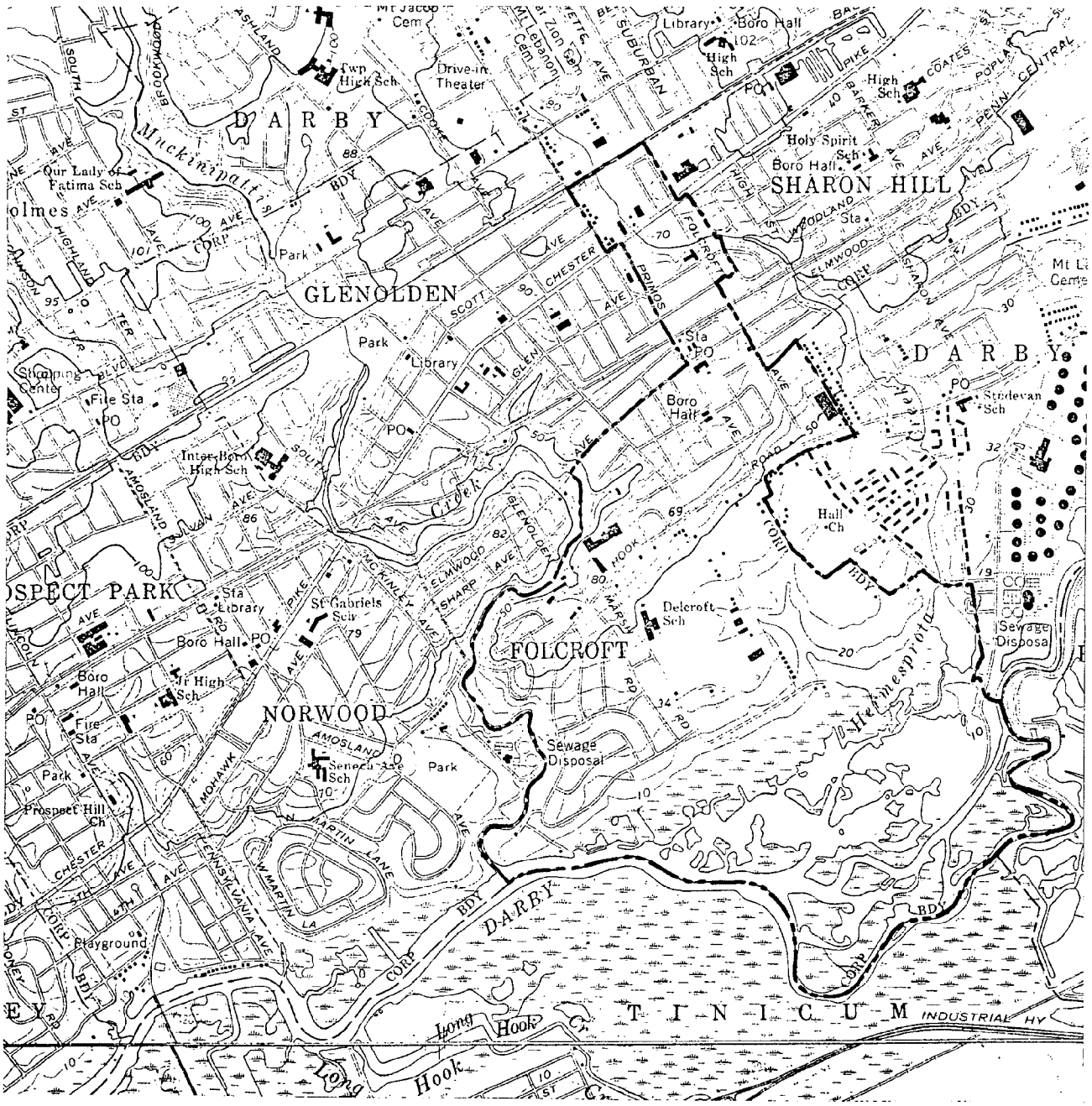
Throughout most of the Borough of Folcroft, the topography is hilly, ranging from 10 feet above sea level in the tidal marsh area at its southern border to 80 feet above sea level in the Borough's west central section near the Muckinipates Creek and 79 feet above sea level at its northern border. The tidal marsh adjacent to Darby Creek is relatively flat.

Darby Creek, as the southern boundary of the Borough, is subject to tidal effects of the Delaware River. Flowing at the western edge of the Borough, the Muckinipates Creek forms the dividing line between the Borough of Folcroft and the Boroughs of Norwood and Glenolden.

Hermesprota Creek (also known as Hermesprota Run) intersects with Chester Pike (U.S. Route 13) in the northern portion of the Borough. Hermesprota Creek acts as the major drainageway in this portion of Folcroft and is subject to flooding onto Chester Pike.

Along the Muckinipates Creek, small patches of deciduous forest can be found, in particular, in the area of Ashland and Columbia Avenues. Throughout the upper two-thirds of the Borough, vegetation is of residential and industrial lawns and trees. In the lower third, or southern portion of the Borough, the main vegetation is marsh grass.

The Baltimore and Ohio Philadelphia Main Line tracks form the Borough of Folcroft's northernmost Borough limits. Chester Pike traverses the Borough just three blocks south of the railroad line. The Penn Central Baltimore-Washington Main Line also crosses the Borough in this narrowest section of the Borough below Chester Pike.



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Map Number 10

U.S.G.S.

POPULATION ANALYSIS

POPULATION

In preparing a plan for the future growth and development of Folcroft, it is essential that an investigation be made into the characteristics of the current population, and changes in these characteristics which have occurred in the recent past. This information is important in determining the current needs per person in the community for residential space, community facilities, and public services.

By tracing these population changes, trends can be discerned. The trends can be used for the projection of future populations tempered by outside elements outside the control of the Borough, such as the economy. The projections are in turn useful in planning for future public services such as, fire and police protection, parks and recreation facilities and utilities.

POPULATION CHARACTERISTICS

The distribution of Folcroft's population of 8,231 persons is 49% male and 51% female.

A racially homogeneous community, Folcroft's residents consist of 8,095 whites, 82 blacks, and 54 persons of other races.

Of the residents over the age of 15, 59% are married and 30% are single.

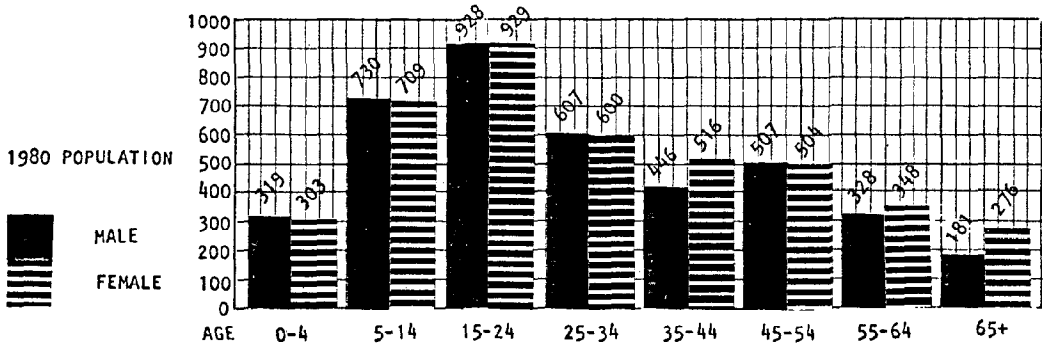
The median age in the community is 28.8 years.

CHART NO. 4

POPULATION BREAKDOWN

BY AGE AND SEX

1970 - 1980



The 1980 population distribution shows that only in the 35 to 44 and the 65+ cohorts did females significantly outnumber males. The male population total did not significantly exceed female totals in any cohort.

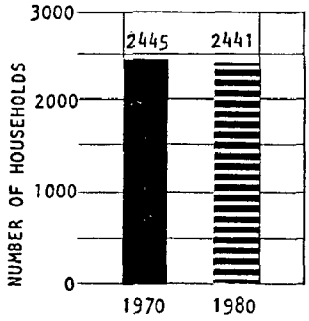
CHANGES - 1970 TO 1980

The population of Folcroft decreased by 1,370 persons, or 14% from 1970 to 1980. Racially, there has been a slight increase in minorities other than blacks from 19 persons in 1970 to 54 persons in 1980. However, the Borough remains 99% white. The percentage of males in the population has decreased from 50% in 1970 to 49% in 1980.

CHART NO. 5

CHANGE IN THE NUMBER OF HOUSEHOLDS

1970 - 1980



As is illustrated on Chart No. 5, the number of households in the Borough has remained relatively stable during the period: 2,445 households in 1970 and 2,441 in 1980. The population drop during this period can be explained only by a reduction in the number of persons per household, as shown on Chart No. 6, from 3.93 persons per household in 1970 to 3.27 in 1980.

CHART NO. 6

CHANGES IN THE NUMBER

OF PERSONS

PER HOUSEHOLD

1970 - 1980

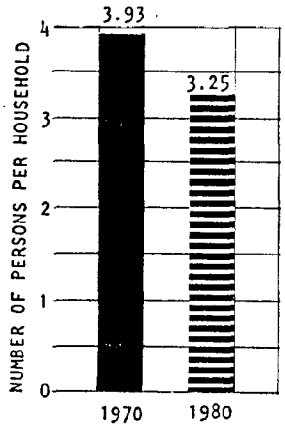


Chart No. 7 offers a partial explanation for the stability of the number of households, while persons per household fell during the period 1970 to 1980.

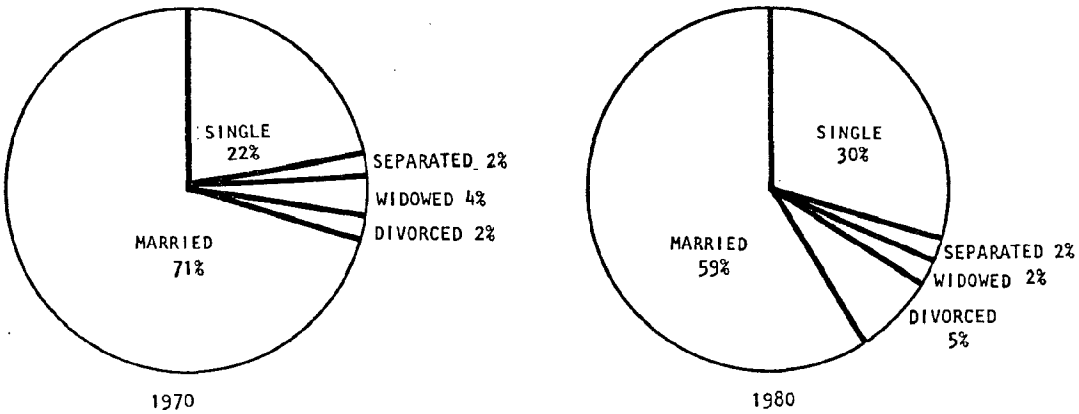
CHART 7

PERCENTAGE BREAKDOWN

OF POPULATION

BY MARITAL STATUS

1970 - 1980



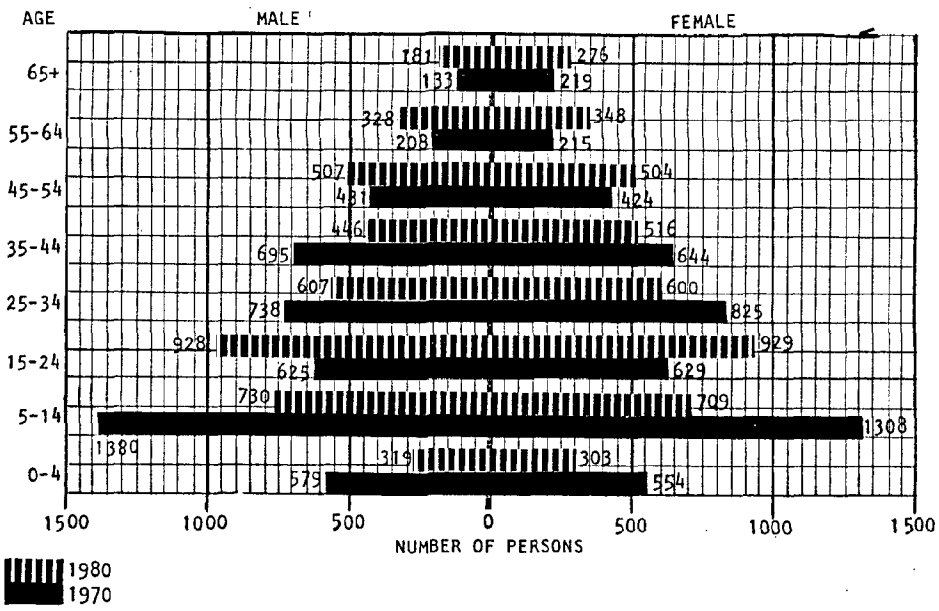
Single and divorced persons make up a larger percentage of the population in 1980 than in 1970. These individuals, in many cases, form new households driving down the number of persons per household while maintaining the total number of households.

As illustrated on Chart No. 8, a dramatic decrease in both the male and female population under the age of 14 occurred between 1970 and 1980, while a somewhat smaller decrease occurred in the 25 to 44 cohorts. Significant increases occurred in the 15 to 24 cohort and in the population over 45.

CHART NO. 8

AGE AND SEX DISTRIBUTION

1970 - 1980



It appears that the majority of the population loss can be attributed to those aged 25 to 34 in 1970 migrating to other areas by 1980, resulting in a significant loss of persons of child-bearing age. This reduction in conjunction with the trend toward smaller families reduced the birth rate considerably.

Despite the loss in total population experienced over the period, the total number of wage earners between age 15 and 64 increased slightly. The composition of this group changed somewhat, however, with more workers at the lower and upper age groups, and fewer middle aged workers.

In general, the population of Folcroft under age 45 decreased over the period while the total number of those over age 45 increased. This trend toward an older population has an effect on needs for housing in the community, as well as the need for services, such as education, transportation, and health care.

POPULATION PROJECTIONS

The demographic structure of a community, its total population, age of population, family composition, density patterns, and related characteristics have important implications in the planning process for the establishment of projected physical and financial requirements for the community.

An accurate assessment of present population in terms of total numbers, age, sex, and age group breakdown, along with a projection and interpretation of such characteristics, is a fundamental ingredient in the planning process. The preceding sections identify in considerable detail the present demographic characteristics of Folcroft Borough's population. The 1980 population of 8,231 persons has declined approximately 14% from the 1970 population. At the same time, modest amounts of new residential construction have occurred within the Borough, and significant changes within the population age groups have occurred. There is little sign of elimination or abandonment of housing units, and therefore, the reason for the decline in the population deals with a reduction in family size, rather than a reduction in housing or dwelling units.

These trends will continue causing a potential future loss by numerical standards in Folcroft Borough's population. This loss will be offset slightly by modest amounts of new residential construction as proposed for at at least two major existing undeveloped land parcels within the Folcroft Borough limits. However, for the most part, the Borough is close to being fully developed and with the exception of a few individual lots and two potential medium density housing sites, the Borough's maximum residential holding capacity has been reached.

It is suggested in other sections of this Comprehensive Plan that some conversions of larger single-family detached dwellings be permitted to allow an apartment to be created in an otherwise large, single-family residential dwelling unit. These trends will counterbalance the reduction in family size which can be predicted and the resultant loss in population.

Based on the changing demographic structure of Folcroft Borough, where certain contradictions appear to exist which include the fact that in the decade between 1970 and 1980 the Borough's housing stock grew by 4%, or 103 units, while the total population in the community declined by 1,370 persons, or 14% it can be anticipated that the trends of a reduction in family size will continue. These factors as related to Folcroft Borough's total population will result in a projected 1990 population of some 8,000 persons. This projection is influenced by the relative lack of developable land for residential purposes, the current and projected employment patterns, both within Folcroft Borough and in the immediate Delaware County/Philadelphia metropolitan area, and on the continued change in family size.

Further, the present trends of a significant decrease in persons of school age and early working years (25 to 34), will continue. Population in the post-44 years old age groups will continue to increase.

EXISTING LAND USE

SURVEY OF THE LAND

A windshield survey of all properties within the Borough's corporate limits was undertaken. From this survey, various information, presented throughout this plan, has been developed.

Basically, the survey confirmed that the majority of land is located in the wetlands and is public use. Of usable land, the largest use is residential, supported by significant land in right-of-way and industrial uses.

The survey's results also assisted in gleaning information about land use patterns, traffic circulation patterns, community facilities, and the significance of the Tinicum Natural Environmental Center.

This survey was also used to develop the descriptions following and formed the basis for the Existing Land Use Map, Map No. 10.

CHARACTER

Located in the southeastern section of Delaware County, the Borough of Folcroft comprises a unique mixture of commercial and residential land along with industrial and unused marsh land.

The various characteristics of land developed as the Borough expanded from its conception to the present day use of lands. Older homes are found between the Chester Pike area, with storefronts and apartments overhead, to the area north of Delmar Avenue, which originally were constructed as single family units on small lots.

As the suburbanized area of Philadelphia began to grow, so did Folcroft's need to intensify its residential land use. Thus, the area to the south and southwest of Delmar Drive, known as Delmar Village, emerged as a medium to high density residential area.

The general topography of Folcroft is almost sea level at the southern border to approximately 90 feet above sea level at the northern border; thus, the Borough can be considered hilly.

Approximately one-third of the lower part of Folcroft is marsh and swamp land, and is considered unbuildable.

TYPE

The area along Chester Pike consists largely of commercial and industrial uses, as does north of Chester Pike on Oak Lane. A concentrated area of residential units is found north of Chester Pike on King and Folcroft Avenues, to and including Llanwellyn Avenue.

To the south of the Chester Pike commercial area are more residential dwellings with a mixture of uses found along Elmwood Avenue. These comprise the train station, Borough Hall, and miscellaneous commercial activities.

The area bounded by Elmwood Avenue and Warwick Avenue is predominantly residential. Interspersed are a few commercial properties, churches, and the Folcroft Middle School and Folcroft Swim Club.

The largest collection of land use on a single thoroughfare can be found along Delmar Drive. It comprises a large residential area at its western point, followed by a large commercial area and shopping center. Another large residential area is located midway through Delmar Drive on the northern side, while the southern side consists of some commercial, public, and residential areas.

On Delmar Drive eastward from Ashland Avenue, the area is comprised mostly of commercial and public areas.

A large residential area is located south of Delmar Drive between the western boundary of Folcroft and School Lane.

The industrial area which was created by the Henderson Group is located at the intersection of Ashland Avenue and Columbia Avenue, and extends in all directions. The southern boundary of the industrial area is paralleled by the Tinicum National Environmental Center.

DISTRIBUTION

Total Area: 1.38 square miles.
Total Area: 883 acres.

Land Uses	Acreage	Percent of Total Land Area
Residential	239	27.07%
Commercial	31	3.51%
Right-of-Way	140	15.86%
Public	61	6.91%
Semi-Public	12	1.36%
Vacant	35	3.96%
Preserve	271.3	30.72%
Industrial	93	10.53%
Mixed Use	0.7	.08%
TOTALS	883	100.00%

HOUSING CHARACTERISTICS

INVENTORY OF HOUSING

Its residential neighborhoods are generally the most important determinant of a community's image and, therefore, its attractiveness to potential residents and future development.

In preparing a plan for the future of the Borough of Folcroft, an analysis of the existing housing stock must be made not only to determine the condition and attractiveness of the housing, but its characteristics such as size, price, and type since these determine the Borough's suitability to various segments and income levels of the population. Only after this analysis can recommendations be made which will enable the community to best meet the housing needs of its current and future residents, whether that be new construction or Borough encouragement of homeowners and landlords to rehabilitate their units.

CHARACTERISTICS

While 88% of Folcroft's housing stock are single family dwellings, there also exists a mixture of condominiums, apartments, attached units of various types, and mixed use development with apartments above commercial establishments.

The largest concentration of single family units appears to be in south and southwesterly portions of the Borough. The area to the north of Chester Pike is occupied primarily by condominiums, townhouses, and mixed use development.

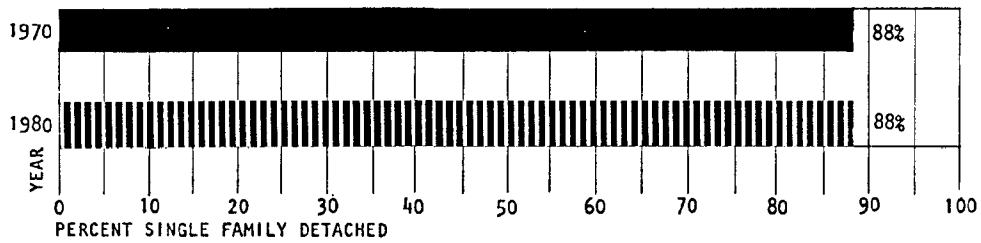
Masonry appears to be the dominant construction type, with a significant number of frame structures interspersed throughout.

With only 21% of the housing built prior to 1950, the Borough has a definite post-World War II character. Fifty-three percent of the units were built from 1950 to 1959, 23% from 1960 to 1969, and only 4% in 1970. However, housing units constructed in the last decade did have some impact on the character of the Borough's housing.

CHART NO. 9

COMPARISON OF SINGLE-FAMILY DETACHED HOUSING

1970 -1980

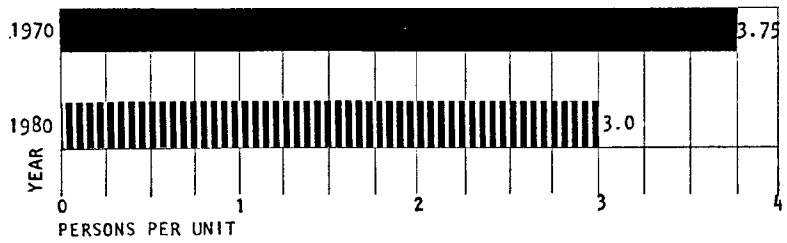


During this period, the percentage of the Borough's total housing units which are single family detached remain unchanged. This indicates that housing built during the decade was fairly consistent in its character with that which existed.

CHART NO. 10

AVERAGE NUMBER OF PERSONS PER UNIT

1970 - 1980

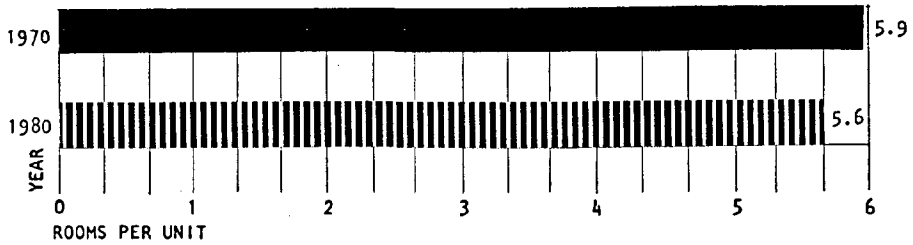


While the type of units remained unchanged, the number of persons housed in each unit decreased over the period by 20% from 3.75 persons to 3.0 persons as indicated in Chart No. 10. This may be the result of national trends toward smaller families and single person households, which occurred during this period. The Borough's loss in population may have partially resulted from this trend.

CHART NO. 11

AVERAGE SIZE OF HOUSING UNIT

1970 - 1980



While single family detached units continued to dominate units constructed during the period, Chart No. 11 indicates that those units built during the decade were significantly smaller than the existing units. This resulted in a decrease in the average number of rooms in a typical Folcroft housing unit by 5% from 5.9 rooms per average unit to 5.6 rooms. These smaller units probably resulted from the needs of smaller families and the increasing construction costs prevalent during the decade.

Of the three communities under study, Folcroft seems to have been affected to a greater degree by the changing economic and cultural conditions affecting its housing stock. However, it also appears less receptive to alternatives to the single family detached unit based on its very high percentage of this housing type.

GROWTH IN THE LAST DECADE

From 1970 to 1980, Folcroft's housing stock grew by 4%, or 103 units, from 2,472 to 2,575 units.

SUPPLY AND DEMAND

CHART NO. 12

PERCENTAGE BREAKDOWN OF

HOUSING BY OCCUPANT TYPE

1970 - 1980

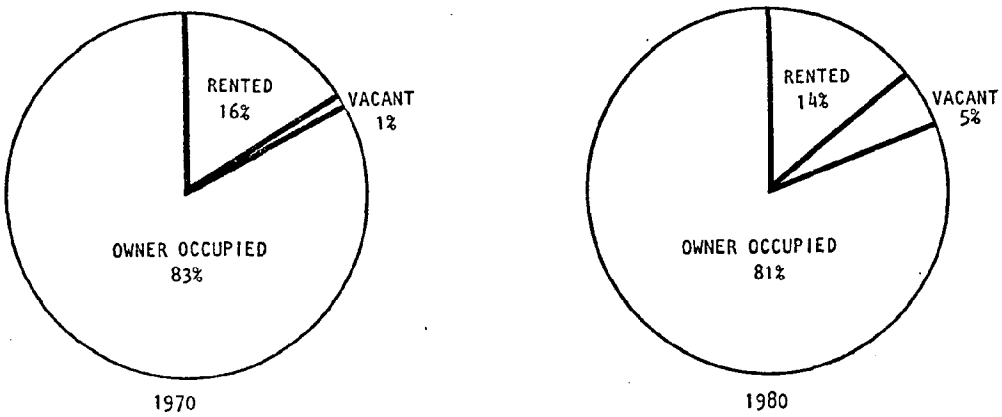


Chart No. 12 indicates the breakdown of the Borough's units in 1970 were 83% owner-occupied, 16% renter-occupied, and only 1% were vacant. By 1980, 81% were owner-occupied, 14% rented, and 5% were vacant. However, of the 134 vacant units in 1980, over half were for sale condominium units. Again, this may indicate the unacceptability to Folcroft residents of housing forms other than the single family detached unit.

It appears that the demand for single family units in Folcroft remains strong, and acceptance of other housing forms slow. Ironically, it is these forms which may be best able to meet the current needs.

COSTS

The median value of an owner occupied housing unit rose from $14,200 in 1970 to $33,052 by 1980. Rents also increased from an average of $124 in 1970 to $219 in 1980.

AREAS OF DETERIORATED HOUSING

With the exception of scattered units, there appears to be no concentrated sections of deteriorated housing in the Borough.

COMMUNITY FACILITIES AND SERVICES

INVENTORY

Community facilities are those amenities which improve life by making the community comfortable, safe, and attractive as a place to live. Following is a brief description of the Borough's Community Facilities and an Inventory including ownership and operation responsibilities.

A map indicating the location of each of the facilities follows and is entitled: Community Facilities Map, Map No. 12.

DESCRIPTION

Schools

The Borough of Folcroft is located within the Southeast Delco School District. The district is comprised of Darby Township, and Collingdale, Sharon Hill and Folcroft Boroughs.

Delcroft Elementary School is located on School Lane, just south of Delmar Drive. Also located in this vicinity is the Delaware County Vocational and Technical School. In addition to the school buildings, the area contains ball fields and miscellaneous play apparatus. All of the above are owned and operated by the School District.

On the corner of Primos Avenue and Delmar Drive is located the school district office known as the Southeast Delco School District Educational Service Center. This is also owned and operated by the school district.

On Delmar Drive just east of Folcroft Avenue is the Delaware County Intermediate Unit Extension Services. This

facility is leased by the school district from the Henderson Group and provides services for atypical and physically handicapped children, in addition to the operation of vocational-technical schools.

It is estimated that the projected number of pupils to enroll will steadily decline during the 1980's.

Kindergarten is conducted by St. John's Church on Glen Avenue.

Recreation Areas

Llanwellen Gardens Playground on Llanwellen Avenue is a Borough-owned and maintained play area which consists of ball fields, swings, slides, and other play apparatus.

A Borough-owned and operated play facility is located south of Delmar Drive and east of Ashland Avenue. This area contains ball fields, including basketball and tennis, and other play apparatus. The Girls Club owns and operates a building located on Borough property in this vicinity.

Montgomery Park is located along the Muckinipates Creek just off Taylor Drive. It is a Borough-owned and operated recreation area which contains ball fields, swings, play areas, and play apparatus. A field house is located in the park which is used by the Boys Club.

Part of the Montgomery Park land is leased to the Folcroft Boat Club. The club is a private organization which uses the land for boat storage and launching. The club is responsible for maintenance and controls the access and security by fence and padlock.

To the west of Windsor Circle is an open space play area. This area was originally cleared by the residents for a baseball and open space recreation area. Although it was never officially deeded over to the Borough, the Borough maintains the area as far as grass cutting is concerned. The Ball Stop and other play facilities were erected and installed by the local residents.

Borough Hall

The present location of the Borough Hall and Police Station is Baltimore Avenue. This facility is currently Borough-owned and operated.

Plans are to move the Borough offices to the old Folcroft Middle School on Elmwood Avenue. The Southeast Delco School District closed this facility and is currently removing its equipment and furnishings.

In addition to the new Borough Hall, which will house both Borough offices and the Police Station, the Present District Justice Office on Delmar Drive will relocate and rent space in the new Borough Hall.

Library

The library is located on the corner of Delmar Drive and Ashland Avenue. It was originally built by the residents of Folcroft donating their time, labor, and material. Upon completion, it was donated to the Borough and is now Borough-owned and operated.

Fire Station

The Folcroft Fire Company is a volunteer organization which owns and maintains the building located on Delmar Drive, as well as owning and maintaining one ambulance.

The Borough owns two pumpers and one rescue truck and houses this equipment at the station. In addition, the Borough outfits firefighters with uniforms and equipment.

The Fire Company Hall is provided at no charge to the Borough for meetings.

Pump Station and Borough Garage

Located at the entrance to Montgomery Park on Taylor Drive is the Pump Station and Borough Garage. These facilities are Borough-owned and operated.

The Pump Station pumps waste to the Muckinipates Sewer Treatment facility.

The Borough Garage consists of a fenced-in area behind the Pump Station Building and is used for storage of trucks and other Borough equipment.

Swim Club

The Folcroft Swim Club is a private organization with no

Borough involvement. It is located behind the shopping center on Delmar Drive.

Programs

An arts and crafts program is usually held during the summer months for a period of six weeks. It is held at three locations: Montgomery Park, Delcroft School, and Folcroft Middle School.

FACILITY CONTROL AND RESPONSIBILITY

Facility and Address	Ownership/Responsibility
Borough Hall 155 Baltimore Avenue	Borough of Folcroft
Llanwellen Gardens Playground Llanwellen Avenue	Borough of Folcroft
Montgomery Park Along Muckinipates Creek	Borough of Folcroft
Folcroft Boat Club Montgomery Park	Borough of Folcroft/leased to Boat Club
Unnamed Play Area South of Delmar Drive	Borough of Folcroft
Unnamed Play Area West of Windsor Circle	Private Ownership/Maintained by Borough of Folcroft
Folcroft Library Delmar Drive and Ashland Avenue	Borough of Folcroft
Folcroft Fire Company 1647 Delmar Drive	Private volunteer company
Fire Equipment 1647 Delmar Drive	Borough of Folcroft

Facility Control and Responsibility Continued:

Facility and Address	Ownership/Responsibility
Borough Garage Taylor Drive	Borough of Folcroft
Sewage Pumping Station Taylor Drive	Borough of Folcroft
Folcroft Swim Club Warwick Avenue	Folcroft Swim Club, private
Delcroft Elementary School School Lane	Southeast Delco School School District

TRANSPORTATION

CHARACTERISTICS AND CIRCULATION PATTERN

OF THE LOCAL ROAD NETWORK

As is typical in most urban areas, the circulation network displays a distinct hierarchy of roadways and road utilization. Roads in the Borough can be classified into one of three categories, primary, secondary, or tertiary.

Chester Pike, becuase it serves as a link between several communities and carries a significant amount of traffic entering, leaving, or passing through the Borough, is categorized as the Borough's only primary roadway. Chester Pike is a four-lane, heavily travelled, federal highway, designated US-13 and traversing north-south.

Secondary or collector roads are those which move traffic primarily within the community and generally intersect primary roads. Folcroft's secondary roads, all of which are two-way, are Delmar Drive and Elmwood Avenue running east-west, and Primos, Folcroft and Ashland Avenues running north-south.

The remaining roads are categorized as tertiary. Tertiary roadways are used primarily by those who live or work in the immediate vicinity. These roads generally do not serve as a thoroughfare to those moving through the community. The majority of Folcroft's tertiary roads permit two-way traffic, however, a few allow traffic to move only one way.

The following is a list of one-way streets: Llanwellon Avenue, King Avenue and the northwestern part of Folcroft Avenue. Glen Avenue, Baltimore Avenue, Glencroft Circle, Windsor Circle, Kent Road, Bennington Road, Delview Road, and Heather Road comprise the remaining one-way roads within the Borough.

In addition, the Borough of Folcroft has approached the Borough of Sharon Hill in an effort to initiate a joint venture in the replacement of the Folcroft Avenue Bridge. The surface of this bridge is badly deteriorated.

PRIMOS AVENUE BRIDGE REPLACEMENT STUDY

The Primos Avenue Bridge, carrying Primos Avenue (L.R. 420, Section 2) over the Amtrak rail line in Folcroft and Glenolden Boroughs, has been classified by the Pennsylvania Department of Transportation as completely beyond repair. The consulting engineering firm of McCormick, Taylor and Associates, Inc. (MTA) of Philadelphia, has been retained by PennDOT to study the replacement of the bridge.

A preliminary design analysis and an environmental overview have been completed. From this preliminary design stage, five alternate bridge replacement schemes evolved. Chart No. 13 presents an overview of these alternatives. The alternatives ranged from simply closing the old bridge to an extensive structural and roadway improvement scheme. Major variables considered in developing the design alternatives included degree of improvement to the existing roadway profile, the length of the roadway improvement (Hook Road to Chester Pike), and the width of the new bridge (two or four lanes).

The potential environmental impacts of each alternative has also been analyzed. The only impacts of closing the bridge would be that Primos Avenue could no longer be used as access to Chester Pike by those south of the rail line. This traffic would have to be rerouted across the Folcroft Avenue Bridge which is badly deteriorated. No land acquisition or residential displacement would result in the closing.

In contrast to this proposal, the most extensive proposal involved the construction of a new four-lane bridge and the improvement of the road profile. The environmental impacts of this scheme were significant. Elmwood Avenue would be bridged and Woodland Avenue would be closed. Over three acres of land have been acquired, on which eighteen dwelling units are located. In addition, an extensive retaining wall system would be necessitated.

A public meeting was held May 5, 1982 to initiate citizen participation in the project.

In early August of 1982, PennDOT revealed that it has selected the Minimum Improvement Alternative design for the new bridge. PennDOT has proceeded to secure the necessary environmental clearance for the project and construction on the new 2 lane bridge is expected to begin in the not too distant future.

CHART NO. 13

PRIMOS AVENUE BRIDGE ALTERNATIVES

IMPACTS BY ALTERNATIVE

	ACQUISITIONS		WALLS		STREETS	
	LAND (SQ. FT.)	DWELLING UNITS	LINEAR FT.	AV. HEIGHT	CLOSED	BRIDGED
DO NOTHING	-	-	-	-	PRIMOS AVE. OVER AMTRAK	-
MINIMAL DESIGN	10,525	0	420	6.5 ft.	-	-
MINIMAL IMPROVEMENT	12,515	0	520	9.5 ft.	WOODLAND AVENUE	-
MINIMAL IMPROVEMENT EXTENDED	40,750	4	520	9.5 ft.	WOODLAND AVENUE	-
DESIGN STANDARD EXTENDED	133,845	18	690	9.6 ft.	WOODLAND AVENUE	ELMWOOD AVENUE

Source: McCormick, Taylor & Associates, Inc.
Public Meeting, May 5, 1982

AVAILABILITY OF MASS TRANSPORTATION

The Southeastern Pennsylvania Transportation (SEPTA) services the Borough of Folcroft. SEPTA's Route 72 to Darby provides mass transportation for the central and southern sections of Folcroft. Buses run every 40 to 50 minutes on weekdays from 6:30 a.m. until 7:00 p.m. Service is also provided on Saturdays, but buses run less frequently.

SEPTA's Route 74 to Darby or Boothwyn services the northern segments of the Borough. Buses run approximately every 30 minutes from 5:30 a.m. until 11:00 p.m. on weekdays, and less frequently on Saturdays and Sundays.

In addition, mass transportation, via SEPTA's Route 76 to Darby or Marcus Hook, is available two blocks to the north of Folcroft on MacDade Boulevard.

Within the Borough limits, all buses make frequent stops, at least every two to three blocks.

Trains from the Folcroft Station to Wilmington or Center City Philadelphia run every day from approximately 6:00 a.m. until 12:00 midnight. Weekday rush-hour trains run every half-hour, and trains at most other times run every one to two hours.

EMPLOYMENT

EMPLOYMENT

Residents of the Borough of Folcroft are provided with numerous employment opportunities by a variety of commercial and industrial establishments within the Borough. While data from the 1980 Census regarding income of residents and the number of employment opportunities existing in the Borough was not available at the time this plan was prepared, some general conclusions can be drawn as to the importance of these employment opportunities based on economic trends of recent years.

The fact that northeastern cities have suffered recently from a loss of manufacturing industries and population has been repeatedly noted throughout this plan. While this type of industry has not existed in Folcroft, residents of Folcroft have undoubtedly suffered from losses suffered by other local communities. However, the industries operating in Folcroft are characterized as being light manufacturing or service industries. This type industry has proven more reliable in maintaining operations and continuing to provide employment opportunities than older, heavy manufacturing industries.

There are numerous benefits to the Borough of Folcroft in maintaining its current mix of industrial land uses:

1. The proximity to Borough residents provides employment opportunities to residents which require minimum expenditures for transportation. Shorter trips to work also reduce fuel consumption, a factor which may become increasingly important in the future.

2. Industrial uses which contribute significant revenues to the Borough but require smaller expenditures for education and many other services, are important to the economic health of a community. Increased revenues produced by industry reduce tax rates in a community, and many times result in higher quality services for residents.

3. Industry provides employment opportunities to residents of other communities also. These employees become more

familiar with the Borough than they would be likely to if they were not working there, and may patronize Borough commercial establishments. These commercial establishments in turn produce more employment opportunities than would be possible if their market area were restricted to Borough residents and those in the immediate vicinity of the Borough.

4. Commercial establishments also provide many benefits for a community. Employment opportunities are provided for certain segments of the population who cannot be accommodated easily by industry. Students, for example, cannot work during traditional working hours and are ideally suited to employment on weekends and evenings, those times during which many commercial establishments do a substantial portion of their business. In addition, commercial establishments have positive economic impact on a community. By permitting residents to purchase needed goods in a community, the money these residents earned either in the community or in another community does not immediately circulate out of the Borough. This circulation of money within the Borough benefits the local economy, businesses, and employees of these businesses. It is a generally held belief that this recirculation of money through a community's economy is a positive factor in stimulating economic activity and maintaining a community's economic health. A diversified commercial district can help insure that this recirculation will be maximized, and that residents and the community will receive maximum benefits from their expenditures.

In summary, the importance of a mixture of land uses in a community, including industrial and commercial uses, cannot be overstated. Folcroft appears to have a healthy mixture of land uses at the present time. Commercial activities are of the types which not only cater to needs of residents, but which also attract shoppers from surrounding areas. The industrial areas which exist can be classified as light industrial, which appear to be less affected by economic problems than do heavy manufacturing industries. These light industrial areas also do not create the adverse environmental impacts on the Borough which are sometimes associated with heavier industrial uses. The protection of these commercial and industrial areas should be assured through the promotion of property maintenance, the enhancement of physical characteristics wherever possible, and the preclusion of industrial uses which are incompatible with the nature of that which exists and which would be detrimental to the entire Borough.

PROPOSED LAND USE PLAN

AND OTHER RECOMMENDATIONS

RECOMMENDATIONS

Folcroft Borough is an extremely complicated community in terms of both existing and proposed land uses. Presently existing neighborhoods, zones, relationships, densities and organization of the community are well established and the Comprehensive Plan deals with these forces with the objective of consolidating sound land use relationships, reducing or buffering inappropriate land use and building use relationships and recommending that certain portions of the community be left in a natural state because of the inappropriateness of developing land subject to flooding or requiring extensive construction solutions because of environmental conditions which prohibit normal construction activities.

Folcroft Borough is a community with a series of distinctly defined neighborhoods, land use patterns and zones. Many portions of the Borough are completely developed with well-established residential neighborhoods, commercial districts and industrial zones.

Other parts of the Borough, specifically the entire southern third of the Borough have been designated as part of the Tinicum National Environmental Center, for the preservation of creeks, marshes and wetlands generally adjacent to Darby Creek.

All of these factors have great influence on the proposed land use; and since many existing land use concentrations have been firmly established for years, the Comprehensive Plan recognizes existing development concentractions and attempts wherever possible to eliminate the juxtaposition of incompatible land uses.

In examining the Proposed Land Use Plan, it can be seen that northern portions of Folcroft Borough are extremely limited in size and are bounded by major thoroughfares and rail lines. The area north of the Penn Central Baltimore-Washington Main Line tracks is generally one block wide extending from Primos Avenue and Oak Lane on the west to Folcroft Avenue on the east. This area has a heavy concentration of existing commercial and light

industrial uses focusing on Chester Pike which is a major throughfare extending through the one-block portion of Folcroft Borough in the northern neighborhood area. The Comprehensive Plan recommends the continued retention of commercial land use on both sides of Chester Pike. Existing open space is recommended for retention, and the existing concentrations of residential activity both to the north and south of Chester Pike generally to the north of Rice Avenue are proposed for retention.

Located centrally within this northern neighborhood area in Folcroft Borough is a natural drainage area known as Hermesprota Creek. This drainageway extends to the north into Collingdale Borough and Darby Township. In times of heavy rainfall, it overflows into adjacent areas. The solution to the flooding problem adjacent to Hermesprota Creek in Folcroft Borough is not a local problem but, rather, a regional problem involving the communities to the north of Sharon Hill Borough and Darby Township east and to the south. A comprehensive program of land use management, reduction of impervious surface areas wherever possible, and improvements to the actual creek area of Hermesprota Creek itself will be required in order that an appropriate solution of this problem will be found. From the Existing Land Use Map it can be seen that almost all of the land adjacent to this drainage area is developed. However the plan proposes that wherever open land exists immediately adjacent to Hermesprota Creek within Folcroft Borough that it be restricted from development.

To the south of the Penn Central Baltimore-Washington line is an area on Elmwood Avenue which is a small area of commercial development functioning as neighborhood commercial facilities. Generally south of Elmwood Avenue extending the Delmar Drive, is an existing residential neighborhood well-served by public and semi-public facilities. Retention of this residential neighborhood is proposed. Limitations on the expansion of commercial activity adjacent to this residential area are strongly recommended. Only those vacant properties fronting directly on Delmar Drive are proposed for future commercial development. Also located within this area adjacent to the Muckinipates Creek is the Folcroft Swim Club.

Centrally located within this portion of Folcroft Borough on Primos Avenue is a former school site which has recently been acquired by Folcroft Borough for a municipal building.

This building is well suited and well located for a municipal building since it is in close proximity to the center of the residentially urbanized portions of Folcroft Borough and close to the railroad station used on a daily basis by comuters. The site can be expanded through the acquisition of adjacent land for required off-street parking.

In the eastern portion of the neighborhood; generally bounded on the north by Elmwood Avenue and on the south by Delmar Drive, are located numerous public and semi-public facilities which serve the Borough and surrounding areas of Delaware County. At the far east adjacent to Darby Township, but within Folcroft Borough, is located the Delco Intermediate Services Center.

These residential areas are generally sound, and continued maintenance and enforcement of Borough building codes should be exercised. It should be recognized that some conversions of larger residential structures to multi-family dwelling units may occur and should be carefully monitored in the future. It is appropriate for Borough officials to recognize that conversions of dwelling units to two-family or buildings with apartments is an appropriate course of action in this area. Also located within this proposed industrial concentration is the Delco Waste Disposal Plant adjacent to Tribbett Avenue.

Careful examination of the Proposed Land Use Plan reveals the objective of concentrating industrial, residential, public and semi-public, commercial and open space uses in clearly defined areas and generally separated by major thoroughfares.

Another objective established in the Proposed Land Use Plan is the preservation of areas subject to flooding, tidal change and marsh. In this regard the Proposed Land Use Plan calls for the establishment and continued designation of an extensive area of open green space in the southern portion of Folcroft Borough. Much of this land has been acquired by the Federal Government as part of the Tinicum National Environmental Center.

It is proposed that certain portions of this land area be expanded and appropriate public and semi-public existing facilities should be retained within or adjacent to the Environmental Center.

These include the existing recreation areas and the Folcroft Boat Club. It is strongly recommended that the lands adjacent to the Muckinipates Creek remain undeveloped and preserved as open space.

With respect to the Tinicum National Environmental Center, it is clear that this is a most appropriate use of the marsh lands and wetlands located in Folcroft Borough. With the completion of the regional highway and transit system in the area, considerable pressure for the industrial development of portions of open space in Folcroft Borough can be expected. The marsh lands either within the Tinicum National Environmental Center or immediately adjacent to it are inappropriate for such development, and the Comprehensive Plan clearly defines the green space areas which should be preserved.

With regard to the impacts of the future use and operation of the Tinicum National Environmental Center, it can be anticipated that the Borough of Folcroft will not be adversely impacted by the use of this nature center. Other portions of this plan identify types of uses that will be developed in the Enivronmental Center. It is the objective of the program to preserve the marsh lands to provide a natural habitat for wildlife and water fowl and to prohibit intensive use of the marsh lands.

Given that approximately 30% of Folcroft is included in the Tinicum National Environmental Center, it seems appropriate that Borough residents should enjoy easy access to the Center. At the present time, however, residents must drive to one of the officially designated park entrances to gain this access. It is recommended that the Borough request that the Fish and Wildlife Service create a point of access to the park in the Borough of Folcroft. To discourage increased traffic on Borough streets leading to this access point, it should be designated to be for the use of Borough residents only. An unpaved parking area that would accommodate no more than 5 cars, and the provision of bicycle storage equipment, would encourage residents to walk or ride to the park, and eliminate costs associated with providing unnecessary parking areas.

Traffic flow should be analyzed and hazardous conditions and locations identified. Priorities should be established as to the importance of each hazard and measures should be programed to eliminate or reduce these hazards in order of

priority to make the Borough safer for both residents and non-residents who utilize the Borough circulation system.

The housing stock in the Borough of Folcroft was analyzed in detail in a previous segment of this document. It was identified as being relatively old and of a mostly homogeneous nature, i.e., appealing to larger, established families. In order to make this housing stock more responsive to current and future families, it was recommended that some of these older, single homes be converted to multi-family dwellings. In addition to this measure, it is recommended that the Borough investigate the use of alternate housing types which have been developed and are being developed to meet the needs of both current and future residents.

BASE MAP

BASE MAP

A reproducible base map of the Borough has been prepared at a scale of 1" = 400', indicating:

- Road locations and names.
- Highway locations and names.
- Street locations and names.
- Stream locations and names.
- Location of bodies of water and names.
- Borough corporate boundaries.
- Rail line locations.
- Alleyway locations.

The Base Map is utilized throughout the Comprehensive Plan as a base on which information is set forth respecting physical development conditions within the Borough.

Existing and proposed land use are graphically depicted on the base map. Principal thoroughfares are shown, as are existing zoning classifications.

The base map will be useful to Borough officials both in the context of providing information in the Comprehensive Plan and also as a readily available instrument for plotting important information concerning the Borough's physical condition, demographic characteristics and other material.

BIBLIOGRAPHY

PUBLICATIONS

1980 Census of Population; Characteristics of Households and Families; Characteristics of Persons; and Characteristics of Housing Units, Delaware Valley Regional Planning Commission - Regional Information Services Center.

1970 Census, General Characteristics of Population; Occupancy Utilization and Financial Characteristics of Housing Units; Structural Equipment and Financial Characteristics of Housing Units, U.S. Bureau of Census.

Pennsylvania Coastal Zone Management Programs Techinical Record, Draft, December, 1978, by Office of Resources and Management, Bureau of Resources Programming, Harrisburg, Pa.

Delaware County Water Supply, 1974, by Delaware County Planning Commission, Media, Pa. 19063.

Delaware County Sewerage Facilities, 1974, Delaware County Planning Commission, Media, Pa. 19063.

Report to Congress, Effects of Airport Noise on a Neighboring State, October, 1980, Jointly: Office of Noise Abatement and Control, Environmental Protection Agency; Office of Environment and Energy, Federal Aviation Administration, Department of Transportation.

Federal Register, Vol. 47, No. 95, Monday, May 17, 1982, Rules and Regulations, p. 21019, Part 923 - Coastal Zone Management Program Development and Approval Regulations.

Soil Survey, Chester and Delaware Counties, Pennsylvania, Series 1959, No. 19, Issued May, 1963, Revised January, 1972, By U.S. Department of Agriculture, Soil Conservation Service in cooperation with Pennsylvania State University College of Agriculture and Agricultural Experiment Station and the Pensylvania Department of Agriculture Soil Conservation Commission.

Southeastern Pennsylvania Transportation Authority Bus Route Schedules, Routes Numbers: 37 - 72 - 74 - 76 - 107.

Southeastern Pennsylvania Transportation Authority Wilmington to Philadelphia Train Schedule.

Draft Master Plan, The Tinicum National Environmental Center, September, 1978, U.S. Department of the Interior, Fish and Wildlife Service, Northeast Region Five, One Gateway Center, Newton Corner, Mass.

Two Studies of Tinicum Marsh, Delaware and Philadelphia Counties, Pennsylvania, Copyright 1970, The Conservation Foundation, Library of Congress Catalog, Number: 73-146822, by Jack McCormick, Department of Ecology and Land Management, Robert R. Grant, Jr. and Ruth Patrick, Department of Limnology, Academy of Natural Sciences of Philadelphia.

Coastal Zone Management Industrial Sites Study, Phase I, by Delaware County Planning Department, Lima, Pa. 19037, November, 1981, Delaware County Planning Department, Media, Pa.

Long-Range Planning for School Improvement, Section II - School District Management, Second Draft, Ridley School District, 1982.

Interboro School District Long Range Plan, by Interboro School District, 9th and Washington Avenues, Prospect Park, Pa. 19076, July 25, 1979.

Local Planning Assistance, Study No. 15, by Delaware County Planning Commission, Court House, Media, Pa., April, 1961.

Long-Range Development Plan, Southeast Delaware County School District, The Board of School Directors, Resolution approved Long Range Plan on March 28, 1974, by Delaware County School District.

Draft, Environmental Assessment,Acquisition - Master Plan, Tinicum, National Environmental Center, Philadelphia, Pa,,By Jack McCormick and Associates, Inc., a subsidiary of WAPORA, INC., Berwyn, Pa. 19312, 1978. for Department of the Interior, Fish and Wildlife Service, Northeast Region Five, Newton Corner, Ma. 02158.

Year 2000, Land Use and Open Space Plan, by Delaware Valley Regional Planning Commission, 1819 John F. Kennedy Boulevard, Philadelphia, Pa., Draft January, 1979.

Flood Insurance Study, Boro of Eddystone, Delaware County, Pa, U.S. Department of Housing and Urban Development, Federal Insurance Administration, August, 1976.

Mid-County Expressway (I-476) Final Environmental Impact/Section 4 (F) Statement, August 8, 1980, Vol. 1 of 2.

Resource Protection Plan, A Framework for Decision-making in Protecting the Cultural Resources of the Pennsylvania/Delaware River Coastal Zone, by Cee Jay Frederick Association in association with John Milner Association, for Pennsylvania Historical and Museum Commission, Dr. Larry E. Tise, Executive Director, Bureau for Historic Preservation, October, 1981.

Diamond Jubilee, 1893-1968, secured from Norwood Library.

Flood Insurance Study, Boro of Folcroft, Delaware County, Pennsylvania, U.S. Department of Housing and Urban Development, Federal Insurance Administration, February, 1977.

Flood Insurance Study, Boro of Norwood, Pennsylvania Delaware County, Federal Emergency Management Agency, November 3, 1981.

Folcroft 50th Anniversary, 1923-1973, secured from Borough Secretary.

Comprehensive Planning Study Memorandum I Advantages of Long-Range Community Planning, Some Planning Principles, July 24, 1967, by Willard S. Detweiler, Jr., Inc., Planning and Development Consultants, Philadelphia, Pa.

Hydrogeologic Investigation for I-95 Structure over Sludge Lagoons, by SMC-Martin, Engineering and Geotechnical Consultants, P.O. Box 859 900 W. Valley Forge Rd., Valley Forge, Pa. 19482, (215) 265-2700, for Griener Engineering Sciences, Inc., One Village Square, Baltimore, Md. 21210, July, 1981.

CORRESPONDENCE

U.S. Environmental Protection Agency - Region III, 6th and Walnut St., Philadelphia, Pa., October 20, 1981, Subject: LR 795, Section B-6, Philadelphia County, Pa.

Mr. Robert L. Rowland, P.E., District Engineer, Engineering District 6-0, St. Davids, Pa., October 27, 1981, Subject: DSM/RRN Philadelphia County, L.R. 795 Section B-6, I-95, City of Philadelphia Sludge Lagoons Environmental Clearance.

Commonwealth of Pennsylvania Department of Transportation, Engineering District 6-0, November, 1979, Reevaluation of Final Environmental Statement for L.R. 795, Sction B, Delaware Expressway, Delaware and Philadelphia Counties.

Commonwealth of Pennsylvania Department of Transportation, Harrisburg, Pa., B.D. Rocuskie, P.E. - Director, Bureau of Design, December 14, 1979, Subject: Delaware and Philadelphia Counties, L.R. 795, Section B, Environmental Reevaluation.

Fronefield and DeFuria, Attorneys and Counselors at Law, 107 W. 3rd St., Media, Pa., June 25, 1982, Muckinipates Sewer Authority, Disposition of Property with recommended use of one or two business Industrial Park.

McCormick Taylor and Associates, Inc., material prepared for Public Meeting, May 5, 1982

DISCUSSION/MEETINGS

Hinkley Greenlaw, Folcroft Borough Councilman, July 29, 1982.

Regina D. Emidio, Norwood Borough Secretary, July 7, 1982.

John Snyder, Eddystone Borough Secretary, July 28, 1982.

Ken Vogt, DELCORA, July 28, 1982.

Department of Environmental Resources, Division of Water, Norristown, Pa., July 28, 1982.

Dick Nugent, Tinicum National Environmental Center, July 28, 1982.

Richard Marchelletta, U.S. Department of the Interior, Fish and Wildlife Service, July 27, 1982.

Kerry R. Dyer, Delaware County Planning Department, July 16, 1982.

Lois Binder, Delaware County Planning Department, July 16, 1982.

Doug May, Pennsylvania Department of Transportation, July 16, 1982.

Robert Wright, Pennsylvania Department of Transportation, July 16, 1982.

Ronald Degraw, Southeastern Pennsylvania Transportation Authority, July 16, 1982.

Dan Korzemiowski, Philadelphia International Airport, July 14, 1982.

Gary Rohn, Army Corps of Engineers, Flood Plain Management Division, July 14, 1982.

H. Gilroy Damon, Engineer for Muckinipates Sewer Authority, August 6, 1982.

BOROUGH OF FOLCROFT

ZONING ORDINANCE

PROPOSED CHANGES

BOROUGH OF FOLCROFT

ZONING ORDINANCE

PROPOSED CHANGES

As part of the process of developing a Comprehensive Plan for the Borough of Folcroft, the Borough Zoning Ordinance was reworked to make it a more understandable document. In addition, it was analyzed to determine its conformance with the Comprehensive Plan. The following recommendations were made and have been incorporated into the revised Zoning Ordinance.

The Subdivision Review procedures were also analyzed and a critique is included.

BOROUGH OF FOLCROFT

ZONING ORDINANCE

PROPOSED CHANGES

1. That portion of the Borough which has been designated as part of the Tinicum National Environmental Center should be rezoned from Landfill and Residential to Recreation/Conservation. Proposed regulations for this district are attached, and its boundaries are apparent on the Proposed Zoning Map. The notion that wetlands are valuable only as sites for dumping and filling is one which has existed for many years. In recent years, however, it has become commonly accepted that wetlands are possibly the most environmentally productive and environmentally significant areas on earth. The inclusion of southern Folcroft in the National Environmental Center, therefore, seems most appropriate, and any future disposal of refuse or construction of residences in this area seems most inappropriate.

2. The provisions of the Landfill District should be removed from the Borough Zoning Ordinance. Landfilling is a very land intensive process, and the Borough's remaining vacant lands are insufficient and inappropriate for this use.

3. Prohibited uses in industrial zones should be expanded to include nuclear and toxic waste storage or treatment. Toxic wastes are those which are hazardous as defined by appropriate federal standards.

4. In the R-2 District, the wording should be added allowing any use permitted in A, A-1, R, and R-1 Districts, in addition to apartment complexes.

5. In all residential districts, conversions of single family units to multi-family units should be permitted provided the converted units contain at least 800 square feet of living space, and are subject to the appropriate building code regulations.

6. In any less restrictive zone, allow uses permitted in RC Recreation/Conservation zones.

PROPOSED: RC RECREATION-CONSERVATION DISTRICTS
APPLICABILITY OF REGULATIONS

Section 800C:

In the Recreation-Conservation District, the following regulations shall apply:

Section 801C:

A building may be erected or used and a lot may be used or occupied for any of the following purposes and no other:

1. Wildlife preserve; stream valley or forest preserve; any other conservation purpose.

2. Tilling of the soil; nursery or greenhouse as a main use only when authorized as a special exception by the Zoning Hearing Board.

3. Public park, recreational, or historic area owned and operated by Folcroft Borough, or other governmental or private nonprofit agency.

4. Park, public picnic ground, swimming area or outdoor recreational use, including a country club or other structure in conjunction with and incidental to any permitted outdoor use, when authorized as a special exception by the Zoning Hearing Board, and provided that:

   a. The use and its design are compatible with the natural character of the area and the conservation purpose of the district.

   b. Each use or activity shall be screened or separated from a public street and adjoining property by a landscaped planting strip not less than one hundred (100) feet in depth.

5. Signs, subject to Borough standards and regulations.

SUBDIVISION REVIEW PROCEDURE RECOMMENDATIONS

Subdivision review for the Borough of Folcroft is performed by the Delaware County Planning Commission using guidelines specified in the County Land Development and Subdivision Ordinance. Folcroft has no subdivision ordinance of its own. This arrangement appears very appropriate as the County incorporates its detailed design standards and procedural requirements with the Borough's Comprehensive Plan and Zoning Ordinance as the basis for its recommendations on any specific development proposal. It appears, therefore, that any subdivision proposal approved by the County will be in conformance with the goals and objectives of the Borough Comprehensive Plan. It is therefore recommended that this relationship between the Borough and the County be maintained.

Housing Conversions

The following provisions outline steps which can be taken to assure that the conversion of single family units does not negatively impact on the character of the Borough. The appropriate place for these or similar provisions is in the Borough Housing Code, Ordinance 594.

Single family detached housing units may be converted to multi-family owned or rented dwelling units, provided the following conditions are satisfied:

1. All provisions of the Housing Code regulating construction quality and standards, and fire proofing regulations are complied with.

2. The resulting units must be self-sustaining and contain a minimum of 800 square feet of livable space, not including basement and attic storage space.

3. The architectural integrity of the building must be maintained:

   a. No significant exterior alteration may be made to the unit other than the necessary maintenance.

   b. The exterior of the building must be of uniform color, i.e., with the exception of trim, there can be no vertical or horizontal delineation of separate units in the building through the exterior painting.

   c. No additional exterior entrances in the front of a building shall be created. Where additional entrances to individual units are necessary, the entrances shall be provided in the interior of the building.

   d. All units where possible shall be vertical rather than horizontal, i.e., in a two story structure, all units after conversion shall have space on both floors. Each unit shall have its own interior stairway. Where it is impossible for each unit to encompass all floors, an interior stairway to the second floor shall be provided to each unit, although this stairway may be a common stairway. In addition, each unit without a ground floor shall

have access to an exterior fire escape which shall be located to the rear of the building or on a side which is not readily visible from the road to the front of the building.

4. Each unit shall be self-contained with separate utilities, kitchens, and baths:

   a. A unit must contain one (1) bathroom facility per up to 1,000 square feet of living space, and one-half (½) a bath per up to each additional 500 square feet.

5. Sound proofing between units shall meet Borough standards.

6. Each unit shall have a minimum of twenty (20) square feet of private exterior space. Each unit with its private exterior space on the ground floor must have this space sufficiently landscaped to insure privacy, and must have separate access to its private exterior space.

7. Parking requirements shall conform to Borough standards:

   a. Where a driveway exists, this driveway should be expanded to accommodate all necessary parking. If this parking area is to accommodate three (3) or more cars, the area shall be screened from public view with appropriate landscaping.

   b. If a garage exists, the use of that garage space shall be tied to a specific unit. No additional garage may be built without obtaining a special exception. If a special exception is granted, the new garage shall be attached to, or in the vicinity of, any existing garage.

8. A common screened area for garbage and trash can storage shall be provided. Space sufficient for four (4) trash cans per unit shall be provided. The use of common trash dumpsters shall be prohibited.

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