

*Master Plan of the*  
**Township of Lawrence**

Planning Board  
Township of Lawrence  
Mercer County, New Jersey

June 14, 1995

*Master Plan of the*

**Township of Lawrence  
County of Mercer**

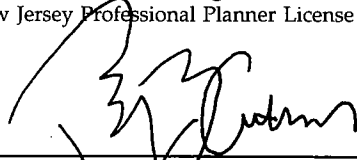
June 14, 1995

Adopted pursuant to N.J.S.A. 40:55D-28,  
the New Jersey Municipal Land Use Law

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A signed and sealed original is on file with the Township Clerk's office.



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## Table of Contents

<u>SUBJECT</u>	<u>PAGE</u>
<i>Introduction</i>	
Introduction . . . . .	1
Purpose of the Master Plan . . . . .	3
Previous Planning Activities . . . . .	3
Vision of the Community . . . . .	4
Patterns of Development . . . . .	4
Trends in Development . . . . .	5
A Vision for Lawrence . . . . .	6
Organization of the Master Plan . . . . .	8
Goals and Objectives . . . . .	8
Conservation . . . . .	8
Historic Preservation . . . . .	8
Community Facilities . . . . .	9
Recycling . . . . .	9
Housing and Fair Share Plan . . . . .	9
Circulation . . . . .	9
Land Use . . . . .	10
Fiscal Impact . . . . .	10
Regional Land Policy Consistency . . . . .	10
 <i>Goals and Objectives</i>	
Introduction . . . . .	11
<i>Goals and Objectives for Planning and Development</i>	
Community Character . . . . .	12
Land Use . . . . .	13
Open Space . . . . .	13
Conservation of Natural Features . . . . .	14
Visual Character of Lawrence . . . . .	15
Historic Preservation . . . . .	16
Community Facilities and Municipal Services . . . . .	17
Citizen Participation . . . . .	17
Housing . . . . .	17
Circulation . . . . .	18
Recycling . . . . .	19

## Table of Contents, cont.

<u>SUBJECT</u>	<u>PAGE</u>
<i>Conservation</i>	
Introduction . . . . .	21
<i>Environmental Analysis</i>	
Geology . . . . .	21
Aquifer Recharge Potential . . . . .	25
Soils . . . . .	27
Summary of Soil Types . . . . .	36
Erosion Potential . . . . .	37
Permeability . . . . .	40
Flood Hazard Areas . . . . .	42
Depth to Seasonal High Water Table . . . . .	43
Wetlands . . . . .	46
Slope . . . . .	50
Depth to Bedrock . . . . .	52
Vegetation . . . . .	54
Development Suitability . . . . .	54
Continuity of Conservation Policy . . . . .	57
<i>Open Space</i>	
Types of Open Space . . . . .	58
Open Space Categories . . . . .	58
Specialized Categories . . . . .	58
General Criteria for Preservation . . . . .	59
Site Characteristics . . . . .	59
Site Characteristics in the Ranking of Conservation Land . . . . .	59
Additional Conservation Land Considerations . . . . .	60
Conservation Techniques . . . . .	61
Cluster Development . . . . .	61
Performance Zoning . . . . .	62
Purchase or Donation of Development Rights . . . . .	62
Transfer of Development Credits (TDC) and Transfer of Development Rights (TDR) . . . . .	62
Conservation Easements . . . . .	63
Site Design . . . . .	63
Conservation Site Acquisitions . . . . .	63
American Telephone and Telegraph . . . . .	64
Shipetaukin Woods . . . . .	64
Terhune Orchards . . . . .	64
Shabakunk Woods . . . . .	65
Greenways . . . . .	65

## Table of Contents, cont.

<u>SUBJECT</u>	<u>PAGE</u>
<i>Conservation, cont.</i>	
Regulatory Framework for Greenways . . . . .	67
Flood Plains . . . . .	67
Freshwater Wetlands . . . . .	67
Aesthetic Regulation . . . . .	68
Environmental Basis for Greenways . . . . .	68
Technical Standards . . . . .	68
Quasi-Public Conservation Areas . . . . .	69
Summary of Recommendations . . . . .	70
 <i>Historic Preservation</i>	
Introduction . . . . .	74
Historical Background . . . . .	75
Historic Registers . . . . .	76
Historic Preservation Advisory Committee . . . . .	77
Lawrenceville Historic District . . . . .	78
National and State Registers and Landmarks . . . . .	79
Locally Designated Landmarks . . . . .	81
Retaining Historical Context . . . . .	85
Infill Development . . . . .	86
Conversion of Farm and Woodland to Other Uses . . . . .	88
Summary of Recommendations . . . . .	89
 <i>Community Facilities and Recreation</i>	
Introduction . . . . .	91
<i>Community Facilities</i>	
Senior Center . . . . .	92
Neighborhood Center . . . . .	92
Library . . . . .	92
Emergency Services . . . . .	93
Municipal Building . . . . .	94
Public Works . . . . .	94
Board of Education . . . . .	94
Site Selection Criteria . . . . .	97
Proposed School Sites . . . . .	97
<i>Open Space and Recreation</i>	
Introduction . . . . .	100
Recreational Land Area . . . . .	100
Recreational Facilities . . . . .	104

## Table of Contents, cont.

<u>SUBJECT</u>	<u>PAGE</u>
 <i>Community Facilities and Recreation, cont.</i>	
NRPA Guidelines .....	104
Scheduling .....	107
New Development .....	107
Tennis .....	107
Central Park .....	107
Colonial Lake .....	107
Recreational Trails .....	108
Recreation Programs .....	108
Summary of Recommendations .....	110
 <i>Recycling</i>	
Introduction .....	113
Mercer County's Recycling Program .....	114
Consistency of Lawrence's Recycling Policy with the District Solid Waste Management Plan of the County .....	115
State Goals .....	116
Summary of Recommendations .....	116
 <i>Housing Plan</i>	
Introduction .....	118
Previous Planning Activity .....	119
1987 Housing Plan .....	119
1990 Amended Housing Plan .....	119
1991 Amended Housing Plan .....	120
Interim Certification .....	120
Population Characteristics .....	121
Age Cohorts .....	122
Housing Characteristics .....	124
Occupancy Characteristics .....	124
Age of Housing Stock .....	125
Housing Type .....	126
Substandard Units .....	126
Housing Value: For Sale Units .....	127
Housing Value: Rental Units .....	129
Household and Family Income .....	130
Distribution of Income .....	131
Low and Moderate Income Levels .....	132
Housing Stock Projections .....	135

## Table of Contents, cont.

<u>SUBJECT</u>	<u>PAGE</u>
<i>Housing Plan, cont.</i>	
Employment . . . . .	136
Employment Projections . . . . .	137
Fair Share Allocation . . . . .	139
Implementation of the Housing Plan . . . . .	141
Housing Rehabilitation . . . . .	141
Alternative Living Arrangements . . . . .	142
Inclusionary Development . . . . .	143
Senior Citizen Housing . . . . .	145
Rental Housing . . . . .	146
Conclusion . . . . .	149
 <i>Utility</i>	
Introduction . . . . .	151
Public Water . . . . .	151
Sanitary Sewerage . . . . .	152
Stormwater Management and Flood Control . . . . .	154
Summary of Recommendations . . . . .	155
 <i>Circulation</i>	
Introduction . . . . .	158
Description of Road Network . . . . .	158
Road Classification for Existing Streets . . . . .	160
Residential Street Design . . . . .	161
Identification of Problem Areas . . . . .	164
Proposed Solutions: Immediate Actions . . . . .	168
Proposed Solutions: Future Actions . . . . .	169
Other Proposed or Completed Improvements and Roads . . . . .	171
New Jersey Department of Transportation . . . . .	171
Mercer County . . . . .	171
New Road Segments and Alignments . . . . .	172
Route 1 . . . . .	173
Scenic Roadways . . . . .	175
Greenways . . . . .	175
Public Transportation . . . . .	176
Mercer County Transportation Development District . . . . .	178
State Highway Access Management Code . . . . .	178
Federal Actions That Affect Circulation . . . . .	179
Summary of Recommendations . . . . .	180

## Table of Contents, cont.

<u>SUBJECT</u>	<u>PAGE</u>
<i>Land Use</i>	
Introduction . . . . .	183
Existing Land Use . . . . .	183
Single Family Detached . . . . .	185
Single Family and Two-Family Residential . . . . .	187
Multi-Family Residential . . . . .	187
Institutional . . . . .	187
Office and Research . . . . .	188
Commercial . . . . .	188
Transportation and Utility . . . . .	189
Industrial . . . . .	189
Open Space . . . . .	189
Vacant . . . . .	190
Summary . . . . .	190
<i>Land Use Issues</i>	
Rural Character and Farmland Retention . . . . .	191
Policies for Environmental Protection Land Use . . . . .	196
Transfer of Development Credits . . . . .	197
Senior Citizen Housing . . . . .	199
Continuing Care Retirement Communities . . . . .	201
Assisted Living, Congregate Apartments and Nursing Facility Sites . . . . .	202
ECHO Housing . . . . .	202
Alternate Route 1 Corridor . . . . .	203
Greenways . . . . .	204
Land Use Classifications . . . . .	205
Open Space . . . . .	206
Environmental Protection 1 . . . . .	206
Environmental Protection 2 . . . . .	207
Residential 1 . . . . .	207
Residential 2 . . . . .	207
Residential 3 . . . . .	208
Residential 4 . . . . .	208
Residential 5 . . . . .	208
Apartment and Townhouse . . . . .	209
Senior Citizen Residential . . . . .	209
Planned Residential Development . . . . .	210
Mixed Use Development . . . . .	210
Professional Office Option . . . . .	210
Office Commercial . . . . .	211
Research and Development . . . . .	211
Environmental Protection Research and Development . . . . .	212

## Table of Contents, cont.

<u>SUBJECT</u>	<u>PAGE</u>
<i>Land Use, cont.</i>	
Office Industrial .....	212
Environmental Protection Office Industrial .....	212
Neighborhood Shops 1 and 2 .....	213
Highway Commercial .....	213
Regional Commercial .....	214
Education, Government and Institutional .....	214
Summary of Recommendations .....	215
 <i>Fiscal Impact Analysis</i>	
Employment Comparison .....	219
Development Capacity Analysis .....	220
Fiscal Impact Multipliers .....	222
Population Multipliers .....	222
Employee Multipliers .....	224
Additional Revenues Anticipated from Full Development .....	225
Additional Local Costs Anticipated .....	225
Municipal: Residential .....	227
Municipal: Non-Residential .....	227
School District Costs .....	228
Summary .....	229
 <i>Consistency with Other Planning Documents</i>	
Introduction .....	230
Land Use Policy in Surrounding Municipalities .....	230
Princeton Township .....	230
West Windsor Township .....	231
Hamilton Township .....	231
Trenton City .....	232
Ewing Township .....	232
Hopewell Township .....	233
Compatibility with Regional and State Planning Documents .....	234
Mercer County Plans .....	234
Mercer County District Solid Waste Management Plan .....	236
Air Safety and Hazardous Zoning Act .....	237
State Development and Redevelopment Plan .....	237
Summary .....	240



## List of Tables and Figures

<u>SUBJECT</u>	<u>PAGE</u>
Table 1. Major Soil Types, Lawrence Township . . . . .	33
Table 2. Erosion Potential, Lawrence Township . . . . .	39
Table 3. Permeability, Lawrence Township . . . . .	40
Table 4. Depth to Seasonal High Water Table, Lawrence Township . . . . .	45
Figure 1. Wetlands Illustration Indicating Typological Classifications . . . . .	47
Table 5. Depth to Bedrock, Lawrence Township . . . . .	52
Table 6. Land Development Suitability Analysis . . . . .	55
Table 7. School District Capacity . . . . .	95
Table 8. School District Enrollments and Projections . . . . .	96
Table 9. Municipal Open Space Inventory . . . . .	101
Table 10. NRPA Standards Comparison . . . . .	102
Table 11. NRPA Standards and Forecast Population . . . . .	103
Table 12. Municipal Recreational Facilities Inventory . . . . .	105
Table 13. Municipal and School Facilities Inventory . . . . .	106
Table 14. Population, 1940-1990, Lawrence Township and Mercer County	121
Table 15. Projected Lawrence Township Population . . . . .	122
Table 16. Age Cohorts in Lawrence Township . . . . .	123
Table 17. Occupancy Characteristics for Lawrence Township, 1980 and 1990 . . . . .	124
Table 18. Housing Units by Year Structure Built . . . . .	125
Table 19. Housing Type in Lawrence Township, 1990 . . . . .	126
Table 20. Persons per Room, by Tenure, 1990 . . . . .	127
Table 21. Lawrence Township Housing Value, Owner-Occupied Units, 1990 . . . . .	128
Table 22. Monthly Gross Rent, Lawrence Township, 1990 . . . . .	129
Table 23. Household, Family, and Per Capita Income Comparison Lawrence Township and Mercer County, 1979-1989 . . . . .	130
Table 24. 1989 Distribution of Household Income, Lawrence Township . .	131
Table 25. COAH income Limits for Low and Moderate Income Households, 1994 . . . . .	132
Table 26. Estimated Housing Value in Lawrence Township, 1993 . . . . .	133
Table 27. Estimated Rental Cost in Lawrence Township, 1993 . . . . .	134
Table 28. Covered Employment in Lawrence Township, 1983-1992 . . . . .	136
Table 29. Projected Employment in Lawrence Township, 2000-2020 . . . . .	138
Table 30. Lawrence Township's 1993-1999 Housing Need. . . . .	139
Table 31. Built and Occupied Inclusionary Developments, Affordable Housing . . . . .	143
Table 32. Approved Inclusionary Developments, Affordable Housing . . . . .	144
Table 33. Inclusionary Development Zoned Sites, Affordable Housing . . .	144
Table 34. Limitations on Age-Restricted Affordable Housing . . . . .	146

## List of Tables and Figures, cont.

<u>SUBJECT</u>	<u>PAGE</u>
Table 35. Approved and Age-Restricted Inclusionary Sites . . . . .	146
Table 36. Rental Housing Obligation, 1987-1993 . . . . .	147
Table 37. Rental Housing Obligation, 1993-1999 . . . . .	147
Table 38. Inclusionary Rental Sites . . . . .	148
Table 39. Affordable Housing Compliance Plan Summary . . . . .	149
Table 40. Road Miles by Governmental Level . . . . .	159
Table 41. State and County Roads . . . . .	159
Table 42. Morning Peak Hour Volumes . . . . .	165
Table 43. Evening Peak Hour Volumes . . . . .	166
Table 44. 1994 Highest Accident Locations . . . . .	167
Table 45. Existing Land Use in Acres and as a Percentage of Total Land Area . . . . .	184
Table 46. Employment Comparison of Mercer County Municipalities, 1990	219
Table 47. Estimated Development Capacity of the Land Use Plan, Lawrence Township . . . . .	221
Table 48. Estimated Residents, Employees and School Children, Lawrence Township . . . . .	223
Table 49. Estimated Equalized Value of Development Capacity in the Land Use Plan, Lawrence Township . . . . .	226
Table 50. Municipal Cost at Build-Out from Commercial and Industrial Development . . . . .	228

## List of Maps

<u>SUBJECT</u>	<u>PAGE</u>
Regional Location Map . . . . .	2
Geology Map . . . . .	24
Aquifer Recharge Map . . . . .	26
Soils Map . . . . .	28
Erodibility Map . . . . .	38
Permeability Map . . . . .	41
Depth to Seasonal High Water Table . . . . .	44
Freshwater Wetlands Map . . . . .	48
Slope Map . . . . .	51
Depth to Bedrock Map . . . . .	53
Development Suitability Map . . . . .	56

## List of Maps, cont.

<u>SUBJECT</u>	<u>PAGE</u>
Conservation Plan Map . . . . .	73
Community Facilities Map . . . . .	112
Affordable Housing Map . . . . .	150
Water Utility Map . . . . .	156
Sewer Utility Map . . . . .	157
Circulation Map . . . . .	182
Existing Land Use Plan . . . . .	186
Farmland Assessment 1976-1994 Map . . . . .	192
Rural Character Map . . . . .	194
Land Use Map . . . . .	217
S.D.R.P Planning Areas Map . . . . .	239

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# *Introduction*

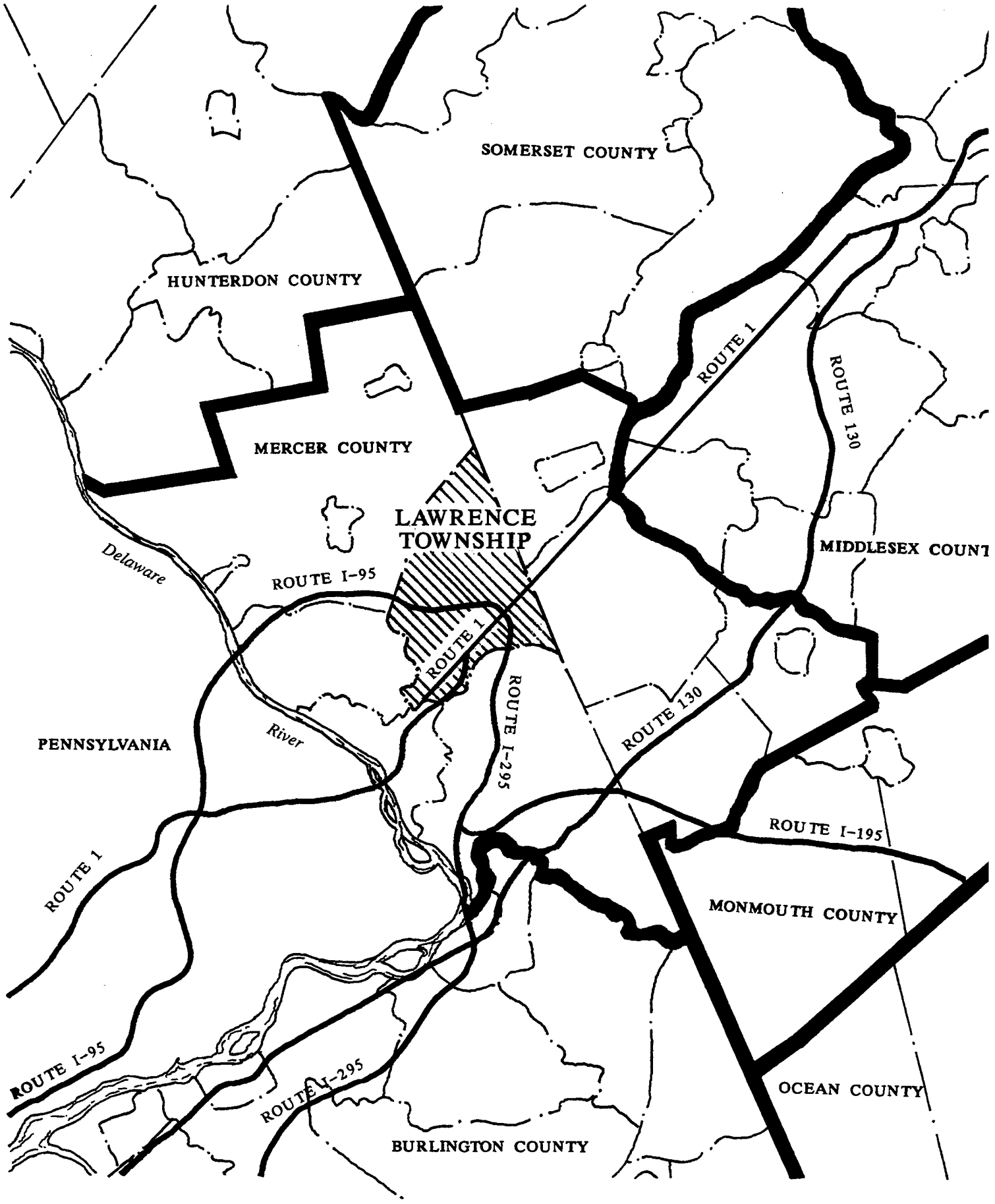
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Lawrence Township was founded in 1697 and was known as Maidenhead, named by the early Quaker settlers after a Thames River village later incorporated into the City of London. Originally Maidenhead was part of Burlington County and the state of West Jersey. In 1714, the Township became part of the newly-constituted Hunterdon County.

The Township was legally incorporated through an act of the State legislature in 1798. In 1816, the municipality was renamed Lawrence, after Captain James Lawrence, commander of the frigate *Chesapeake* and one of the naval heroes of the War of 1812. In 1838, Mercer County was formed from parts of Hunterdon, Middlesex, and Burlington Counties. The Township's boundaries and geographic relationships have remained the same since that time.

Lawrence Township is located in central Mercer County north of the City of Trenton, which is the county seat and capital of New Jersey. Ewing and Hopewell Townships lie to the west of Lawrence, Princeton and West Windsor Townships to the north and east, and Hamilton Township to the east and south (*see* Regional Location Map). Lawrence is located midway between New York City and Philadelphia, approximately 54 and 33 miles distant, respectively.

Three major transportation routes traverse the Township. Part of the Interstate Highway network, Routes 95 and 295, prescribe a semi-circle through Lawrence. The Interstate route numbers change at the highway's intersection with Route 1, the other major highway bisecting the municipality. Route 1 is in effect three different roads: the original route from Trenton to New Brunswick in the southern half of the Township, the limited access Trenton Freeway, and the combined road in the northern half that serves as a regional arterial linking the Interstate and the New Jersey Turnpike and I-287. The third major transportation route is the Amtrak main line between New York City and Philadelphia, part of the heavily travelled Washington to Boston route.



**REGIONAL LOCATION MAP**

Lawrence Township covers approximately 22.14 square miles, including waterways. The population in 1990 was 25,787 persons and is estimated to be 27,236 as of April, 1995 (see Fiscal Impact). Covered employment (those persons eligible for workmen's compensation) was 21,021 as of September, 1992.

#### PURPOSE OF THE MASTER PLAN

A master plan is a document that explicitly states the policies for land development and redevelopment. As such it is intended to guide the public and private sectors in making decisions on projects involving land use and improvements. Through its goals and objectives statement, the master plan sets out a vision for the community in the coming years.

A master plan forms the legal foundation for the zoning ordinance and zoning map. New Jersey, among a handful of other states, explicitly ties the planning of a community as embodied in the master plan with the zoning ordinance and zoning map, which is the primary law governing the use of land. A zoning ordinance must be substantially consistent with the municipality's land use policies in its master plan. In the same fashion, the zoning map must be substantially consistent with the land use element that is a part of the master plan.

The process of adopting a Master Plan provides a periodic opportunity to develop a shared consensus that balances many factors, including the needs of government, residents, visitors, property owners, the environment, economic influences, the business community and real estate development. Every six years the Master Plan is reviewed to determine if the goals and objectives for land development and redevelopment remain valid. The reexamination of the previous Master Plan by the Planning Board led to the conclusion that a new master plan - this document - should be prepared and adopted.

#### PREVIOUS PLANNING ACTIVITIES

Lawrence Township officials have strongly supported planning to shape and focus the economic forces leading to the development and redevelopment of the municipality. The management and control of growth has been a high priority for the past decade as the historic rural pattern of land use was increasingly

obscured by new development. The 1982 Master Plan sought to more appropriately guide growth along the Route 1 corridor.

With the 1987 Master Plan, the emphasis shifted to utilizing environmental factors to gauge the suitability of development of rural areas. Further, non-residential encroachments into residential areas prompted a rethinking of the effects of such growth along State and County arterial roads. Mixed use development was encouraged in order to create the opportunity for people to live and work in the same location. The 1987 Master Plan introduced the principle of transfer of development credits as a method of providing equity for farmers while preserving open land.

In large measure, this Master Plan continues the environmentally-based growth management concepts of the previous plan. It includes a refocused transfer of development credit option and more exhaustive criteria for the preservation of rural character and farm land preservation. This Master Plan also advances an evolving vision of Lawrence as a group of neighborhoods interconnected by greenways, bicycle paths, and local streets, with private and public goods and services in close proximity. A discussion of the central concepts of the Master Plan follow.

## VISION OF THE COMMUNITY

### PATTERNS OF DEVELOPMENT

Several successive patterns of development are discernible in the built environment of the Township. The earliest pattern, that of pre-European Amerinds has been largely lost. Abbott's Farm in Hamilton at Duck Island is known for its occupation by Amerinds over many generations where abundant fishing grounds provided a ready source of food. Less is known about pre-European sites in Lawrence.

The first European settlers were farmers seeking religious freedom and sufficient arable land. They established land division boundaries that may still be seen in certain parts of Lawrence today. The village of Maidenhead, later Lawrenceville, became the trading center for the farm community. Later, with the arrival of the Delaware and Raritan Canal in 1834, new hamlets were established at Port Mercer and Bakers Basin. This pattern of separate hamlet development persisted for nearly another century.

The establishment of the Trenton to Princeton electric trolley line and the rapid rise in automobile ownership in the 1920's led to the subdivision of substantial portions of southern Lawrence. Typically, land was sold in strip lots of 20 or 25 feet in width and the purchaser would buy as many lots as necessary to fit the particular footprint of the house. The street layout is characterized as a grid pattern, favored by developers because of its efficiency. Retail services were largely confined to neighborhoods. The Great Depression ended this era of development.

A second wave of suburbanization occurred following World War II. Subdivisions in this era are characterized by more curvilinear street designs which gradually gave way to loop streets and cul-de-sacs. The second wave may also be characterized by the development of the Interstate highway system. The I-95/295 highway was built in Lawrence in 1976-1977 connecting an earlier part in Ewing and ending at Kuser Road in Hamilton. The remaining sections should be completed by mid-1995 after construction resumed in 1984. The highway system facilitated access to previously undeveloped tracts of land for workers in the Route 1 corridor, Trenton, and Pennsylvania.

#### TRENDS IN DEVELOPMENT

The 1987 Master Plan reflected issues raised by unprecedented office development in the Princeton Pike and Interstate 95 interchange area, along the Route 1 corridor, and outside Lawrence in West Windsor, Plainsboro, and South Brunswick. Rapid residential development followed the relocation and expansion of the office uses in suburban areas.

Several economic and demographic trends have altered this outlook. First, significant overbuilding occurred in the office and flex space market in the 1980's that has still not yet been absorbed. Second, corporate restructurings and the business recession of the late 1980's and early 1990's have reduced the demand for office space. Third, pent up residential demand from the early 1980's recession and the baby boomer household formation rate was largely satisfied by the units built during the mid- to late 1980's. Fourth, lending practices have become more conservative, requiring greater equity participation by developers and higher collateral for financing. These factors have greatly dampened both the demand for and supply of office space.

Even though the rate of development of remaining lands in Lawrence has moderated and is likely to remain at a lower pace for the foreseeable future,



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*Lawrence Township · Mercer County*

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without intervention the steady development of the rural northwest of the Township will eventually create a low density suburb, rather than retaining the existing rural development pattern. The Master Plan recognizes this as a challenge and has set forth a number of techniques in an attempt to control the amount of development in this area.

In residential development, the health care and real estate industries have been devising new senior citizen housing products in response to the aging of the population. New Jersey has one of the highest median ages in the United States. Present social policy, both at the federal and state level, is to encourage the "aging in place" of the population. These policies encourage a wide variety of housing types and services for the elderly. The Master Plan presents several different scenarios or opportunities for the development of senior citizen housing.

Trends in transportation planning have recently emphasized the creation of transit friendly uses, traffic "calming" techniques, and the retrofitting of older commercial corridors for pedestrian and bicycle use. Changing the access level of state highways and developing access management plans are two methods instituted by the New Jersey Department of Transportation which may be used to implement new techniques.

#### A VISION FOR LAWRENCE

The growth of Lawrence Township has resulted in great diversity in the built environment that illustrates archetypes of urban, suburban, and rural development. Even though the potential population of Lawrence is estimated to be about 34,500 people (*see Fiscal Impact*), the great suburbanizing wave that characterized Lawrence over the past 25 years is over. The Master Plan's policy is to retain and enhance the existing patterns of development rather than encourage major changes in the landscape.

It is the intent of the Master Plan to provide a framework for connecting existing neighborhoods with parks, other public facilities and each other through open space corridors and the Greenways Network. The establishment of a walking trail and bicycle system is intended to encourage residents to explore the Township. This opportunity will allow citizens to experience their municipality from a different perspective than is afforded by travel by motorized vehicle. It also will create an additional venue for interaction among residents.

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*Lawrence Township · Mercer County*

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Lawrence may be viewed as a collection of neighborhoods organized around institutional and personal service land uses. Depending on the neighborhood, a firehouse, school, or house of worship may provide the focal point of social interaction. In other areas, a concentration of shops geared towards the every day needs of the neighborhood may act as the focal point, also providing a location for social contacts. The intent of the Master Plan is to reinforce these formal and informal associations while insulating - to the extent necessary - the effects of incompatible development on adjacent tracts.

The Plan seeks to create better integrated commercial development through new collectors and pedestrian links. Towards this end, nearby planned residential developments and mixed use developments provide an opportunity to institute transit friendly locations where there is a sufficient concentration of population and employment to make public transportation feasible. The Master Plan also seeks to recreate Alternate Route 1 as a commercial boulevard rather than the high speed regional highway which it has become.

The purposes of the Master Plan as outlined and elaborated in the Elements that follow are to be viewed in a context that recognizes the importance of natural ecological systems for the continued well-being of humans. The Plan seeks to concentrate population and development in those areas best suited for more intensive development while reserving significantly constrained land for conservation purposes.

## **ORGANIZATION OF THE MASTER PLAN**

The Master Plan has been organized into several components, or elements that specifically describe the various facets and policies for articulating the community's vision.

## **GOALS AND OBJECTIVES**

The goals and objectives have been placed at the beginning of the Master Plan. The goals determine the direction of the Master Plan over the time period of the plan, which is at least six years. The objectives are targets by which the goals may be measured. At the end of six years, the Master Plan will be formally reviewed to determine the magnitude of change and the extent to which the Master Plan should be revised. The goals and objectives provide the basis for determining whether the Master Plan has met its purpose.

## **CONSERVATION**

The Conservation Element describes the physical nature of Lawrence, including its natural features, soil and subsurface conditions. This environmental analysis provides information on the natural processes that affect the use of land. The Conservation Element portrays the different types of open space and the criteria necessary for its preservation. A number of conservation techniques for preserving environmentally sensitive lands are examined. Several important recently preserved parcels are identified. The Conservation Element provides a foundation for the Land Use Element and the assignment of development densities. The Greenway Network proposed in the Master Plan is depicted on the Conservation Map.

## **HISTORIC PRESERVATION**

Lawrence's past is examined in a brief history of the Township. The Township's existing historic district and individual landmarks are discussed in the context of the National and State Registers of Historic Places. Principles and standards are established for the review of plans to alter historic structures in the Lawrenceville Historic District. The conversion of farm land for new development and the retention of farm clusters is investigated. The National and State Registers of Historic Places are discussed in general and their applicability to the Township is reviewed.

## COMMUNITY FACILITIES

The Community Facilities Element examines public buildings and services, including recreation from a land use perspective. In this section the administrative facilities of the municipal government and fire and emergency services are reviewed. Also, the Township's recreational facilities are compared to national recreation standards.

## RECYCLING

The recycling program of the Township is compared with the District Solid Waste Management Plan for recyclable materials.

## HOUSING AND FAIR SHARE PLAN

The Township's response to the obligation for affordable housing is examined. The Element begins with a demographic profile of the Township that analyzes the population, housing characteristics, and employment information. Several population projections are reviewed and discussed. The history of the Township's efforts in providing affordable housing is reviewed and the actual delivery and occupancy of units documented. The requirements of the second round of affordable housing are placed in the context of constructed, approved, and potential sites, including the Township's rehabilitation program.

## UTILITY

In the Utility Element, a synopsis of water supply and service, sanitary sewer service and treatment, and storm water management is examined. The first of two maps indicates the extent of physical improvements for water and the franchise areas associated with the three water purveyors in Lawrence. The second depicts the extent of sewer mains and interceptors, and the sewer service area.

## CIRCULATION

The Circulation Element discusses the means of moving people and goods in Lawrence. It describes the network of roads and classifies them according to traffic levels. Residential street design is discussed in the context of new findings for the construction of local roads. Immediate and long term actions are proposed. Trends in transportation, including public transportation, at the federal, state, and county level are reviewed. Route 1 is given special

emphasis as the Township's commercial artery. The use of road design for the retention of scenic and rural roadways is discussed. The transportation aspects of Greenways are examined and policies suggested.

#### LAND USE

The Land Use Element synthesizes the information presented in the background study of the underlying trends and changes in Lawrence. Existing land use is classified and mapped. An in depth discussion of rural character, farm land retention, senior citizen housing, and the alternate Route 1 corridor land use issues is provided. Based on the preceding elements, land uses are assigned to specific geographic locations at differing densities of development, designed to bring about the goals and objectives of the Master Plan.

#### FISCAL IMPACT

The Fiscal Impact Element is an analysis of the full development of the Township under the policies set forth in the Land Use Plan Element. It examines the anticipated revenues and costs to the municipal government and Board of Education if every vacant parcel was built and occupied according to the Land Use Plan Element.

#### REGIONAL LAND POLICY CONSISTENCY

A Statement of Consistency with other planning documents examines the land development policies of the surrounding municipalities. It compares the type of use and density of development for adjacent land areas. The Master Plan is also compared with the development policies of Mercer County, the District Solid Waste Management Plan and airport safety zone requirements. Lastly, the Master Plan is analyzed for conformance with the State Development and Redevelopment Plan for consistency with its goals and objectives.

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# *Goals and Objectives*

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## INTRODUCTION

The Master Plan of Lawrence and the Township ordinances through which it is implemented reflect the collective goals of the residents for the use of land within the community. The Master Plan has been adopted with the belief that it will exert a positive influence on the evolution of the Township. Further, the goals and objectives will be the foundation for shaping regulatory ordinances, evaluating applications for land development, and guiding the expenditure of public funds on the needs of the municipality.

The Master Plan is designed to do the following:

- Guide the physical and economic development of the Township toward the goals in this Master Plan, thereby benefitting the public health, safety, and welfare.
- Provide harmonious and efficient allocation and arrangements of land uses and protect property values both in Lawrence and surrounding municipalities.
- Preserve environmentally sensitive lands from development or other potentially damaging influences.
- Preserve and enhance the character of the built environment through the promotion of good design.
- Promote the preservation of historically significant structures and districts that represent the diversity of architectural styles in the Township.
- Encourage and promote the social interaction of groups and individuals to maintain the strength of the community.
- Provide for efficiency and economy in governmental

administration.

These broad purposes reflect the major guiding principles of the Master Plan. More specific goals and objectives of the plan are presented below.

## **Goals and Objectives for Planning and Development**

### **COMMUNITY CHARACTER**

Provide for the continuation of high quality development and the retention of the remaining rural character in Lawrence by using the Master Plan as a guide and resource. Maintain the predominantly residential nature of the municipality.

#### **OBJECTIVES**

- Encourage new development to be compatible with the style and scale of existing buildings.
- Limit highway-oriented commercial land uses in the Township and confine them to existing commercial areas. Preserve the diversity and quality of neighborhood-oriented commercial uses which principally serve the surrounding residential development.
- Improve the Alternate Route 1 corridor in Lawrence through changes in roadway design, urban design and facade improvements, streetscaping and landscaping.
- Promote the attractiveness of Lawrence and its existing neighborhoods with an active street tree planting and maintenance program.

#### **LAND USE**

Foster a well balanced, diverse community with a mix of residential housing types, institutional, commercial, and limited industrial uses along with ample open space and public facilities. The land use plan and development regulations are designed to minimize land use conflicts and to reduce adverse

impacts of development on other activities in the Township.

#### OBJECTIVES

- Improve the quality of life for Lawrence Township residents, those persons who work in the municipality and visitors by following the principles of the Master Plan and its implementation through the land development ordinance.
- Preserve undeveloped open space, maintain agricultural activities and the rural landscape in appropriate locations, and promote the visual enjoyment of the land.
- Direct new development and redevelopment to places in relation to their transportation and environmental capacities.
- Provide continuity with previous planning documents.
- Encourage a balanced mixture of residential and non-residential uses through planned development.
- Reduce blighting influences through improved standards for development.
- Reduce the expenditure of energy through compact and efficient design and subdivision layout, well-located to transportation centers and incorporating proper solar orientation for buildings.
- Discourage the introduction of incompatible land uses.

#### OPEN SPACE

Open space for conservation and recreational purposes should be enhanced through public and private efforts. Adequate active recreation facilities should be maintained through governmental action and citizen participation; new trends in sports and the evolving needs for recreation should be periodically reviewed.



*Statement of Goals and Objectives · Master Plan*  
*Township of Lawrence · Mercer County*

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OBJECTIVES

- Establish a Greenway Network to connect existing and planned open space parcels.
- Actively pursue the protection of privately-owned environmentally sensitive land through fee simple acquisition, land trust dedication, conservation easement or other means during the development review process.
- Actively engage with Mercer County officials in planning for the Northwest County Park proposed at Keefe and Cold Soil Roads to ensure that the Township's goals for open space and rural character are met.

CONSERVATION OF NATURAL FEATURES

Critical natural features and resources of Lawrence such as woodlands, steep slopes, wetlands, floodplains and bodies of water are worthy of protection to provide a natural ecological balance and as a counterpoint to the built environment.

OBJECTIVES

- Utilize natural features to distinguish the permitted intensity of land development.
- Preserve and enhance stream corridors through the development of a Greenways Network incorporating pedestrian and bicycle linkages in appropriate locations and integrating existing or proposed open space land.
- Study the feasibility of improving the water quality of storm water runoff within the Township.
- Establish controls on the permitted disturbance of natural features, including tree clearance, during land development.
- Restrict development on steep slopes so as to reduce any negative effects from the clearing of the vegetation on stream bank stability and the control of erosion.

- Explore the creation of a regional storm water management plan with regional agencies and adjoining municipalities. Such a plan should be designed to promote the cooperative institution of watershed drainage programs to minimize the need for total reliance upon site-specific water detention and storage.
- Develop a comprehensive solution to the Colonial Lake siltation problem.

#### VISUAL CHARACTER OF LAWRENCE

Establish policies governing the development or redevelopment of land which will promote the retention of rural character and historic streetscapes in the community. Establish design guidelines for the preservation of significant views from public rights-of-way.

#### OBJECTIVES

- Promote the development and redevelopment of commercial areas that are attractive to public view through the use of building and site design standards reflective of the established character of development in Lawrence.
- Establish realistic signage standards which will be appropriate for both new development and redevelopment and which will foster a cohesive, clear image in the commercial corridors of the Township.
- Promote the concept of a commercial boulevard for Alternative Route One (Brunswick Pike) by reducing the cartway width, increasing the median area and improving paving, landscaping, signage and lighting.
- Use transfer of development credits for targeted areas to promote the retention of farmland and rural character.
- Use rural development design techniques and standards to promote and encourage appropriate low intensity development in identified areas.
- Add signage and landscaping to indicate the entrances to Lawrence

from other municipalities through a cooperative program with landowners.

- Protect existing mature street trees from excessive pruning or removal related to land development and/or road widening to the greatest extent possible consistent with reasonable traffic safety.
- Prevent unsightliness by eliminating wherever possible existing utility poles and lines and by continuing to require that all new development provide underground utilities.

#### **HISTORIC PRESERVATION**

Protect the integrity of the historic centers of Lawrenceville, Port Mercer, and the Delaware and Raritan Canal as well as local landmarks outside of these districts which contribute to the heritage and positive image of the municipality.

#### **OBJECTIVES**

- Identify additional individual sites and districts in Lawrence of historical importance.
- Promote the redevelopment of the commercial core of the village of Lawrenceville through coordinated parking, streetscape, signage, lighting, etc. in a manner that promotes its historic character.
- Establish design standards to encourage new development in Lawrence to be compatible to the style and scale of existing buildings.
- Refine the standards for development to retain the integrity of historic districts and individual landmarks.

#### **COMMUNITY FACILITIES AND MUNICIPAL SERVICES**

Establish and maintain a level of community facilities and public services sufficient to satisfy the needs of present residents and to allow for the well planned expansion of facilities to meet future needs.

*Statement of Goals and Objectives · Master Plan*  
*Township of Lawrence · Mercer County*

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OBJECTIVES

- Provide for streets, utilities, parks, police and fire protection, and other services sufficient to meet the needs of Lawrence residents and business owners.
- Based upon the Master Plan and development trends, periodically assess the need for municipal services beyond existing capacity.
- Identify additional school sites in close cooperation with the Lawrence Township Board of Education.

CITIZEN PARTICIPATION

Continue to provide the opportunity for residents, business owners and employees in Lawrence to participate in making decisions that will shape the environment and the community in which they live and/or work.

OBJECTIVES

- Provide an atmosphere and opportunity within the master planning and development approval processes through which the citizens of Lawrence may participate in making decisions about the future of land use within the Township.
- Provide, where appropriate, incentive programs for civic organizations to continue and expand their programs.

HOUSING

Preserve the existing housing stock and provide the opportunity for the development of a wide variety of housing types to meet the needs of varied income and age levels, family compositions, and life styles.

OBJECTIVES

- Provide through the Township's land development regulations, for a wide variety of housing types including adequate living space for all persons and sufficient land for each dwelling unit to meet the needs of

current and future residents of Lawrence.

- Adopt a fair share housing plan and associated development regulations which meet the municipality's fair share requirements for affordable housing.
- Encourage planned unit developments providing for an integrated residential and non-residential neighborhood to incorporate the best features of design, layout and materials in relationship to the natural environment.
- Promote the clustering of housing on sites with environmentally sensitive areas and on sites lacking public infrastructure to retain open space, farmland, and the natural environment to the greatest extent feasible.
- Advance the development of senior citizen housing through an expansion of residential opportunities for the elderly including independent living and facilities providing varying levels of assistance.
- Promote individual ownership of housing in all areas of the Township.

## CIRCULATION

Provide for the efficient movement of people and goods within and through the Township in a manner compatible with the objectives of the land use element and retention of rural, suburban, and urban character in their respective places.

### OBJECTIVES

- Implement the recommendations of the Township-Wide Traffic Study to the extent noted in the Circulation Element.
- Recognize and preserve the scenic characteristics of local roadways in order to promote a positive community identity.
- Discourage the widening of existing two lane arterial roads in rural areas.

*Statement of Goals and Objectives · Master Plan*  
*Township of Lawrence · Mercer County*

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- Designate bikeways in the Master Plan for development and construction.
- Encourage the design of local street patterns and pedestrian/bicyclist connections to support the eventual provision of mass transit.
- Conform the Township's land development regulations with the New Jersey Highway Access Management Code.
- Encourage the creation of Transportation Management Associations and other non-traditional methods of controlling traffic congestion.
- Pursue the reclassification of Brunswick Pike (Alternate Route 1) with the New Jersey Department of Transportation.
- Restrict vehicular access through residential neighborhoods for non-residential purposes.

## RECYCLING

Recycling increases the efficiency of use of natural and man-made resources, reduces solid waste disposal costs for the municipal government and is the adopted policy of the state and county governments.

### OBJECTIVES

- Recycle a minimum of 25% of the solid waste collected by the Township, thus reducing the amount of solid waste that is placed in sanitary landfills.
- Maintain a Township policy on recycling in the review of land development proposals.
- Continue and expand, as appropriate, inter-municipal cooperation in leaf composting and other recycling activities.
- Encourage on-site composting and recycling of organic material.
- Adopt any goals of the New Jersey Recycling Act not specifically

*Statement of Goals and Objectives · Master Plan*  
*Township of Lawrence · Mercer County*

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noted herein.

- Adopt any goals of the Mercer County Recycling Plan not specifically noted herein.
- In accordance with State policy, conserve energy in manufacturing processes, increase the supply of reusable raw materials for industry and reduce the amount of poorly combustible materials that are directed to resource recovery facilities.

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# Conservation

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## INTRODUCTION

The Conservation Element of the Township Master Plan addresses the issues of the preservation and management of environmentally sensitive lands. In this context, environmentally sensitive lands include stream corridors, open water, freshwater wetlands, flood plains, soils with high water tables (within 1 foot of the surface), aquifer recharge lands and mature woodlands (see Conservation Plan map). The preservation of these natural resources constitutes the main objective of the Township's conservation efforts. Environmentally sensitive lands are identified in the *Environmental Analysis* section of this element.

In addition to protecting environmentally sensitive areas, open space preservation efforts have helped to maintain the rural character that distinguishes parts of Lawrence Township, particularly in the north. Retaining rural character, a goal of this Master Plan, requires the conservation of farmland and woodland masses. Farmland preservation efforts at both the municipal and county level help to fulfill this goal while also retaining agriculture as a viable economic activity.

## Environmental Analysis

The Township's environmental resources and natural features have been incorporated from the 1987 Master Plan. This data underpins not only the recommendations for conservation and open space preservation, but serves to guide the recommendations for land use densities and classifications. The 1987 data has been updated in light of new geological mapping since that time.

## GEOLOGY

The geology of an area influences its development in two ways. The primary role of geology in development considerations relates to the supply of groundwater and the disposal of waste water which can vary greatly with the



different geologic formations, thus limiting the average density of development for any given area lacking public infrastructure. Parent geologic formations also play a major role in the formation of different soil types. These soil types in turn have specific characteristics that determine landforms, slopes, drainage, and vegetation which provide the basis for determining suitable land uses.

The geologic mapping for the Township has been revised from the 1987 *Master Plan* to reflect new information from the New Jersey Geologic Survey (NJGS). Working with the U. S. Geological Survey (USGS), the NJGS conducted field research and analysis, examined aerial photographs and evaluated more current well reports filed by well drillers. These studies covered extensive portions of the State and have necessitated the renaming of some of the formations to conform with USGS nomenclature. The mapped boundaries of the diabase and argillite have shifted in places and the Brunswick Shale (now called the Passaic Formation) has been divided into argillaceous grey siltstone and argillaceous red siltstone/shale.

There are five major geologic formations underlying the Township which affect ground water supply. The Stockton Sandstone and Passaic strata are formations that typically provide a good source of ground water. Lockatong Argillite, undifferentiated Precambrian or Gneiss, and the Potomac and Magothy Formations are either too thin or contain too much clay to adequately supply water. These formations are mapped on the *Geology Map*, p. 24. The formations are more fully described below:

STOCKTON FORMATION - The Stockton formation runs the width of the Township from north to south centrally lying south of Route 206 almost to the southeastern border with Hamilton Township. Of the three major geologic formations, the Stockton formation is considered to be the best water source. It consists of sandstone that, along with its natural porosity, has an extensive system of fractures. Both the natural porosity and system of fractures allow water movement and storage within the aquifer. Its greater porosity relative to the adjoining formations makes it the Township's best groundwater source. The majority of the soils associated with the Stockton formation are deep and well-drained.

The Stockton formation is the most favorable area of the Township for all forms of development. The related soils are the Township's best with regard to septic filter fields, agricultural uses and water retention characteristics. Lands overlying the Stockton formation should be favored for agricultural

usage due to their abundant prime agricultural soils.

The problem with this very porous formation is that permeability, the rate at which moisture seeps through the soil and bedrock to the underlying aquifer, is much greater than in the other formations. In some areas this rapid rate can produce pollution of the groundwater from septic systems that are placed too close together.

LOCKATONG FORMATION - The Lockatong formation occupies a large portion of northern Lawrence Township, roughly bounded by Route 206 to the south and Cold Soil Road to the north. The Lockatong Formation, also called argillite, is a sedimentary formation dating from the Triassic period. It is usually a gray, hard siltstone with abundant fine-grained cementing materials (NJDEP 88-4, Houghton, 1988) and is approximately 3,000 feet thick, but may also include reddish-brown argillite with interbedded shale. It is fairly resistant to weathering.

Nearly all of the soils associates with the Lockatong are poorly drained and have a high water table. Shallow ridges and slopes mark the edge of this formation and also the edge of the Hunterdon plateau, of which it is a part. The Lockatong is also one of the poorest sources of groundwater in New Jersey. It has no porosity and very narrow, widely spaced fractures that allows little infiltration. Water storage and flow are severely limited. Since ground water is transmitted solely through fractures, there is a possibility that pumping from one well will reduce the yield from nearby ones. In addition, the ability of soils derived from the Lockatong formation to properly filter effluent from septic systems is very limited, making the proper construction of such systems critical.

PASSAIC FORMATION - Brunswick shale, renamed Passaic formation, is the third major geologic formation in the Township also dating from the Triassic period, and consisting of red and grey layers of shale interbedded with reddish sandstone. The Passaic formation is the second best water-bearing geologic formation (aquifer) but not as reliable as the Stockton Sandstone. It has no natural porosity, but has a very extensive system of closely spaced vertical and horizontal fractures that enable storage and flow of groundwater to occur throughout the aquifer. Nearly all of the soils associated with the Passaic formation are shallow (less than 3 1/2 feet deep). Drainage varies from poor to good.

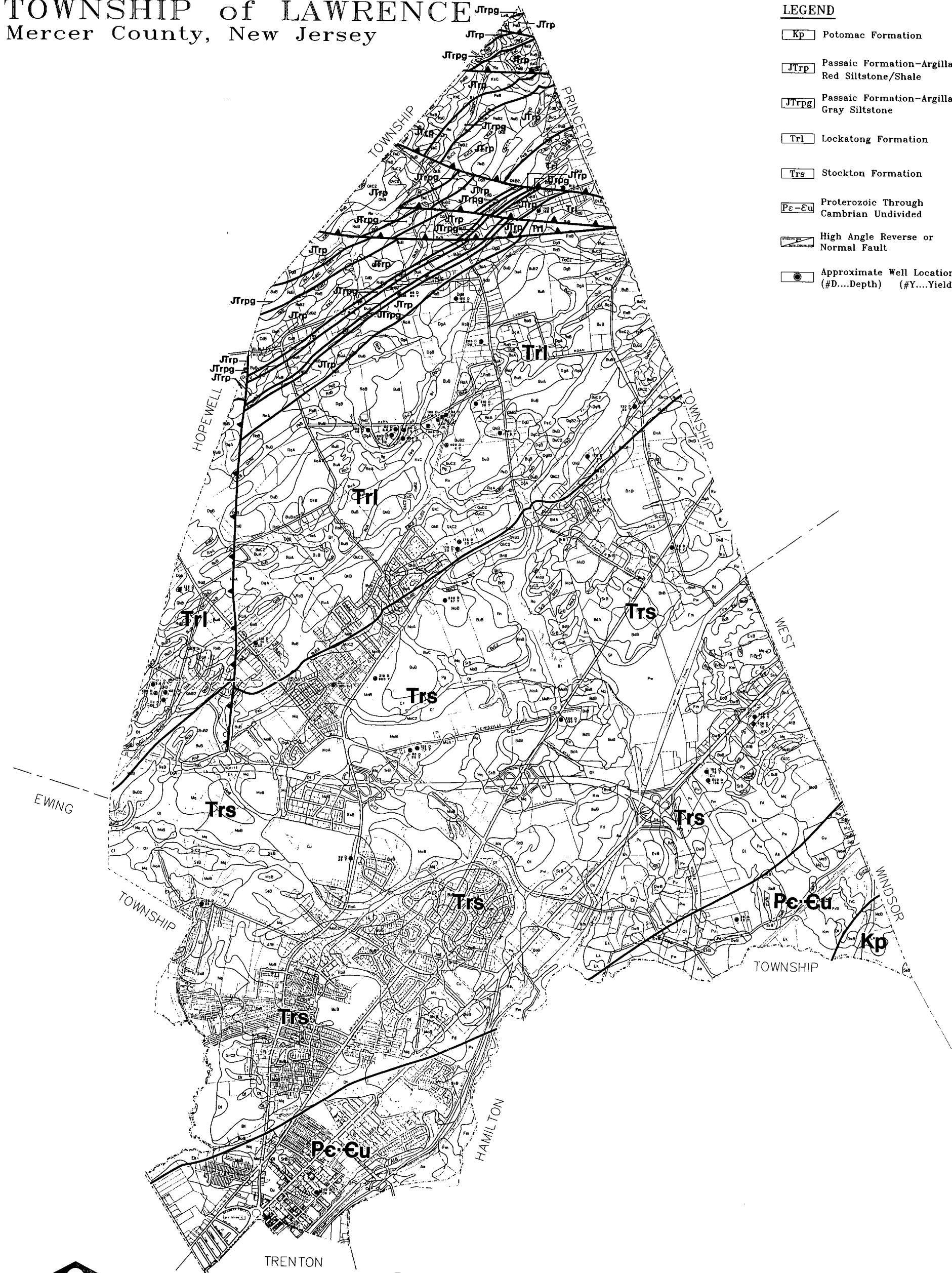
PRECAMBRIAN - This formation underlies the area along the Assunpink Creek at the southern limits of the Township and consists of granites, gneisses and other igneous rocks.

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

- Kp Potomac Formation
- JTrp Passaic Formation—Argillaceous Red Siltstone/Shale
- JTrpg Passaic Formation—Argillaceous Gray Siltstone
- Trl Lockatong Formation
- Trs Stockton Formation
- Pe—Eu Proterozoic Through Cambrian Undivided
- High Angle Reverse or Normal Fault
- Approximate Well Locations  
(#D....Depth) (#Y....Yield)



MAGOTHY FORMATION - Known as the Magothy and Raritan formations, these are the principal water-bearing sediments in Mercer County. The only distinction between the two is a white fine sand with black fragments, which identifies the Magothy; otherwise, the two formations are similar lithologically and hydrologically. In Lawrence, only a very small area at the very southernmost part of town is underlain by this formation which, in any case, given its high local clay content, does not provide a good source of ground water, although the Raritan formation is the primary aquifer elsewhere in the region.

#### **AQUIFER RECHARGE POTENTIAL**




Ground water supply is dependent on the ability of water bearing formations, or aquifers, to hold water and to be recharged from the surface as water is removed for human use. Most of Lawrence is underlain either by Lockatong Argillite or by Stockton sandstone, which have differing recharge abilities (see Aquifer Recharge Map, on the following page). To the extent that both existing and new development may rely partially or totally on wells for water supply, special attention needs to be given to the actual water bearing capacities and the ability of surface water to recharge these formations when determining future development densities.

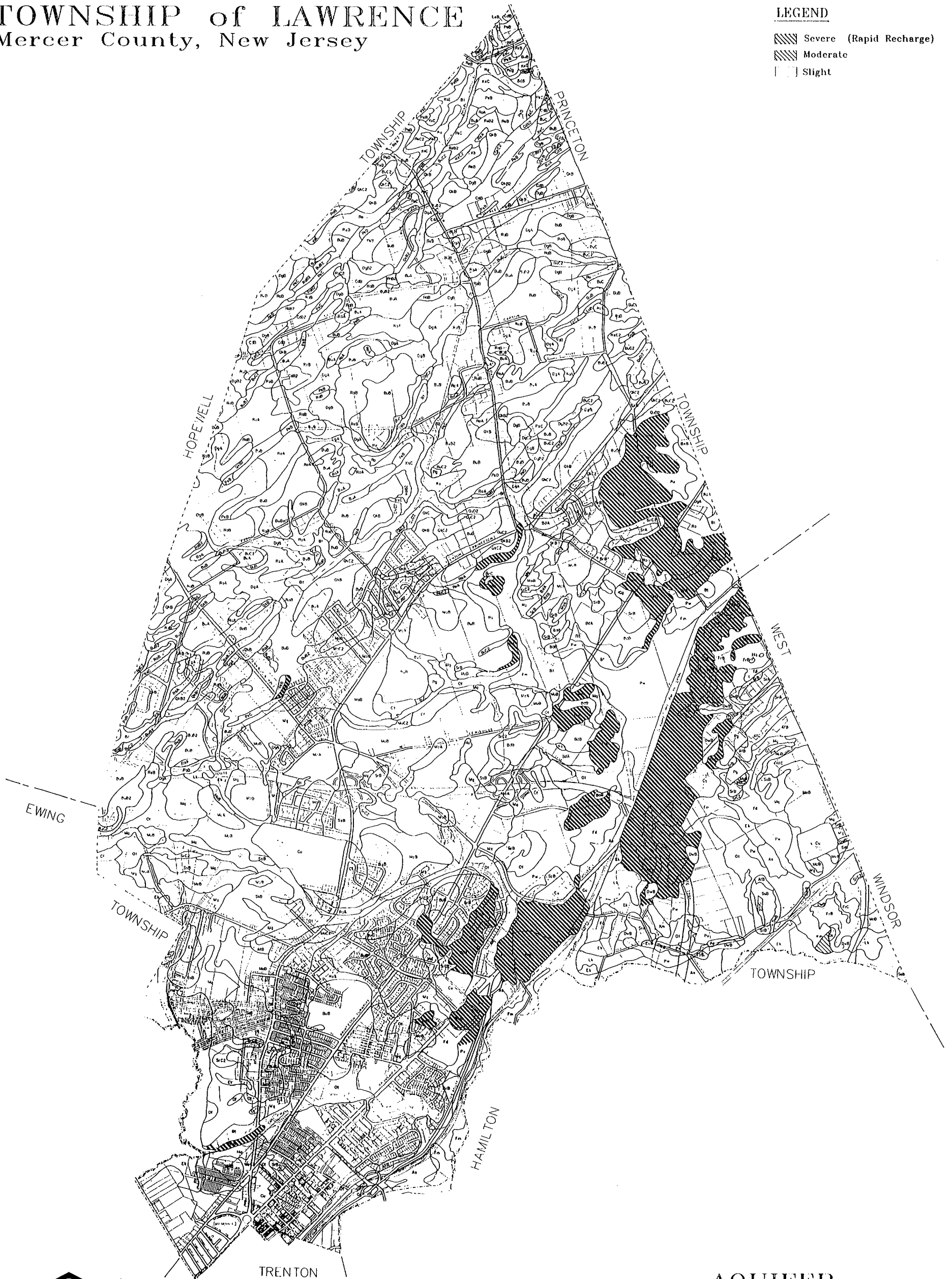
The Lawrenceville area in particular relies on ground water supplies. In recent years, it has been increasingly difficult to obtain adequate well water in this area because of the presence of the Lockatong Argillite formation with its poor water capacity and recharge potential. Well drilling records maintained at the New Jersey Department of Environmental Protection's (DEP) Bureau of Geology from 1961 to the present bear out this difficulty. Well drilling records for this area are presented in Appendix II of the *1987 Master Plan*. The approximate location of the wells is shown on the *Geology Map*.

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  Severe (Rapid Recharge)
-  Moderate
-  Slight



## SOILS

The *Soil Survey of Mercer County, New Jersey* prepared by the United States Department of Agriculture, Soil Conservation Service, was used as the main reference guide to prepare a soil inventory for Lawrence Township (see Soils Map). The Township was classified into 36 soil series and 77 soil types. A brief description of the soil series is found below. Table 1 on page 13 provides an overview of the soil types and their areal extent in the municipality.

ALLUVIAL LAND is poorly drained and frequently flooded; in Lawrence, the Very Wet (Ae) variety is predominant. It lies beside stream beds, in this case along the Assunpink and Shipetauken Creeks. The land is saturated with water for most of the year, but water does not stand on the surface. It is best used as pasture, woodland, or wildlife habitat. Surface layers range in texture, from silt loam to sandy loams, and in color from dark brown to black; the subsurface material can vary from sandy loam to gravelly sand. It has low permeability, low erodibility, and seasonal water table very close to the surface. As a result of this last characteristic, it is inappropriate for most development activities.

AURA gravelly sandy loams come in two varieties: a 2-5 percent slope subtype (AfB), considered prime farmland, and a 5-10 percent slope subtype (AfC). The plow layers are typically 7" of dark, gravelly, sandy loam, underlain by 4" of brown sandy loam. Permeability is moderately rapid and there is some danger of erosion if this soil becomes compact. Bedrock is at 10+ feet and the water table at 7+ feet.

BIRDSBORO soils are deep, well-drained, and located along major streams. They come in several subtypes: silt loams, with 0-2 (BdA) and 2-6 (BdB) percent slopes, with a 10" dark gray-brown surface layer; a sandy subsoil variant, with a 9" dark-brown fine sandy loam surface layer, and 0-2 (BnA), 2-6 (BnB) and 6-12 (BnC) percent slopes; and a gravelly solum variant, with a 7" dark-brown gravelly sandy loam surface layer, and a 0-5 percent slope (BoB). Permeability is rapid to moderately rapid, erodibility is slight to moderate, depth to high water is over 5 feet, and depth to bedrock ranges from between 3.5 to over 10 feet. Several of these subtypes (BdB, BnA, BnB) are considered prime farmland.

BOWMANVILLE (Bt) silt loams are deep or moderately deep, poorly drained soils on flood plains, with a 6" surface layer of dark-brown silt loam and mottled sub-layers. Permeability is moderate, erodibility high, shale bedrock lies at

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey





around 44" and the water table at surface during the wet season. These soils present some problems to development.

BUCKS (Bu) silt loams are deep, well-drained, sloping soils, consisting of an 8" upper mantle of silt underlain by red shale or argillite. They come in 5 varieties, according to slope (0-12) and previous erosion. Permeability, depth to bedrock (3.5 to 6 feet), and erodibility are moderate, and seasonal high water lies at 6 feet. The nearly level subtypes are considered prime farmland.

CHALFONT (Cd) silt loams are deep to moderately deep, somewhat poorly drained soils on uplands. Slope and erosion distinguish 4 subtypes. Erodiability is high, and both depth to bedrock (3-5 feet) and to seasonal water table (1-1.5 feet) present some constraints to development.

CUT AND FILL land is a composite of soil materials that have been disturbed and mixed as a result of filling or excavation activities. Two subtypes are found, of gravelly material (Cg) and of stratified substratum (Cv). The most significant examples are located in the South Lawrence area and in the Skillman Ave. area. Because the soil layers have been removed or disturbed, on-site sampling is required to assess the degree of constraints which these units may present to development.

DOWNER fine sandy loam (Df) is a deep and well-drained soil, with moderate permeability and fair depth to seasonal high water, with a moderate erosion hazard if slope increases. This unit raises little constraints to development; it is also considered prime farmland.

DOYLESTOWN AND REAVILLE are silt loams combined in a 90/10 ratio, with a wet variant (DgA, DgB), an eroded variant (DgB2, DgC2), and slopes ranging from 0-2 to 6-12 percent. These are poorly drained soils, with erosion hazards, bedrock at 3.5-5 feet, and water table at or near surface, therefore presenting serious constraints to development.

DRAGSTON AND WOODSTOWN sandy loams (DwB) are nearly level, very similar interpenetrating soil types, with moderate to moderately rapid permeability, moderate depth to seasonal water table, and slight erosion potential. This unit, which is considered prime farmland, presents some restrictions to development.

ELKTON silt loam (Ek) is a deep, poorly drained, nearly level unit, located in small patches in low areas, with dark gray surface and subsurface layers of silt



loam (6"), silty clay, and clay. Permeability is slow, with water table at or near surface frequently, and high erosion potential. As a result, this soil presents limitations to development, mainly to septic field and basement construction.

EVEBORO loamy sand (EvB) is a deep, loose, excessively drained nearly level soil, with rapid permeability and subject to wind erosion; it presents few limitations for development.

FALLSINGTON sandy loam (Fd) is a nearly level, deep, poorly drained soil, with a dark-gray surface layer (8") and brown-gray subsurface; the water table is near surface in the winter, and permeability is moderate to rapid. Constraints on development are severe.

FRESHWATER MARSH (Fm) is nearly level marshland where the water table is at surface most of the year; it is located along water bodies and consists of a layer of largely decomposed organic material over mineral loamy soil. It is best suited for wildlife habitats.

FORT MOTT are deep, well-drained, gently sloping loamy sands, with a 0-5 percent slope subtype (FrB) and a 5-10 percent slope subtype (FrC). Surface layers are dark brown (8"), subsurface yellow brown (15"); permeability is moderate to rapid, and wind erosion potential is moderate. It presents few limitations to development.

GALESTOWN loamy sand (GaB) consists of deep, loose, excessively drained, gently sloping soils, with a yellow-brown surface layer (17") and yellow-red subsurface (15"). Permeability is moderately rapid to rapid, and the water table is low. It presents few constraints to development.

KLEJ sandy loam (Km) is a deep, friable, moderately well-drained nearly level soil, with dark brown surface layer (10") and sloping brown subsurface (23"), high water table in winter (16 to 24") but not in summer (4 ft.+), moderately rapid permeability, and some risk of wind erosion. It offers moderate limitations for development.

KLINESVILLE (Ks) are shallow, well-drained, sloping (6-30 percent) shaly loams. Shaly bedrock stands at .5 to 1.5 feet, while the water table lies at 3+ feet.

LANSDALE are deep, well-drained soils, with an 8" plow layer of dark-brown sandy loam, and 41" subsoil, in 3 subtypes: sandy loams (LaB), eroded (LcC2),

and very stony loam (LdC). Permeability is rapid to moderately-rapid, erodibility is low, bedrock stands at 3.5 to 6 feet, and water table at 10+ feet.

LAWRENCEVILLE AND MT. LUCAS (LeB) are undifferentiated associations of deep, slightly sloping, moderately well-drained silt loams on uplands. Seasonal water table lies at 1-2.5 feet. It is considered prime farmland.

LEHIGH (LhC2) are relatively shallow, eroded, sloping (6-12 percent) silt loams, with severe hazard of runoff and erosion.

LENOIR-KEYPORT silt loam (Lk) is a deep, nearly level, somewhat poorly drained soil, with a dark gray-brown surface layer (7") and a gray-brown silty clay subsurface (34"). Permeability is slow, depth to seasonal high water is moderately high, and control of erosion is needed on sloping areas. It presents some constraints to development.

MATAPEAKE consist of deep, well-drained loams in three subtypes: 0-2 percent slope (MoA), 2-5 percent slope (MoB), and 5-10 percent (eroded) slope (MoC2). The hazard of erosion increases with the slope, becoming severe over 5 percent. Depth to seasonal water table is moderate. It is considered prime farmland, covers over 9 percent of the township area, and offers few constraints to development.,

MATTAPEX AND BERTIE loams (Mq) are moderate to poorly drained soils, with a moderately high seasonal water table and low erosion potential. This unit occupies 4 percent of Lawrence's area and presents moderate limitations for development.

OTHELLO (Ot) silt loam is a deep, poorly-drained silty mantle, underlain by sand and gravel, with a dark, gray-brown surface layer of silt loam (11"), and a gray-brown silty clay loam subsurface (13"). The water table rises to less than 1' from the surface in winter. Runoff is slow on this nearly level soil, permeability and erodibility are moderate. This unit covers almost 6 percent of the township, and it present serious constraints to development.

PENN are well-drained soils on uplands, with 3 shaly silt loam subtypes with the following slopes : 0-6 percent (PeB), 6-12 percent (PeC) and 12-18 percent (PeD). Hazards from erosion and runoff increase as sloping is more pronounced, and depth to shale bedrock decreases to only 14-19". Water table lies at 3+ feet. The nearly level subtype is considered prime farmland.

PITS (Pg) are sand, gravel or clay excavations.

PLUMMER sandy loam (Pu) and its very wet subtype (Pv) are deep, loose, sandy, poorly drained, nearly level soils, with a gray surface layer (12") and a gray-brown subsurface (35") of loamy sand. Water table is very near the surface in winter and permeability is moderately rapid. This soil raises problems for development.

PORTSMOUTH silt loam (Pw) is a nearly level, deep, very poorly-drained silty mantle underlain by sand and gravel. Runoff is slow, with water sitting on the surface during the winter; permeability is moderate to moderately rapid. The surface layer is dark gray silt loam (9"), with a subsurface of light gray silt loam (4"). It presents severe constraints to development.

QUAKERTOWN are well-drained soils with several subtypes: silt loams, channery silt loams, sloping, and eroded. Hazards of erosion and runoff are moderate, permeability is moderately rapid, sandstone bedrock lies at 3-5 feet, and high water table at 4+ feet. Some of these subtypes (QkB, QkB2, QuB) are considered prime farmland.

READINGTON AND ABBOTTSTOWN are an undifferentiated association of 2 similar moderately well-drained silt loams. Shale bedrock lies at 3-4 feet, seasonal high water table at 1.5 to 2.5 feet, and erodibility is high. Slopes can reach 12 percent in the eroded subtypes. These soils account for about 7 percent of Lawrence's area.

REAVILLE are moderately deep, moderately well-drained, nearly level (ReA), to sloping (ReC2) and eroded silt loams on uplands. Shale bedrock lies at 1.5 to 3.5 feet, seasonal water table at 1-2 feet, and erodibility is high. These soils present moderate constraints to development.

ROWLAND are deep, moderately well-drained silt loams on flood plains. Permeability is moderate, bedrock at 5+ feet, and high water table at 1-2 feet.

SASSAFRAS are deep, well-drained soils on uplands, gently sloping, with 6 subtypes: sandy loam, 0-2 percent slope (SrA); sandy loam, 2-5 percent slopes (SrB); sandy loam 5-10 percent slope, eroded (SrC2); gravelly sandy loam 2-5 percent slope (SsB); and sandy clay loam, 5-10 percent slopes, severely eroded (StC3). Together, they cover over 6 percent of the township. Permeability is moderate to moderately rapid. These soils present little constraint to development.

**Table 1. Major Soil Types, Lawrence Township**

<u>Mapping Symbol</u>	<u>Named Texture</u>	<u>Slope (%)</u>	<u>Areas (Acres)</u>	<u>Percent of Total Area</u>
Ae	Alluvial land, very wet	-	359	2.5
AfB	Aura sandy loam	2-5	28	0.2
AfC	Aura sandy loam	5-10	23	0.2
BdA	Birdsboro silt loam	0-2	106	0.7
BdB	Birdsboro silt loam	2-6	118	0.8
BoB	Birdsboro, gravelly solum variant	0-5	252	1.8
BnA	Birdsboro, sandy subsoil variant	0-2	111	0.8
BnB	Birdsboro, sandy subsoil variant	2-6	200	1.5
BnC	Birdsboro, sandy subsoil variant	6-12	9	0.1
Bt	Bowmansville silt loam	0-2	370	2.6
BuA	Bucks silt loam	0-2	282	2.0
BuB	Bucks silt loam	2-6	1,724	12.1
BuB2	Bucks silt loam (eroded)	2-6	170	1.2
BuC	Bucks silt loam	6-12	58	0.4
BuC2	Bucks silt loam (eroded)	6-12	137	1.0
CdA	Chalfont silt loam	0-2	4	0.0
CdB	Chalfont silt loam	2-6	219	1.5
CdB2	Chalfont silt loam (eroded)	2-6	31	0.2
CdC2	Chalfont silt loam (eroded)	6-12	7	0.0
Cg	Cut and fill land, gravelly material	0-5	24	0.2
Cu	Cut and fill land, stratified substratum	0-10	881	6.2
Df	Downer fine sandy loam	0-5	10	0.1
DgA	Doylestown & Reaville silt loam, wet variant	0-2	354	2.5
DgB	Doylestown & Reaville silt loam, wet variant	2-6	259	1.8

**Table 1. Major Soil Types, Lawrence Township, cont.**

<u>Mapping Symbol</u>	<u>Named Texture</u>	<u>Slope (%)</u>	<u>Areas (Acres)</u>	<u>Percent of Total Area</u>
DgB2	Doylestown & Reaville silt loam, wet variant (eroded)	2-6	32	0.2
DgC2	Doylestown & Reaville silt loam, wet variant (eroded)	6-12	8	0.1
DwB	Dragston & Woodstown sandy loam	0-4	88	0.6
Ek	Elkton silt loam	-	442	3.2
EvB	Evesboro loamy sand	0-5	21	0.1
Fd	Fallsington sandy loam	-	109	0.8
Fm	Fresh Water Marsh	-	135	1.0
FrB	Fort Mott loamy sand	0-5	78	0.6
FrC	Fort Mott loamy sand	5-10	3	0.0
GaB	Galestown, loamy sand	0-5	61	0.4
Km	Klej soils, sandy loam subsoil variants	0-3	144	1.0
KsC	Klinesville shaly loam	6-12	120	0.8
KsE	Klinesville shaly loam	12-30	53	0.4
LaB	Lansdale sandy loam	2-6	3	0.0
LcC2	Lansdale sandy loam (eroded)	6-12	5	0.0
LdC	Lansdale very stony loam	0-12	5	0.0
LeB	Lawrenceville and Mt. Lucas silt loam	2-6	4	0.0
LhC2	Lehigh silt loam (eroded)	6-12	3	0.0
Lk	Lenoir-Keyport silt loams	0-5	92	0.6
MoA	Matapeake loam	0-2	225	1.6
MoB	Matapeake loam	2-5	1,060	7.6
MoC2	Matapeake loam	5-10	75	0.5
Mq	Mattapex & Bertie loams	0-5	612	4.3
Ot	Othello silt loam	0-3	890	6.3
PeB	Penn shaly silt loam	0-6	151	1.1
PeC	Penn shaly silt loam	6-12	122	0.9

*Conservation Element · Master Plan*  
*Lawrence Township · Mercer County*

**Table 1. Major Soil Types, Lawrence Township, cont.**

<u>Mapping Symbol</u>	<u>Named Texture</u>	<u>Slope (%)</u>	<u>Areas (Acres)</u>	<u>Percent of Total Area</u>
PeD	Penn shaly silt loam	12-18	45	0.3
Pg	Pits	-	37	0.3
Pu	Plummer sandy loam	-	163	1.2
Pv	Plummer sandy loam, very wet, surface variant	-	196	1.4
Pw	Portsmouth silt loam, thin sloping	-	493	3.5
QkB	Quakertown silt loam	0-6	219	1.5
QkB2	Quakertown silt loam (eroded)	2-6	65	0.5
QkC	Quakertown silt loam	6-12	7	0.0
QkC2	Quakertown silt loam (eroded)	6-12	144	1.0
QuB	Quakertown channery silt loam	2-6	7	0.0
QuC2	Quakertown channery silt loam (eroded)	6-12	32	0.2
QuD2	Quakertown channery silt loam (eroded)	12-18	49	0.3
RaA	Readington and Abbottstown silt loam	0-2	440	3.1
RaB	Readington and Abbottstown silt loam	2-6	541	3.8
RaB2	Readington and Abbottstown silt loam (eroded)	2-6	2	0.0
RaC2	Readington and Abbottstown silt loam (eroded)	6-12	24	0.2
ReA	Reaville silt loam	0-2	28	0.2
ReB	Reaville silt loam	2-6	107	0.8
ReB2	Reaville silt loam (eroded)	2-6	38	0.3
ReC2	Reaville silt loam (eroded)	6-12	17	0.1
Ro	Rowland silt loam	0-2	305	2.2
SrA	Sassafras sandy loam	0-2	58	0.4
SrB	Sassafras sandy loam	2-5	322	2.3
SrC2	Sassafras sandy loam (eroded)	5-10	168	1.2

**Table 1. Major Soil Types, Lawrence Township, cont.**

<u>Mapping Symbol</u>	<u>Named Texture</u>	<u>Slope (%)</u>	<u>Areas (Acres)</u>	<u>Percent of Total Area</u>
SsB	Sassafras gravelly sandy loam	2-5	355	2.5
StC3	Sassafras sandy clay loam, (severely eroded)	5-10	5	0.0
W	Water	-	<u>25</u>	<u>0.2</u>
<b>Total</b>			<b>14,170</b>	<b>100.0</b>

Source: *Soil Survey of Mercer County, New Jersey* U.S. Department of Agriculture, Soil Conservation Service, January 1972

#### SUMMARY OF SOIL TYPES

North of the Shipetauken/Stony Brook line, the Bucks-Penn-Readington association predominates (shallow to moderately deep, moderate to well-drained soils with a silty subsoil over shale or siltstone). There are also significant areas of other formations, namely the Quakertown-Chalfont-Doylestown association, and the Birdsboro-Rowland-Bowmansville association, which are soil associations of the northern Piedmont region.

South of the Shipetauken/Stony Brook line, soil associations belong to the Northern Coastal Plain, mostly to the Matapeake-Mattapex-Bertie association (deep with loamy or silty subsoil), and Sassafras-Drageston association (deep with loamy subsoil).

Individually, the Bucks, Matapeake, Readington and Abbottstown, and Othello soil types are the dominant units in Lawrence Township -- together, they cover nearly 40 percent of its area.

Selected characteristics of these soil types were mapped and tabulated separately, in order to show the location and extent of the environmental limitations which they may present. Permeability, erodibility, depth to seasonal high water, and depth to bedrock were examined, as well as slopes and flood plains. These elements are examined individually in the following sections.

## EROSION POTENTIAL

Erosion is the wearing away of the land surface through the actions of any of a number of erosion inducing agents both geologic (water, wind, ice) and living (man or animal). The erosion hazard potential is both a function of the intensity of these agents' activities, of slope, of soil type and characteristics, and of the extent to which the natural cover of trees, shrubs or grasses has been removed from the terrain. The product of erosion is siltation, or the displacement of soil into water courses; its effects can be seen in hillside gullies and ever shallower ponds and streams. Erodibility becomes especially crucial on steep slopes in proximity to streams, lakes, reservoirs, and other collectors of surface water runoff. Erosion potential is measured by an erodibility (k) factor, which indicates sheet erosion that might be expected to occur from bare soil. K-factor ratings vary from .17 (lowest erosion potential) to .49 (highest erosion potential), with some soils of nearly level slope not rated. The K-factor is an abstract rating, used only to attribute comparative erosion potentials. The erosion potential for soils in Lawrence have been classified and mapped accordingly:

- High potential - "k" factor of .43 to .49
- Medium potential - "k" factor of .28 to .37
- Low potential - "k" factor of .17 to .24

Low erodibility constitutes in itself little hazard to development. The Soil Conservation Service views medium erodibility as potentially problematic as the following quote attests:

"Areas of medium erodibility must be considered in their relationship to streams, valleys and steep slopes. Techniques such as seeding, soil stabilization, and retention ponds for silt settling must be provided to offset the effects of erosion. A square mile of developing area can produce 25,000 tons of silt, which finds its way through streams and rivers to marshes, ponds, and streams. A decrease in storage space for storm water threatens water supplies and increases flood hazard. Siltation can destroy fish spawning grounds and is a health threat by transporting undesirable germs, pesticides, and other materials from one community to another."  
(*A Conservation Plan*, S.C.S. #1-29, 1973).






As may be expected, high erodibility has a greater potential for environmental damage than medium erodibility. Wherever possible, natural ground cover should not be removed in these areas, and careful runoff management must be

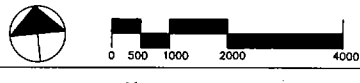
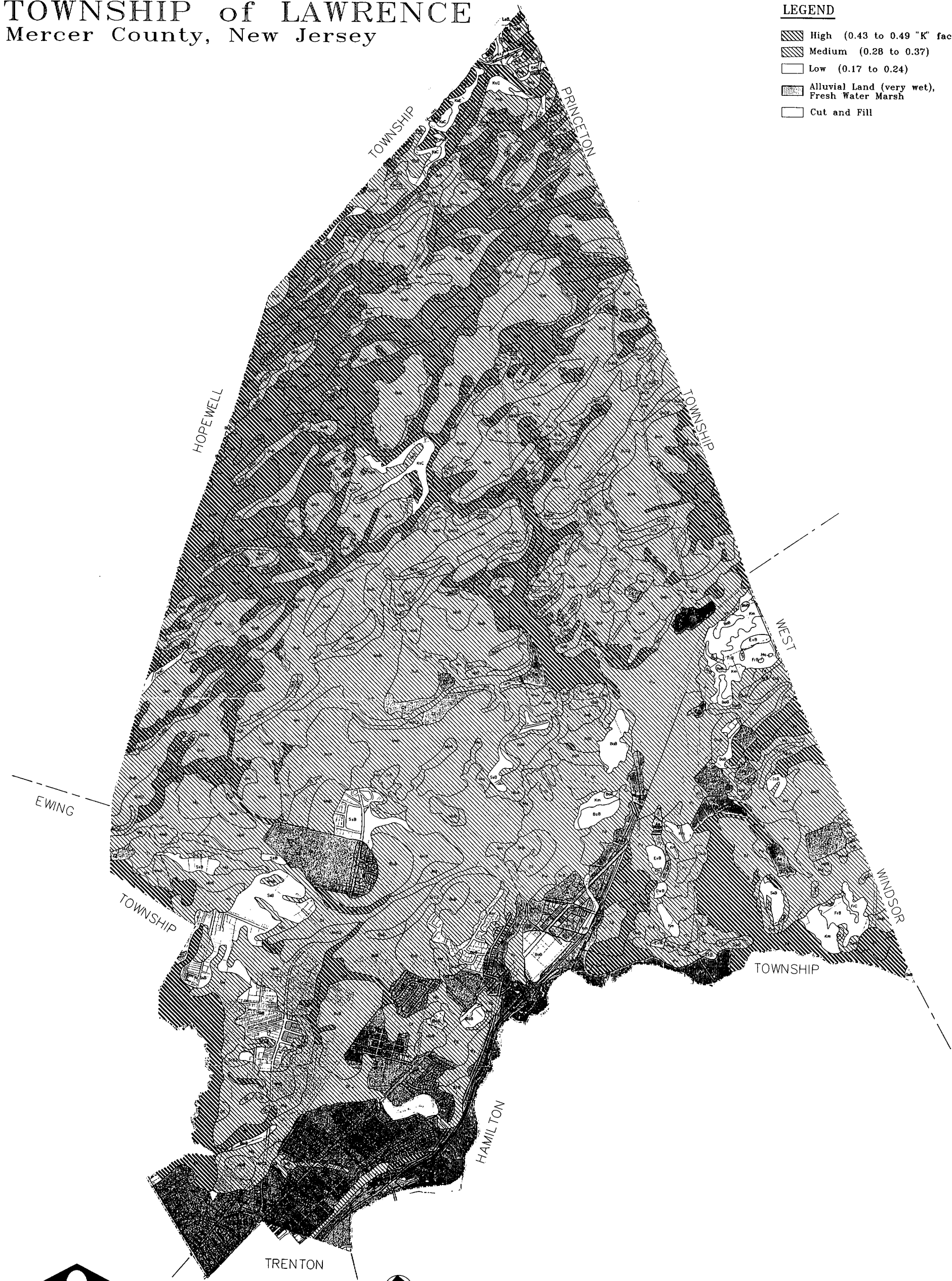


# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  High (0.43 to 0.49 "K" factor)
-  Medium (0.28 to 0.37)
-  Low (0.17 to 0.24)
-  Alluvial Land (very wet), Fresh Water Marsh
-  Cut and Fill



instituted even when re-vegetated.

In Lawrence Township, the soils that present a high erosion potential are silt loams of the Bowmansville, Chalfont, Doylestown, Reaville, Readington and Abbottstown, and Rowland types, which are deep, poorly drained soils, located mostly in the northwestern part of the municipality, and which, together with a few other minor types, amount to 3,079 acres, or 22 percent of total area (see Table 2 and Erodibility Map).

**Table 2. Erosion Potential, Lawrence Township.**

Erosion Potential	Area (acres)	Percent
High	3,117	22.0
Medium	7,650	54.0
Low	1,137	8.0
Other	2,266	16.0
Total	14,170	100.0

Source: 1987 Master Plan

Most of these areas with a high erosion potential are located away from the flood plain zones in areas of slight slopes (0-8 percent). Most of these potential high erosion areas are at present covered with vegetation and do not constitute an immediate environmental constraint. These areas remain environmentally sensitive, however, because of the disruptive effects of plowing and construction related to development. Special precautions should be taken to avoid excessive removal or destruction of the vegetative area, as well as to control runoff, particularly in the period after development has commenced, and before landscaping, when the surface is usually most exposed to the action of erosion agents. In farming areas, these lands are best utilized for fruit crops that do not require annual soil turning.

**PERMEABILITY**

Permeability is the ability of surface water to move through the soil to reach underlying soil and geologic strata; it varies with the quality of soil horizons or layers, and is measured in inches/hour for each layer. A mean for each of the soils was determined by averaging the different readings for each of the soil horizons or layers (typically 0"-14", 14"-35", 35"-60"), using the following categories:

- slow <.2"/hr. to <.63(at all levels)
- moderate .63 to 2.0 (at all levels)
- rapid 2.0 to 6.3 (at all levels)
- moderately rapid a combination of moderate and rapid at different levels

In Lawrence, over two-thirds of the area is covered by soil types with slow or moderate permeability (see Permeability Map and Table 3). The areas of rapid and moderately rapid permeability are located in the southeastern part of the municipality, east of the Princeton Pike.

**Table 3. Permeability, Lawrence Township.**

Permeability Level	Area (acres)	Percent
Slow	3,561	25.1
Moderate	5,982	42.2
Moderate-Rapid	2,421	17.1
Rapid	1,282	9.0
Uncategorized	924	6.6
<b>Total</b>	<b>14,170</b>	<b>100.0</b>

Source: 1987 Master Plan

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

- Slow
- Moderate
- Moderately Rapid
- Rapid



## FLOOD HAZARD AREAS

"Flood Hazard" is a measurement of the danger or probability of flooding. This can result from the overflowing of a body of water onto adjacent land, but can also occur as the result of a rise in the water table, so that land becomes soaked at the subsurface level. The level or nearly level areas on either side of a water course or body created by successive and cyclical inundation and erosion is typically classified as a flood hazard area.

For purposes of measuring flood hazard, 100 year and 500 year flood plains are normally defined, that is, the probability of a storm of such magnitude occurring once every 100 years or 500 years. The flood hazard area is composed of three parts: 1) the stream channel, which is the normal stream bed of the stream and contains normal flows; 2) the floodway, which is the area on either side of the stream which must be kept free of obstruction in order to contain 100-year flood flows; and 3) the flood fringe or 500-year level. In general, none of the flood hazard area should be developed though under certain criteria flood fringe areas may be.

In Lawrence, the major water courses are Stony Brook in the north, running east-west; the Shipetaukin running generally north to south; both branches of the Shabakunk Creek, running north-south; the Assunpink Creek and the Miry Run, both located in the southeastern corner of the municipality. The Shipetaukin and Shabakunk both empty into the Assunpink Creek. Most of Lawrence is located in the Assunpink and hence Delaware River watershed, although a portion of north Lawrence belongs in the Raritan watershed.

Using cartographic information compiled by the U.S. Federal Emergency Management Agency's National Flood Insurance Program, and an analysis of the area's topographic features it was determined that 2,068 acres lie within the 100-year flood plain and 2,451 within the 500-year flood plain (the 500-year delineation includes the 100-year flood plain).

In low flood hazard areas provision must only be made for the normal and adequate drainage of each site to prevent local flooding (ponding). Flood control measures may be required to lessen the impact on other more flood-prone areas, however. In moderate flood hazard areas (flood fringe between the 100- and 500-year contour lines) certain precautionary measures should be taken. Severe flood hazard areas (within the 100 year floodway) are unsuitable for development and should be preserved to allow the free flow of flood waters. These areas are best suited for conservation and passive

recreational purposes. Much of the proposed Greenway Network consists of these areas.

#### DEPTH TO SEASONAL HIGH WATER TABLE

The depth to seasonal high water table measures the distance from the surface of the soil to the water table underneath, ie., the level at which the soil is saturated or has excess water. This distance is expressed in feet from the surface from summer lows to late winter highs. The highest point in the season is the most relevant. In some places an upper, or perched, water table may be separated from a lower one by a dry zone of impervious clay or bedrock which prevents normal drainage.

The following categories were used to map the depth to seasonal high water table:

- Severe development constraint, high water 0-1' from surface.
- Moderate development constraint, high water 1-5' from surface.
- Slight development constraint, high water 5'+ from surface.

Deep seasonal high water (5'+) presents the fewest restrictions to development. Adequate foundations can be built for all uses and septic fields are not affected. In Lawrence, deep water table areas are located in the central and northern parts of town, and cover over 31 percent of total Township area. (*see Depth to Seasonal High Water Table Map*).

Moderate depth to seasonally high water (1-5') increases building costs (deeper foundations, insulation) and danger of ground water pollution from septic tanks. Good design practice and execution and higher building costs can, however, overcome most limitations in those areas. In Lawrence, moderate depth to seasonally high water covers 36 percent of the Township's area.

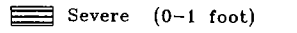
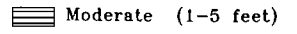
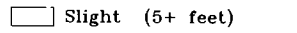
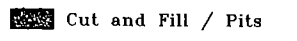
Shallow depth to seasonally high water (0-1') presents greater constraints for development by imposing higher building costs for foundations and basements (single family development is restricted to slab on grade), discouraging the use of septic tanks from potential groundwater contamination, and otherwise increasing construction and maintenance costs for infrastructure. In Lawrence, slightly over one quarter of the total area falls into this category, mostly in the south and southeast, and is also associated with flood hazard areas. The depth to seasonal high water is also a strong indicator of freshwater wetlands.. Such soils are best suited for conservation and

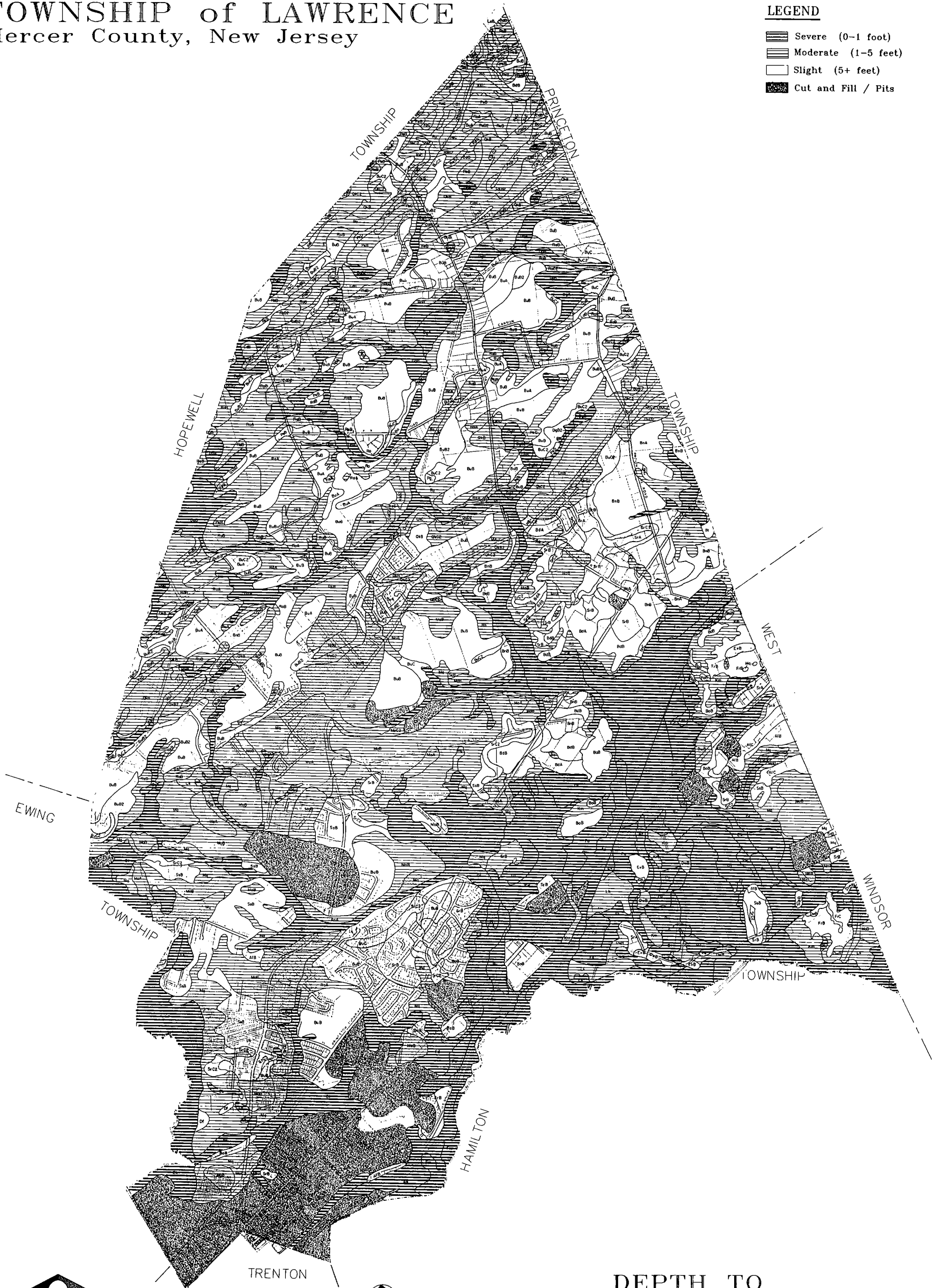


# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  Severe (0-1 foot)
-  Moderate (1-5 feet)
-  Slight (5+ feet)
-  Cut and Fill / Pits



## DEPTH TO SEASONAL HIGH WATER

Source: Soil Survey of Mercer County U.S.D.A., Soil Conservation Service, Jan. 1972  
 Base Map Prepared by R. Copolla & Associates  
 Revised by Hintz Associates, Inc. Date: May 11, 1995

recreation, although low intensity uses may be constructed within very specific guidelines. Table 4 expresses the land area under the development constraints outlined in this section.

**Table 4. Depth to Seasonal High Water Table, Lawrence Township.**

Depth to High Water	Area (acres)	Percent
Deep (> 5')	4,342	30.6
Moderate (1-5')	5,113	36.1
Shallow (0-1')	3,717	26.2
Other	998	7.1
Total	14,170	100.0

*Source: Soil Survey of Mercer County, NJ, U.S. Department of Agriculture, Soil Conservation Service, January 1972; 1987 Master Plan*

In Lawrence, the Othello, Portsmouth, Doylestown and Reaville, and Elkton soils are the major soil types with 0-1' depth to seasonal high water.



## WETLANDS

Jurisdiction for the regulation of freshwater wetlands was passed from the U.S. Army Corps of Engineers to the New Jersey Department of Environmental Protection (DEP) on July 1, 1988. Transitional buffer standards (after legal challenge from several quarters) were instituted on July 1, 1989. The final transfer from federal to state control of Section 404 permits, pertaining to the federal Clean Water Act, occurred in 1994, thereby completing New Jersey's assumption of wetlands protection. As part of this process, the New Jersey Department of Environmental Protection has developed wetlands mapping that more definitively identifies wetlands based on one of three markers (*see Freshwater Wetlands Map, next page*). These identifiers of wetlands include: 1) the land at least periodically and predominantly supports hydrophytes (vegetation characteristically found in saturated soils); 2) the soil substrate is primarily undrained hydric soil characterized by at least long periods of oxygen starvation; and 3) the substrate is a non-soil and is saturated or covered by shallow water at some time during the growing season<sup>1</sup>.

The New Jersey Department of Environmental Protection, notwithstanding its acceptance of freshwater wetlands jurisdiction, continues to use the U.S. Fish and Wildlife's classification system. This consists of a hierarchical nomenclature encompassing a wide variety of wetlands' ecologies. Five systems are defined: Marine, Estuarine, Riverine, Lacustrine, and Palustrine (*see Wetlands Illustration, following*). The Marine system consists of the open ocean and its associated coastline. The Estuarine system includes salt and brackish marshes and the brackish waters of coastal rivers and bays. These two classifications are salt water wetlands. Freshwater wetlands and deep water habitats (water over 2 meters in depth) are either classified as river or stream based (Riverine); lake, reservoir or large pond wetlands (Lacustrine); or Palustrine encompassing marshes, swamps, bogs, and small ponds<sup>2</sup>. Palustrine wetlands often encompass forested or scrub areas.

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<sup>1</sup> - The three parameter approach to classifying wetlands is from the definition of a wetland by the U.S. Fish and Wildlife Service.

<sup>2</sup> - This description is based on *Wetlands of New Jersey*, by Ralph W. Tiner, Jr., U.S. Fish and Wildlife Service, U.S. Department of the Interior, July 1985

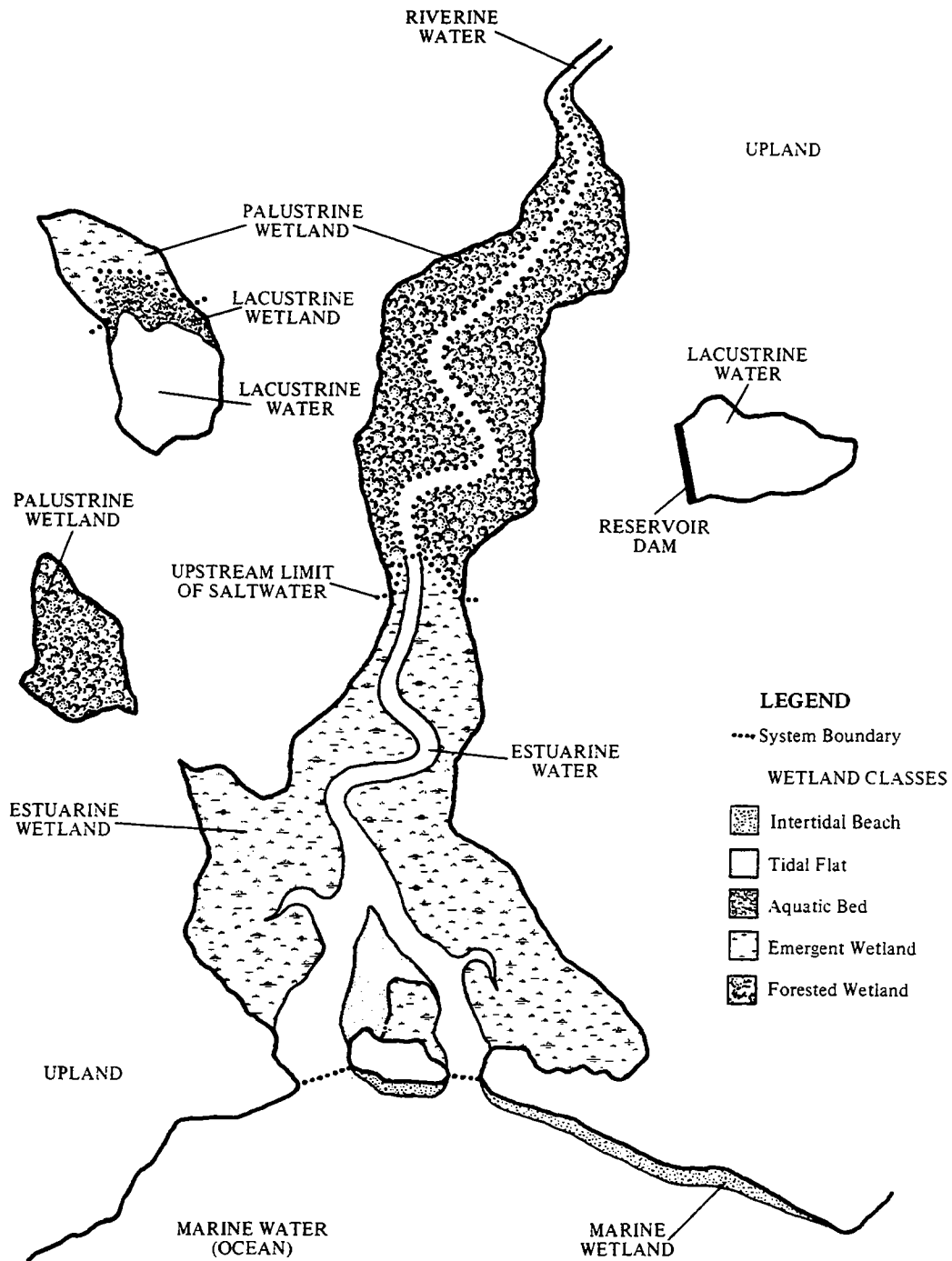



Figure 1. Wetlands Illustration Indicating Typological Classifications.

Source: U.S. Fish and Wildlife Service, July 1985

TOWNSHIP of LAWRENCE  
Mercer County, New Jersey

LEGEND

 Wetlands



Nearly all of the freshwater wetlands in Lawrence are Palustrine, with one Riverine type and a minor Lacustrine. Eight different ecological niches were identified, namely:

PEM	Palustrine Emergent
PFOI	Palustrine Forested Broad-leaved Deciduous
PFO/SS	Palustrine Forested Scrub/shrub Broad-leaved Deciduous
POW	Palustrine Open Water
PSSI	Palustrine Scrub/shrub Broad-leaved Deciduous
PSSI/EM	Palustrine Scrub/shrub Broad-leaved Deciduous, Emergent
LIOW	Lacustrine Limnetic Open Water/Unknown Bottom
R2OW	Riverine Lower Perennial Open Water

A composite map of wetlands may be found on the preceding page.

The delineation of wetlands should not be considered conclusive from the mapping prepared by the Department of Environmental Protection. Individual sites must be surveyed and flagged for wetlands as part of the development review process. Freshwater wetlands are considered environmentally sensitive lands and should not be developed. The Freshwater Wetlands Act (P.L. 1987, c. 156), placed all regulatory control on wetlands with DEP. DEP has produced rules and regulations for limited filling on sites with wetlands, upland buffers adjacent to wetlands, and procedures for minor encroachments.

As a general rule, forested areas in Lawrence contain Palustrine wetlands since these areas were not cleared for agricultural purposes. Even when tile drain fields were installed, the hydric nature of the soil was a poor producer of typical field crops. Wetlands are concentrated along the Delaware and Raritan Canal, and the Shipetaukin and Assunpink Creeks.

SLOPE

Slope measures the gradient over a given linear distance. In the Master Plan, a distance of 100 lineal feet has been used. Both the lack of slope and excessive slope are problematic. Flat land may be prone to flooding and pooling of water. Gravity run utility systems such as storm drainage and sanitary sewer may not function properly. Areas of steep slope often require special foundations and construction techniques to development. During construction, steep slopes are vulnerable to erosion. Expensive pumps may be required for water and sanitary sewer systems. The Slope Map was developed using topographic information to determine the average gradient. In turn, the land was classified into the following categories:

- Severe development constraint   15+%
- Moderate development constraint                                   0-2% and 8-15%
- Slight development constraint   2-8%





Slopes in the 0-2% category drain poorly, but special grading may overcome this limitation. Slopes in the 2-8% percent group present no restrictions for development. Moderate slopes (8-15%) are inherently more expensive to develop than slight slopes but careful design and construction can take advantage of the topography to its best advantage. Slopes over 15 percent present more serious development problems and the steeper the slope the greater the constraints become. Slopes in excess of 25 percent should not be developed and site specific information should be obtained on these areas in the development review process.

The majority of the Township has slight or moderate slopes.

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  Severe: 0% to 2%
-  Severe: greater than 15%
-  Moderate: 8% to 15%
-  Slight: 2% to 8%



**DEPTH TO BEDROCK**

Depth to bedrock measures the distance from the ground surface to solid rock (bedrock). The depth to bedrock affects soil permeability and may limit well and septic systems. Areas of deep bedrock (over 6 feet from the surface) present few constraints to development -- permeability is sufficient to allow septic systems and basements may be easily constructed. Top soil depth is also adequate for plantings and landscaping. Areas of moderately deep bedrock (4 to 6 feet from the surface) may present problems, since permeability may restrict the use of septic fields, while basements and underground utilities are more expensive to construct. Areas of shallow bedrock (0 to 4 feet from surface) are generally unsuitable for septic systems, while poor drainage may lead to heavy runoff after the soil has been saturated from rainfall. In areas of steep slopes, soil slippage (mud slides) may occur. Construction must be slab on grade.

In Lawrence, depth to bedrock may present some problems, mostly in the areas with Penn shaly silt loams and Reaville silt loams, which in any case account for not more than 5 percent of total area (see Table 5 and Depth to Bedrock Map), and are concentrated in the northern tip. Most of the area north of Federal City Road and Route 206 has bedrock between 3½ and 6 feet. To the south, bedrock lies at over 6 feet and presents no major problems to development. The areas noted as cut and fill, which could present some problems for foundations, are located predominantly in south Lawrence, a mostly built-up area.

**Table 5. Depth to Bedrock, Lawrence Township.**




Level of Constraint	Area (Acres)	Percent
Slight	6,092	43.0
Moderate	5,950	42.0
Severe	708	5.0
Unclassified	1,417	10.0
<b>Total</b>	<b>14,170</b>	<b>100.0</b>

*Source: Soil Survey of Mercer County, New Jersey U.S. Dept. of Agriculture, Soil Conservation Service, January 1972; 1987 Master Plan*

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  Severe (0-3.5 feet)
-  Moderate (3.5-6 feet)
-  Slight (6+ feet)





## VEGETATION

The wooded areas in Lawrence Township consist primarily of lowland deciduous trees. These woodlands are typically associated with flood plains and areas of high seasonal water which have made them unsuitable for good crop production. Thus, farmers have not cleared these lands, or, if once farmed, have preferred to cultivate the drier, upland areas of the Township with better crop yields.

Tree types are related to soils and to the geologic formation from which the soils are derived. The predominant vegetation types are red maple (*Acer rubrum*) with an abundance of silver maple (*Acer saccharinum*), sweetgum (*Liquidambar styraciflua*), pin oak (*Quercus palustris*), green and white ash (*Fraxinus* sp.) and white oak and swamp white oak (*Quercus alba* and *bicolor*). Spicebush and arrowwood viburnum are predominant shrub types, with swamp azalea, sweet pepperbush, poison ivy and honeysuckle also found as lower shrubs and groundcover. Typical herbs in flood plain areas include skunk cabbage, hedges and masses, and spring herbs.

## DEVELOPMENT SUITABILITY

All the environmental features discussed in the previous sections which present constraints to development have been overlain in order to constitute a single matrix of development constraints and opportunities. Table 6 (following) presents the breakdown of the characteristics which contribute, albeit with different weights, to the definition of the overall suitability constraints over the area of the Township. Table 6 also presents the quantification of each of these categories, which have, in turn, been plotted on the *Development Suitability Map*. Most areas present some type of constraint.

**Table 6. Land Development Suitability Analysis.**





Development Category	Area (Acres)	Percent
<b>Suitable</b>	1,187	8.4
<b>Suitable with Guidelines</b> 1 to 5 ft seasonal high water table prime farmland cut and fill areas	4,399	31.0
<b>Unsuitable</b> woodlands electricity transmission right-of-ways noise buffers public park lands 500-year flood hazard areas	2,765	19.5
<b>Most Unsuitable</b> 0 to 1 ft seasonal high water table 100 yr flood hazard areas wetlands built-up areas major roads	5,819	41.1
<b>Total</b>	<b>14,170</b>	<b>100.0</b>

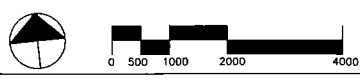
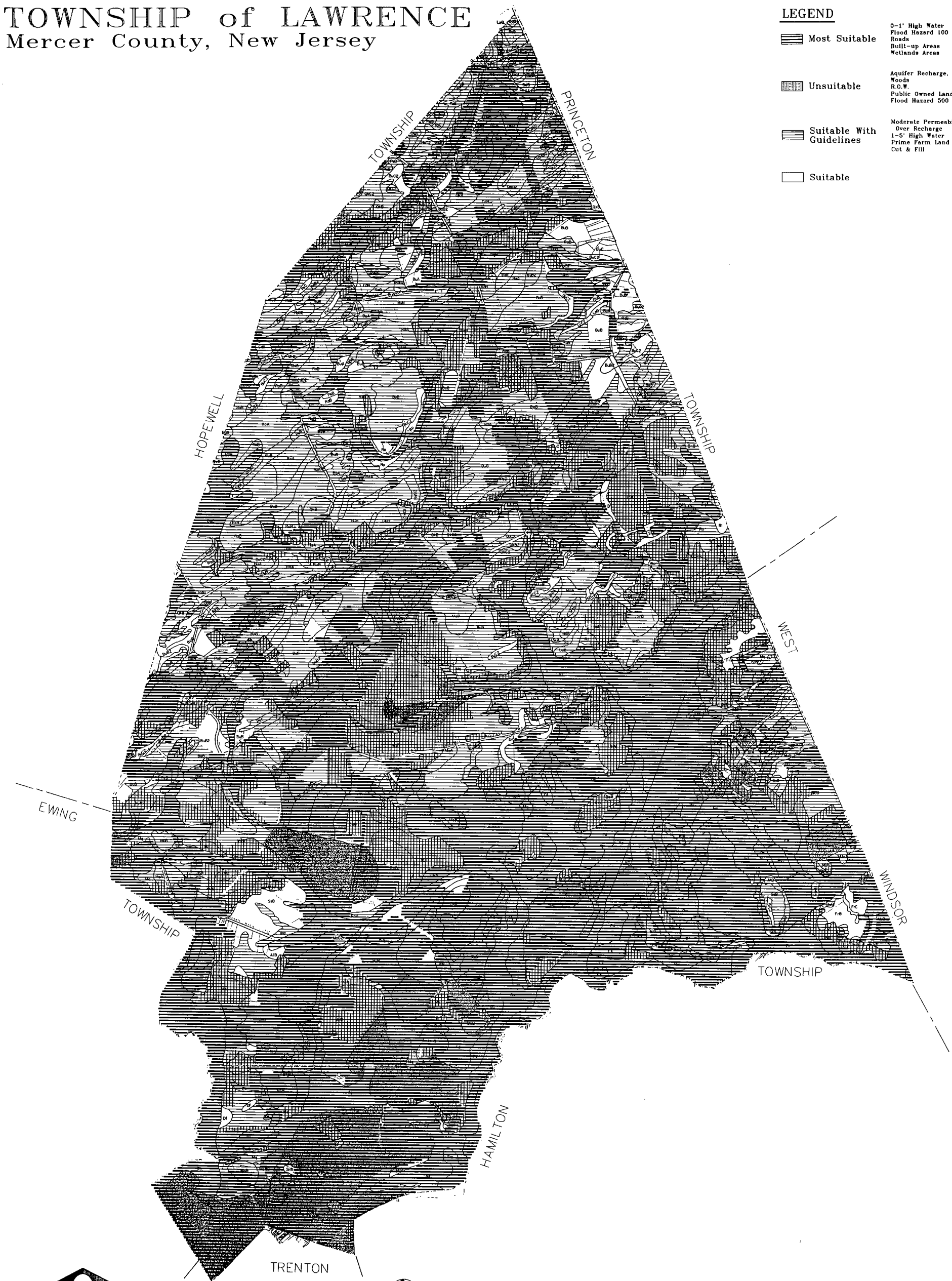
Source: 1987 Master Plan

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  Most Suitable
  -  Unsuitable
  -  Suitable With Guidelines
  -  Suitable
- 0-1' High Water Flood Hazard 100 Year Roads Built-up Areas Wetlands Areas
  - Aquifer Recharge, Rapid Woods R.O.W. Public Owned Land Flood Hazard 500 Year
  - Moderate Permeability, Over Recharge 1-5' High Water Prime Farm Land Cut & Fill



## DEVELOPMENT SUITABILITY

Source: Soil Survey of Mercer County U.S.D.A., Soil Conservation Service, Jan. 1973  
 Base Map Prepared by R. Copolla & Associates  
 Revised by Hintz Associates, Inc. Date: May 11, 1995

#### CONTINUITY OF CONSERVATION POLICY

Land preservation decisions have been based in large part on the recommendations that from the analysis of environmental factors in the 1987 Master Plan. Since the adoption of the 1987 Conservation Plan, however, the criteria used to set priorities for the conservation of environmentally sensitive land and farmland have evolved. These changes will be discussed below after first identifying the relationship between conservation lands and open space.

## Open Space

### TYPES OF OPEN SPACE

Open space can be divided into three distinct types of land and two special categories based on function:

### OPEN SPACE CATEGORIES

- 1) Active Recreation Open Space is developed parkland used for playing fields and recreational facilities.
- 2) Passive Recreation Open Space is land set aside for its intrinsic recreational benefits and the limited development of scenic overlooks, picnic areas, hiking, equestrian, and bicycling trails.
- 3) Conservation Open Space is land intended to retain its intrinsic environmental benefits without any development or disturbance.

### SPECIALIZED CATEGORIES

- 4) Agricultural Open Space is land used for farming purposes; including tillage agriculture, pasturing, nurseries and orchards; necessary to retain rural character.
- 5) Developmental Open Space is land reserved within a residential or non-residential development for the use or enjoyment of adjacent property owners and may contain any of the other four types of open space. Its distinguishing characteristic is its restriction from general public use.

The Community Facilities and Recreation Element includes policies related to Active and Passive Recreation open space. This Conservation Element sets forth recommendations for conservation land and agricultural preservation. Developmental open space is briefly discussed here and in the Recreation Element as it relates to governmental planning approval.

Support for these different types of open space comes from both public and private organizations. For example, the Mercer County Open Space Agricultural Development Board provides financial assistance for preserving

farmland. Conversely, the Lawrence Township Conservation Foundation, one of a number of private citizen's groups active in the Township, supports open space preservation efforts along streams and other types of greenways.

It is important to distinguish between the various types of open space when considering land acquisition priorities. The means to finance preservation efforts often differs with the type of open space. In 1992, for example, New Jersey voters passed a \$345 million bond referendum for open space acquisition and outdoor recreational projects. In 1989, Mercer County voters approved a special assessment tax for acquiring open space.

The amount of financial assistance a municipal government receives for a given open space project may influence preservation strategies. Site characteristics may also have a significant impact on finding the most economical and efficient means to preserve land.

#### GENERAL CRITERIA FOR PRESERVATION

##### SITE CHARACTERISTICS

The imposition of environmental regulations over the past two decades has greatly reduced or eliminated the development of certain types of environmentally sensitive land. Most of the regulation of environmentally sensitive land has reverted to the state level, including stream encroachment (development within the 100-year flood plain), freshwater wetlands, and streams that drain to the Delaware and Raritan Canal. Lawrence Township administers buffer requirements which prohibit development or site disturbance next to streams.

With these restrictions already in place, attention to other desirable site characteristics that are not protected by existing regulations become primary considerations in open space preservation efforts. A list of recommended site characteristics is provided below.

##### SITE CHARACTERISTICS IN THE RANKING OF CONSERVATION LAND

The following characteristics are considered positive factors in the ranking of sites for conservation:

- 1) environmentally sensitive land:
  - mature woodlands
  - stream corridors and adjacent sites
  - aquifer recharge areas
  - freshwater wetlands
  - unique wildlife and plant habitats
- 2) historic significance;
- 3) aesthetic views and vistas;
- 4) proximity to other conservation land or preserved open space;
- 5) demand for conservation land in the area based on current or future projected population;
- 6) accessibility to the public;
- 7) farmland located within the Mercer County Agricultural Development Area (ADA);
- 8) suitability for multiple types of open space; and
- 9) ability of area to sustain intended use

In addition to physical features that distinguish a particular site, there are often other considerations that may affect the desire of a municipality to pursue preservation efforts. These factors are listed below.

#### ADDITIONAL CONSERVATION LAND CONSIDERATIONS

- 1) property owner's willingness to sell or preserve land;
- 2) development pressure;
- 3) cost of preservation;
- 4) expected operating expenses and potential for liability claims.

It is important for Lawrence Township to maintain an open dialogue with land owners and developers. Timely governmental action can be critical to an effective land preservation strategy. Early identification of potential lands is essential because of the deliberative approach that governmental agencies must take in considering the public interest. These factors affect the cost and means to preserve specific parcels.

### CONSERVATION TECHNIQUES

There are a number of methods of preserving open space apart from direct purchase by government or a private non-profit conservation organization. Purchasing large tracts of land in fee simple is expensive and only the most desirable properties should be preserved in this manner.

Techniques discussed here to conserve land include clustering development, performance zoning based on environmentally sensitive land, purchase or donation of development rights, transfer of development credits or rights, conservation easements, and site design.

Lawrence Township already utilizes a number of these approaches. Their further implementation will require a process that successfully integrates plan review, governmental agency programs and private land conservation efforts. No one technique will achieve the goals set forth in this document. Rather, the techniques should be selectively utilized to best achieve the objectives of this Conservation Element.

Specific techniques for conservation are as follows:

#### CLUSTER DEVELOPMENT

This form of development concentrates buildings on a small portion of a site while preserving the remainder. This design maintains the overall (gross) density for the entire parcel while saving environmentally sensitive land from development. Lawrence Township employs this technique in its residential zoning regulations, but it is limited in preserving large tracts of land in non-sewered areas where large lots are usually needed to accommodate septic systems. An alternative to individual septic systems is the use of a small community system, though the technology of these types is still evolving. If the technology matures sufficiently, smaller lot sizes should be encouraged in new residential subdivisions while maintaining the



permitted gross density. Additional discussion on this issue is found in the Rural Character and Retention of Farmland section of the Land Use Element.

#### PERFORMANCE ZONING

Performance zoning places significantly more responsibility for site design on the developer. Rather than rely on fixed standards, it requires design flexibility depending on the environmental characteristics found on the site. This type of zoning requires the developer to address land use by type, density, site variables and design standards. Further, by providing specific incentives, certain conservation goals and objectives may be attained that would otherwise be cost prohibitive.

#### PURCHASE OR DONATION OF DEVELOPMENT RIGHTS

Under the "bundle of rights" theory of property ownership, development rights are an additional right inherent in a property along with the better known air, water, and mineral rights. Development rights may be separated from the property and sold or donated to governmental agencies or conservation organizations. The sale of development rights requires the landowner to pay federal capital gains taxes which may be offset depending on the individual landowners tax situation. The donation of these rights, however, can be treated as a charitable contribution and provide the donor with a tax deduction. The sale of development rights also reduces the property assessment for tax purposes. Since development rights are less than fee simple ownership, their cost is substantially less.

#### TRANSFER OF DEVELOPMENT CREDITS(TDC) AND TRANSFER OF DEVELOPMENT RIGHTS(TDR)

The transfer of development credits (TDC) was proposed in the 1987 Master Plan as a voluntary technique to preserve farmland and open space in the Environmental Protection zones (EP-1 and EP-2) while transferring development credits to the Mixed Use Development zone (MXD) to the south. The 1987 Master Plan recommended that a credit of two dwelling units to the acre be transferred and added to the permitted density in the MXD and PVD districts in exchange for preserving lands within the EP zones. Although this incentive has not yet been utilized by developers, this technique should continue to be evaluated as a means of conserving land. A more extension discussion of this issue is found in the Land Use Element.

Transfer of development rights (TDR) is similar to the TDC technique except that it is a mandatory program. At present, only Burlington County has legislative authority to implement a TDR program, but there are periodic attempts to extend TDR authority to municipalities throughout the state.

#### CONSERVATION EASEMENTS

The dedication of easements is a technique frequently used by the Township in preserving wetlands and other environmentally sensitive areas. While retaining ownership in private hands, conservation easements effectively protect lands of ecological importance. Donation of the easement has similar tax advantages as development rights contribution. They may also provide other general benefits, such as public access. Private non-profit conservation organizations are substantially involved in identifying prospective properties and working with interested land owners in securing conservation easements.

#### SITE DESIGN

The design treatment of the layout of buildings, circulation, and utilities is the single largest factor in the preservation of environmentally sensitive lands. The design should start with a development suitability map showing environmental constraints. From this starting point, a design sensitive to the findings of the development suitability map may be produced.

#### CONSERVATION SITE ACQUISITIONS

In recent years Lawrence Township has made important progress in securing sites for open space which were highly ranked according to the preservation criteria described above. Acquisition of development rights or actual title of the following four properties has occurred in the past year.

#### AMERICAN TELEPHONE AND TELEGRAPH

Mercer County has recently purchased an 812 acre tract in both Lawrence and Hopewell Townships from American Telephone and Telegraph (AT&T). The AT&T tract will be added to the existing Rosedale Park and other recent County acquisitions in Hopewell Township to become a major open space and recreation facility known as Northwest County Park. The site,

which includes 490 acres in Lawrence Township, is large enough to support all three types of open space. Agricultural uses could also continue on a portion of the tract. Lawrence Township will purchase approximately 50 acres of the tract at the intersection of Keefe and Cold Soil Roads for a school site. The Cold Soil Road corridor north of its intersection with Keefe Road retains a predominantly rural character. The AT&T tract frontage along Cold Soil Road, including the school site, should be designed carefully to retain its rural image to the greatest possible extent .

#### SHIPETAUKIN WOODS

The Shipetaukin Woods property consists of 63 acres of forest, meadows and wetlands on Carter Road in north Lawrence. This tract includes part of the headwaters of the Shipetaukin Creek and lies adjacent to Terhune Orchards (see below). Shipetaukin Creek runs in a southeasterly direction and eventually reaches the D&R Canal and the Assunpink Creek. The Lawrence Township Conservation Foundation, a private non-profit conservation group, has purchased the property utilizing a combination of funding from the state Green Acres program, the Mercer County Open Space Fund, the Township, and private donations. The Conservation Foundation will maintain Shipetaukin Woods in its natural condition as a passive recreation resource.

#### TERHUNE ORCHARDS

Terhune Orchards is an agricultural operation with a farmstand on Cold Soil Road that has been approved for development rights purchase by the State Agricultural Development Board as part of their efforts to preserve important farmland. Terhune Orchards straddles the boundary between suburban and limited growth-agricultural land use classifications in Mercer County's 1985 *Growth Management Plan*. Also, it is across Cold Soil Road from the 83 acre portion of the Transcontinental Gas Pipe Line property which has been deed restricted for conservation purposes, including agriculture, for 99 years. Acquisition of these development rights would preserve an important element of rural character in the northwest part of Lawrence and would expand the conservation influence of the adjacent Shipetaukin Woods.

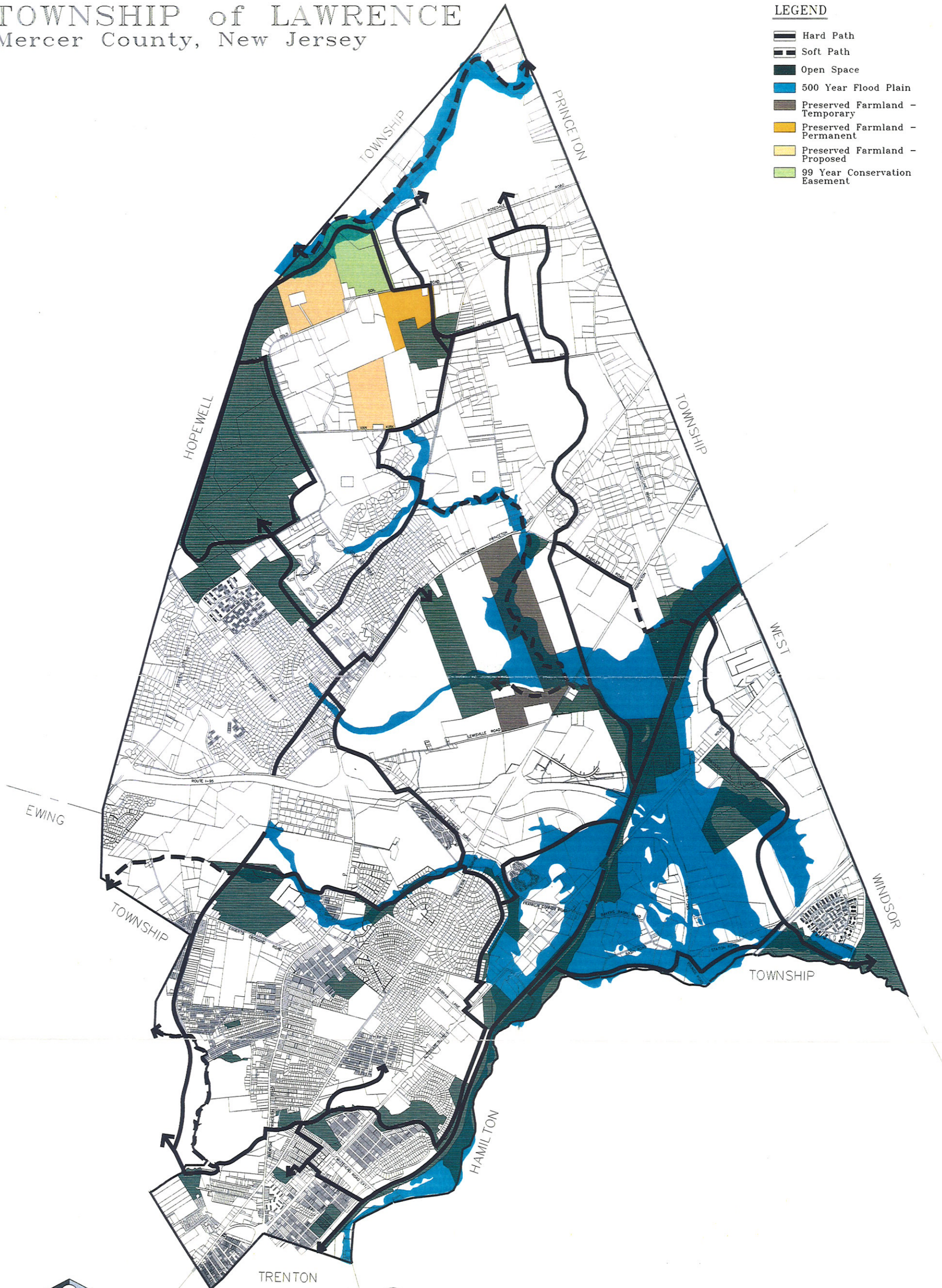


# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  Hard Path
-  Soft Path
-  Open Space
-  500 Year Flood Plain
-  Preserved Farmland - Temporary
-  Preserved Farmland - Permanent
-  Preserved Farmland - Proposed
-  99 Year Conservation Easement





## SHABAKUNK WOODS

Lawrence Township has completed the process of acquiring the former Tiffany Woods, a 12.74 acre parcel at the end of Tudor Lane near Spruce Street with assistance from the state Green Acres Program. The parcel has been renamed Shabakunk Woods to identify the land with the adjacent Shabakunk Creek. The southern end of Lawrence has limited open space and the purchase of the parcel has preserved environmentally sensitive land from development.

## GREENWAYS

The establishment of greenways has gained prominence in the planning of recreation and conservation lands in recent years. The concept of linking recreational areas, civic institutions and residential districts with open space corridors and walking paths had one of its earliest expressions in the United States in Radburn, a section of Fairlawn, New Jersey, constructed in the mid-1920's. The new town movement in the United States (with its most famous examples being Reston, Virginia and Columbia, Maryland) are predicated on the use of open space linkages to tie together commercial uses, residential areas, and civic functions.

On a parallel track, environmental awareness and the evolving understanding of the importance of natural areas in controlling pollution and other man-made impacts have greatly increased over the past 25 years. The necessity for conserving environmentally sensitive land is now well established by the scientific community.

These two tracks converge with greenways, which may be defined<sup>3</sup> as follows:

- 1) A linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route;
- 2) Any natural or landscaped course for pedestrian or bicycle passage;

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<sup>3</sup> - From *Greenways for America*, Charles E. Little, The John Hopkins University Press, Baltimore, 1990

- 3) An open space connector linking parks, natural reserves, cultural features, or historic sites with each other and with populated areas;  
or
- 4) Locally, certain strip or linear parks designated as a parkway or greenbelt.

Much of the recent emphasis on creating greenways has focused on the preservation of stream corridors. Stream corridors include the water course or body, flood plain and flood fringe area, and often include freshwater wetlands and in some cases associated uplands.

Greenway is also the name used for a program supported by the State Department of Environmental Protection to preserve stream corridors in a continuous band of open space. Greenways typically encompass the stream and floodway but may include adjacent upland areas. All of the larger park and open space tracts owned by Lawrence Township have streams flowing through or bordering them. Establishing greenways along stream corridors would allow the creation of an interconnected open space system. An open space system of this type would permit a passive recreation circulation system through the Township that would provide a natural counterpoint to the built environment characterized by the street network.

Since greenways by definition frequently encompass environmentally sensitive lands, the institution of a trail system must be designed to minimize disturbance. Most stream corridors in the municipality also support adjacent wetlands within the flood plain. The construction of a trail system will likely require obtaining a DEP general permit to traverse wetlands. The criteria for the issuance of this permit require a path no wider than 6 feet constructed of gravel or wood chips or similar porous material. The land must be publicly owned or controlled and the trail alignment inspected for any endangered or threatened species.

#### REGULATORY FRAMEWORK FOR GREENWAYS

In general, where environmental law has been promulgated by the State legislature, it supersedes local ordinances that deal with the same subject. This has usually been done to foster a consistent interpretation and implementation throughout the state with the necessary scientific and technical personnel engaged in the process.

In certain instances, state law allows for what is called "permissibly concurrent" local regulations that are at least as strict as the state regulation. For example, the state's flood plain regulations permit additional regulation at the local level consistent with state law. In other areas of the law, including freshwater wetlands, the state clearly preempts municipalities' ability to regulate their use<sup>4</sup>. The exact line where the preemption of local ordinance by state action is drawn is still an evolving part of the law.

#### FLOOD PLAINS

Municipalities are required to adopt ordinances that enforce the state statutes, including engineering details to minimize flood damage and adhere to net fill requirements. Municipalities may adopt stricter ordinances, for instance, requiring that no net fill be placed in the flood plain, rather than the 20% limitation imposed by DEP.

#### FRESHWATER WETLANDS

As noted, the preemption of local freshwater wetlands regulation is complete, including determining or regulating transition areas or buffers. State law sets up three categories of wetlands, "exceptional resource value", "intermediate resource value", and "ordinary resource value". Exceptional resource wetlands harbor endangered species or are related to trout production and have a 150 foot buffer. Intermediate resource value wetlands are all wetlands which are neither exceptional nor ordinary. Intermediate wetlands require a 50 foot buffer. Ordinary wetlands are generally man-made and have no buffer. Bodies of water and water courses with no fringe of associated wetlands are called "state open waters" and also require no buffer. It has been estimated that 47% of the water courses in the state do not have a buffer requirement.

#### AESTHETIC REGULATION

One of the purposes of zoning is to regulate the municipal visual environment provided that it is reasonably drawn and applied. While

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<sup>4</sup> - "The Act [Freshwater Wetlands Protection Act], on and subsequent to July 1, 1988, shall supersede any law or ordinance enacted prior to July 1, 1988 by any municipality, county, or political subdivision thereof, regulating freshwater wetlands..." (N.J.A.C. 7:7A-1.6(b))

requiring a buffer from freshwater wetlands is preempted by state law, a setback requirement from a stream or pond may be permissible under the purposes of zoning as an aesthetic regulation.

#### ENVIRONMENTAL BASIS FOR GREENWAYS

Even though the regulation of certain environmentally sensitive land is preempted, environmental factors may still play a role in providing a rationale for setbacks from streams. Where the setbacks are not related to a regulated activity by the state, the purposes of the municipal land use law would still be served by using environmental factors in creating greenways. Greenways may be seen as a method for managing stream corridors, with a primary focus on water quality. Horizontal distance from a stream permits filtering of storm water that may carry sediment and pollutants from urbanization and farming.

Stream corridor management also has an important role in wildlife management. Stream shading, for example, is important in controlling water temperature and maintaining the fish population. Deer and other fauna use stream corridors as migration routes, as well as water sources.

#### TECHNICAL STANDARDS

Two methods of determining setbacks from streams follow from this approach of using environmental factors for greenways. One is to use a fixed boundary with a set distance from a stream. The second is to use a variable setback depending on site specific characteristics. The latter method, while incorporating all of an area necessary for stream corridor management, is much more difficult to administer, particularly at the local level. Therefore, the former method of a fixed distance is the most practical initial approach even if in some circumstances not all environmentally sensitive land is included. As resources permit, stream corridors may be inspected and the fixed distance line adjusted to take individual natural features into account.

The State Planning Commission examined the distance requirements for various stream functions as part of its technical background for the State



Plan<sup>5</sup>. In the relevant publication, the following buffer widths were determined to be necessary.

<u>Stream Function</u>	<u>Buffer Width</u>
Stream bank stabilization	25-50 feet
Sediment control	65-150 feet
Nutrient removal	65-150 feet
Food energy	25-50 feet
Temperature control	50-80 feet
Fish cover	25-50 feet
Wildlife habitat	100-330 feet

These and other related technical standards can provide a basis for setbacks of development from stream corridors.

Plans to establish greenways are being pursued by a number of organizations in Lawrence. The Lawrence Township Greenway Committee proposes a southern Lawrence system that includes part of the former Johnson trolley line, the Shabakunk Creek, and the D&R Canal. The D&R Greenway organization proposes additional lands along streams that feed the canal, such as Stony Brook and Shipetaukin Creek. The Lawrence Township Conservation Foundation is interested in extending ownership and conservation easements from Shipetaukin Woods to the D&R Canal along Shipetaukin Creek.

Improved access to the D&R Canal is a high priority for all three groups as well as for Lawrence Township.

#### QUASI-PUBLIC CONSERVATION AREAS

In addition to the conservation areas owned or proposed to be acquired by governmental agencies, private land owners and conservation groups have voluntarily placed land in conservation easements. The Transcontinental Gas Pipe Line Company has granted a 99 year conservation and

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<sup>5</sup> - *The New Jersey Freshwater Wetlands Protection Act As It Relates to Stream Corridor Buffer Considerations in the State Development and Redevelopment Plan, Draft, January 11, 1988, Rogers, Golden & Halpern*

agricultural easement on 83± acres of the total 99± acre tract to the New Jersey Conservation Foundation.

Educational Testing Service's headquarters on Rosedale Road is located on a 355± acre tract that includes portions of Stony Brook. Of this tract, 289± acres have been voluntarily restricted under the Green Acres Program's non-profit corporation exemption plan (meeting IRS code 501.C.3 definitions). The restriction permits public access for a period of three years, after which the corporation must be recertified. This land has been restricted from development for at least 12 years.

#### SUMMARY OF RECOMMENDATIONS

- 1) Ensure that large agricultural areas are free from the intrusion of residential or other non-compatible uses.
  - Ensure that agricultural areas are clearly defined by natural boundaries, buffers or land uses that are compatible with farming. Where proposed development infringes on agricultural uses, buffer yards, as defined in the Land Development Ordinance, shall be provided.
  - Remaining farmland, nurseries and orchards shall be identified. Preservation efforts shall be encouraged especially in areas adjacent to existing open space or farmland preserved sites within Agricultural Development Areas (ADA). Further, Lawrence Township shall continue its support of the Mercer County Agricultural Development Board.
  - The Planning Board should work with the Lawrence Township Board of Education and the Mercer County Park Commission to ensure that the design of the school site and the Northwest County Park on the AT&T tract preserves the rural character of the Cold Soil Road corridor north of Keefe Road.
  - Proposed major subdivisions in the Environmental Protection land use designations shall be encouraged to cluster buildings to preserve open space.

- Commercial agricultural activities shall be protected from surrounding land uses and have a "right to farm" as previously defined in the Lawrence Township Code.
- 2) The design of sites should maximize the quantity and quality of open space in accordance with the criteria established in this element. The Planning Board shall continue to work closely with developers to protect aesthetic views and environmentally sensitive land.
- Township site plan regulations should be reviewed to determine whether the parking requirements and impervious coverage can be reduced and the open space ratio increased in order to maximize open space and reduce loss of woodlands, with particular attention to the retention of specimen trees.
  - Farmland, environmentally sensitive areas and woodlands (mature forests and secondary growth) that present development hazards or ecological or aesthetic value shall be protected by requiring mitigation of adverse impacts and by limiting or prohibiting development in these areas.
  - Lawrence Township's tree removal and tree cutting regulations, as defined in the Land Development Ordinance, shall be strictly enforced.
- 3) Encourage the enforcement of the Delaware and Raritan Canal Commission's A-Zone and B-Zone throughout Lawrence Township.
- New development shall be designed so as to provide the greatest buffer possible next to the D&R Canal.
  - Any new bridge construction over the D&R Canal shall be designed to minimize the impact on the waterways as little as possible. Enhancement of the towpath shall be considered an integral part of new bridge design.
  - Access for the public to the D&R Canal should be a focal point of conservation efforts and greenway connections. In the near term, plans to establish a pedestrian pathway from the historic Brearly House through the adjacent wetlands to the D&R Canal should be implemented.

- 4) Preserve additional environmental, passive and agricultural open space by exploring developer contributions and dedication of conservation easements.
  - Coordination and cooperation between various interest groups (i.e., those promoting active recreation, passive recreation, farmland preservation, etc.) is essential to accurately define future land acquisition needs in the Township. To meet this objective, Lawrence Township shall continue to work closely with representatives from the private sector, non-profit conservation organizations and regional planning agencies to coordinate preservation efforts.
  - The criteria for the acquisition or preservation of open space, farmland, and conservation parcels as defined in this document should be used in evaluating proposals for public funding and developer contributions.
  
- 5) Promote development that maximizes the use of renewable energy resources (active and passive solar) while minimizing overall fuel demand for heating and cooling.
  - Township land use patterns shall promote the conservation of energy (fossil fuels) by concentrating development in areas served by mass transit.
  - New buildings should be oriented, to the extent possible, so that an imaginary line running perpendicular to the long axis of the building shall point within 30 degrees of true south.

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# *Historic Preservation*

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## INTRODUCTION

The Historic Preservation Element is intended to establish and maintain policies for the conservation of the history of Lawrence as it relates to its people and land. As such, it generally concerns itself with buildings and sites more than 50 years old. Local efforts in historic preservation fit into a framework developed by the state and federal governments that have created programs designed to coordinate and promote conservation activities. Historic preservation has extended beyond the initial desire to protect buildings where significant persons lived or events occurred to a broader emphasis on preserving the cultural heritage of a community as it has developed over time.

The framework for historic preservation has been codified into a set of criteria used to determine the need and desirability for inclusion in preservation efforts. These criteria include:

- 1) Whether the site or district has significant character, interest, or value, as part of the heritage of cultural characteristics of the municipality, state, or nation, or is associated with the life of a person significant in the past.
- 2) Whether the site or district is associated with an event of importance to the history of the municipality, state, or nation.
- 3) Whether the place reflects the environment in an era characterized by a distinctive architectural style.
- 4) Whether the building or structure embodies distinguishing characteristics of an architectural style or engineering specimen.
- 5) Whether the work is one by a designer, architect, landscape architect, or engineer whose design has significantly influenced the historical, architectural,

economic, social, or cultural development of the municipality, state, or nation.

- 6) Whether the site or district contains elements of design, detail, materials, or craftsmanship which possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- 7) Whether an area is part of or related to a park or other distinctive location which should be preserved according to an historic, cultural, or architectural motif.
- 8) Whether an area has yielded, or may be likely to yield, information important to pre-history or history.
- 9) Lastly, whether the site or district exemplifies the cultural, political, economic, social, or historical heritage of the community.

This set of criteria was developed by the U.S. Secretary of Interior to aid in the designation of historic sites and districts. The criteria, any one of which may be conclusive in the determination to protect a site or district, constitute a sweeping mandate to preserve the fabric that gave rise to modern day Lawrence.

#### **HISTORICAL BACKGROUND**

The settlement of the Lawrence area began in the late 1600's, generally after the establishment of the Province Line (aka Keith Line) in 1687 which divided the state into East and West New Jersey. This area of West Jersey was part of Burlington County with its county seat established at Burlington City. Once the Province Line was established, it enabled land to be more easily surveyed and sold to early settlers, many of whom were Quakers. The Quakers arrived from further south on the Delaware River in search of more and better land. Scotch-Irish Presbyterian, Dutch Reformed, and French Huguenot immigrants and internal migrants from New England arrived overland from New Brunswick along the old Assunpink Trail, now known as Rt. 206 (Lawrenceville-Princeton Road). Many of these early settlers had first arrived in Newtown (Brooklyn) a part of Long Island and moved on to New Jersey.

The Township was founded in 1697 and was known as Maidenhead, named by the early Quaker settlers after a Thames village later incorporated into the City of London. Maidenhead was a part of Burlington County. In 1714, the Township became part of the newly constituted Hunterdon County. The area was legally incorporated as a township through an act of the State legislature in 1798. In 1816, the Township was renamed Lawrence, after Captain James Lawrence, commander of the frigate *Chesapeake* and one of the naval heroes of the War of 1812. In 1838, Mercer County was formed from parts of Hunterdon, Middlesex, and Burlington Counties.

The settlement of Maidenhead grew as commerce between New York and Philadelphia developed. Goods would be shipped from Philadelphia to Trenton by water and then overland to New Brunswick, passing through the village. Goods were then moved again by water to New York. A stagecoach line was established in 1738 between Trenton and New Brunswick. Efforts to improve transportation after the Revolutionary War led to the establishment of turnpike roads, the first in the area being the Trenton and New Brunswick Straight Turnpike, now known as U.S. Route 1. The traffic on the turnpike led directly to the founding of Franklin Corners and Clarksville. The completion of the Delaware and Raritan Canal from New Brunswick to Bordentown in 1834 reinforced the turnpike hamlets since the two transportation routes closely paralleled each other in Lawrence Township. Until the advent of suburbanization and the widespread use of the automobile, the Township remained a rural area with a crossroads village and several hamlets.

## HISTORIC REGISTERS

The National Historic Preservation Act of 1966 established a federal policy of preserving the country's cultural heritage. This marked the first time that funding had been made available throughout the country to identify, map, and preserve historic and pre-European structures and sites. Much of the identification and organizing work was delegated to the state level through the establishment of State Historic Preservation Officers (SHPOs). The State Historic Preservation Officer is the official liaison between local officials or groups and the federal Department of the Interior, the agency responsible for administering federal historic preservation efforts. The federal program became the impetus for the New Jersey Legislature's passage of historic preservation legislation in 1970.

The federal and state legislation established the National and State Registers of Historic Places, respectively. In New Jersey, the State Historic Preservation Officer and staff are part of the state Department of Environmental Protection. The SHPO is responsible for maintaining the State Register and evaluating petitions for inclusion on the list, as well as submitting requests for inclusion on the National Register.

Sites and districts listed on the Registers are afforded a certain level of protection. Projects involving federal money that may have an impact on National Register sites must undergo a comprehensive evaluation process of that impact. The State requires a similar evaluation of State Registered sites, but also requires of its political subdivisions the same oversight and review whenever public money is used. Oversight of construction or demolition involving only private funds, however, is retained solely at the local level.

#### **HISTORIC PRESERVATION ADVISORY COMMITTEE**

The Lawrence Township Historic Preservation Advisory Committee was established to review and advise the Planning Board on issues pertaining to historic preservation. The Committee also advises the administrative officer on plans that do not require development approval. The same ordinance that established the Committee also created the Lawrenceville Historic District and individual locally significant Historic Landmarks (see below). Landmarks are individual buildings, structures or sites not in a district. The local district is coterminous with the National and State Registers district for Lawrenceville but is more extensive in its designation of Historic Landmarks. Sites that are of significance in exhibiting the historic growth and development of the Township may not have state or national significance.

The implementation of zoning, building, and construction standards for historic places may be regulated at the local level even if no governmental funds are involved. The historic preservation ordinance in Lawrence has been established to regulate the appearance of buildings in historic districts and individual landmarks through the review of development and building plans by the Committee and the appropriate Board. Review by the Committee is required for seven types of action, including:

- 1) Demolition of a building or site within the Historic District or individual site outside the district.



- 2) Relocation of any improvement within a historic district or landmark.
- 3) Change in the exterior appearance of a historic building or structure
- 4) Any new construction in a historic district.
- 5) Changes in signage or exterior lighting in the historic district or landmark.
- 6) Application for site plan or subdivision approval within a district or including a historic property.
- 7) Application for a zoning variance that may affect the historic district or landmark.

The Historic Preservation Advisory Committee is also charged with identifying and recording historic sites, buildings, potential new historic districts, and other significant aspects of the cultural resources of the Township and reporting these findings to the Township governing body.

#### **LAWRENCEVILLE HISTORIC DISTRICT**

The Lawrenceville Historic District, encompassing both sides of Route 206 from Franklin Corner Road to Fackler Road has the most significant assemblage of historically consequential buildings in the Township. The District was placed on the State Register of Historical Places on July 31, 1972 and the National Register on September 14, 1972. In addition, The Lawrenceville School was designated a National Historic Landmark at the same time. The Lawrenceville Historic District is important because of the wide variety of distinct architectural periods that are represented in the village. Its continuity from the earliest days of the Township to the near present provides a case history of architectural periods from the late colonial era to the 1920's. It provides the basis for understanding the built environment and its relationship to the lives of people throughout history. Most unusual is the survival of farmland within and adjacent to the south side of the district which traces back to the original land transactions in the seventeenth century.

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The architectural styles represented include both high style and vernacular examples. Representative examples are:

Georgian - 2481 Main Street; Henry Phillips House, 4101 Princeton Pike; John Feaster Phillips House, 3850 Princeton Pike

Federal - Joannah Brearley House, 2431 Main Street; Rosehill House, 2834 Main Street

Greek Revival - Romney House, 2579 Main Street; Van Dyke House, 2800 Main Street

Gothic Revival - Brown Cottage, 2810 Main Street

Second Empire - 2805 Main Street

Italianate - 2659/2661 Main Street

Queen Anne - 2617 Main Street; 2735 Main Street

Tudor Revival - 2535 Main Street

This listing provides an example of the diversity of architectural periods extant in Lawrenceville.

#### NATIONAL AND STATE REGISTERS AND LANDMARKS

In addition to the Lawrenceville Historic District five other properties and the Delaware and Raritan Canal have been designated on National and State Historic Registers. These include:

Anderson-Capner House - Located at 700 Trumbull Avenue, the property was listed on the State Register on August 7, 1972 and the National Register on April 3, 1973. The building dates from 1764. The house represents a combination of an 18th century house built in two sections, with a significant expansion in the 19th century followed by extension renovations in the 20th century. One of the few remaining houses with Georgian and Federal styles in South Lawrence.

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Baker-Brearley House - This house was built by one of the prominent early families of Lawrence about 1761. It is located on Meadow Road near Princeton Pike and is the only historically significant building owned by the Township. It was placed on the State Register on July 19, 1979 and the National Register on August 31, 1979. The house is a significant and rare surviving example of the Quaker Georgian architectural style found in Mercer County. It is stylistically linked to a few similar houses that have survived in Burlington County. It is built of brick, a more prestigious building material at the time, and is built on a center hall plan in three bays.

The Lawrenceville School - The original school itself was designated a National Historic Landmark at the same time as the designation of the Lawrenceville Historic District. The school dates from 1810 when it was organized as the Maidenhead Academy, later the Lawrenceville Classical and Commercial High School for Boys. Significant buildings include the Romanesque Revival Memorial Hall; the Richardson Romanesque Edith Memorial Chapel; several Queen Anne residence halls such as the Kennedy and Dickinson Houses; Haskell House, a classroom dating from 1832; and Hamill House, a Georgian style residence dating from about 1814. A significant expansion of the school starting in the 1880's brought the notable architectural firm of Peabody and Sterns to design a number of the buildings on campus and Frederick Law Olmstead, Sr. to lay out the grounds that are in evidence today.

Smith-Ribsam House - This house is also associated with an early pioneering family of Lawrence, the Jasper Smith family and is found at 45 Pine Knoll Drive. It was mainly built in two stages, about 1740 and 1770, with additions in the 19th and 20th centuries. It was placed on the State Register on April 4, 1988 and the National Register on July 9, 1988. The house is an example of vernacular Colonial and Georgian architecture.

John White House - The John White house is located at 100 Cold Soil Road and is an example of a Federal style center hall plan building built about 1810 with a 20th century recessed wing on the right side. It was listed on the State Register on May 1, 1971 and the National Register on January 29, 1973.

Delaware and Raritan Canal - The entire length of the D & R Canal has been listed on both the State Register (November 30, 1972) and the National Register (May 11, 1973) as a significant example of an innovation in transportation technology. The Canal runs from New Brunswick to Bordentown with a feeder canal running north to Frenchtown from Trenton along the Delaware River. The Canal was completed in 1834.

## RETAINING HISTORICAL CONTEXT

The Lawrenceville Historic District and the individual landmarks that have been designated are inextricably bound with the broader landscape. Completely retaining the historical context in which buildings were constructed and land shaped is not possible because of continuing technological, social, and political change. Main Street no longer has horse drawn wagons and a dirt cartway. Owners of historical buildings desire to have the same modern amenities for cooking, temperature control, and hygiene that others have. The preservation of historic places, then, is always a delicate compromise between the dictates of the past and the demands of the present.

The faithful preservation of existing contributing buildings is the first priority in retaining the historic fabric of a site or district. Minimizing the influence of non-contributing buildings in a historic district then becomes an extension of this goal. Changes in buildings in the historic district should be viewed in light of several guiding principles. These principles are outlined below:

- Every reasonable effort by an owner or tenant should be made to use a building for its original purpose or to establish a use that is compatible with the building and requires a minimum of changes to the building, other structures, the site or its environment.
- The distinguishing original qualities or character of the building should not be destroyed by the removal or alteration of any historic material or distinctive architectural features.
- Buildings and structures should be recognized as products of a particular time or era and not altered to appear like another period.
- Changes over a course of time are evidence of the history and development of a place and its environment. Such changes may be historically significant in their own right, as they often are in Lawrence, and should be recognized and respected as part of the heritage of the municipality.
- Deteriorated architectural characteristics should be repaired rather than replaced with new material. If the

deterioration has proceeded to the point where repair is no longer possible, any new material should match the original in composition, design, color, texture, and other such visual qualities. Repair, or replacement if necessary, of missing architectural details or features should be based on existing elements of the house or through documentation in its historic record.

- Every reasonable effort should be made to protect and preserve archaeological resources affected by or adjacent to any project.
- New additions or alterations to historic structures should be accomplished in such a manner that if they are removed in the future, the essential form and integrity of the structure would remain.
- Contemporary design for non-contributing buildings should not be incompatible with the size, scale, color, material, or character of the streetscape of the property, neighborhood, or environment.

These guiding principles should also apply to historic landmarks located outside of the district.

In addition to the necessity for the sensitive maintenance of existing building in a historic district, however, are two other priorities for historic preservation, the infill of new buildings on vacant sites in a district and the development of land surrounding an individual historic resource.

#### INFILL DEVELOPMENT

Infill development here refers to the construction of new buildings within an existing historic neighborhood, in this instance the Lawrenceville Historic District, or the replacement of existing buildings with new ones. Respect for the surrounding context of residences and commercial buildings then becomes paramount. Incompatible buildings threaten the integrity of a designated historical area and sufficient numbers of them may result in the de-listing of the district from State and National Registers.

Since it is the visual compatibility of new buildings with the historical ones that is the most important factor, the exterior design principles should reflect the following policies:

- 1) The massing and height of the building should be similar to the ones that make up the rest of the streetscape.
- 2) The relationship of the building's height to width in the front facade should be proportioned to be compatible with nearby buildings.
- 3) The elements in the facade, such as windows, doors, sidelights, and projections from it, such as porches, balconies, or porte-cocheres should be proportional in height and width both within themselves and in relationship to the supporting wall as other structures in the streetscape.
- 4) The spacing and size of exterior wall to the elements in the facade should be compatible with adjacent and nearby buildings.
- 5) The relationship of the new building to side yards and the setback from the street should be similar to the existing pattern of development.
- 6) The use of building materials, their texture, and color should be visually compatible with existing building in the district.
- 7) The shape, roofline, and slope of roofs, including dormers, chimneys, and other projections should be compatible with nearby structures.
- 8) Landscape elements such as individual trees and tree masses, walls, fencing, and other materials should continue the existing views from the street.
- 9) The exterior features of a building, including ornamentation, should be visually compatible with the architectural era of nearby buildings.

These policy standards are intended to guide the designer of a new building in creating an architectural plan and elevation that is in harmony with and characteristic of the buildings of the historic district without dictating a slavish imitation of a particular era.

#### CONVERSION OF FARM AND WOODLAND TO OTHER USES

The development of land surrounding a resource is most acute with individual landmarks, which in Lawrence are typically the former residences of wealthy farmers. As the land surrounding the residences and other agricultural outbuildings is sold and developed with modern buildings, the historical context of the farmstead on the land may be lost. Except in unusual circumstances, retaining all of the associated farmland with an historical farmstead will be a difficult proposition. If it is placed in public ownership, the capital cost and future lost tax revenue is substantial. Managing a tenant relationship with a farmer willing to farm the land may be problematic. Restricting development at typical farmland retention densities of one unit per 25 to 160 acres (found in more purely rural areas) raises legal issues. Each situation must be evaluated separately because not every historic resource will need the same extent of protection. Farmsteads set back from the road, for instance, will typically need more land to retain their context than those that are closer.

There are a few methods that may be employed to encourage the retention of historically significant land adjacent to an historic structure. Since fee simple purchase by a governmental or non-profit agency is the most expensive and the most difficult to manage as an on-going operation, the purchase of an historic preservation easement would be less expensive. The historic preservation easement would be rights held by a second party representing less than fee simple (or all property rights) purchase continuing ownership in private hands. In concept, the historic preservation easement is the same as a conservation easement for environmentally sensitive land but applied instead towards cultural resources.

Another method would be to allow the transfer of development credits from farmland to other areas of the Township, a concept embodied in the *1987 Master Plan* and this Plan in the Land Use Element for the general preservation of farmland. Certain credits would be assigned to historical resources that could be transferred to other non-historical areas, thereby allowing slightly more density in the receiving districts.

The size of parcel necessary to retain an adequate historical site should be investigated beforehand for two reasons. The first is that if development is proposed, the Planning Board may negotiate with the developer from a knowledgeable position for the retention of sufficient land with the landmarks. Second, the use of either of the methods outlined will require an understanding of the acreage and intensities of development involved.

#### SUMMARY OF RECOMMENDATIONS

- 1) Create historic preservation guidelines for the Lawrenceville Historic District and individual landmarks.
  - Develop a brochure for landowners with historic landmarks or located in the Lawrenceville Historic District that lists procedures for construction, alteration, or additions to historic structures.
  - Develop more detailed design guidelines for new construction in the district or on individual landmark sites.
  - Analyze the elements in the Historic District that contribute key characteristics to its cohesiveness and use this analysis in the review of design proposals.
- 2) Encourage the additional nomination of sites to the State and National Register of Historic Places.
  - The Historic Preservation Advisory Committee should be the lead agency to propose nomination with the assistance of private historical groups and homeowners.
  - Nominations should be made with the concurrence of the landowner whenever possible.
  - The Historic Preservation Advisory Committee should educate the public to the extent possible within their existing resources about the rights and responsibilities of nomination and listing of historic properties.
- 3) Investigate more fully the potential for other historic district registrations as a long range planning goal.



- 4) The Township's property maintenance code should be revised to promote historic preservation.
  - Create more stringent standards for property maintenance in the historic district for contributing buildings and for individual historic landmarks.
  - Implement an effective means of preventing demolition by benign neglect.
- 5) When, as a last resort, the demolition of a designated or suspected historic building is approved, require the submission of an architectural record of the structure prepared by a qualified architectural historian.

The Princessville Inn located at 3510 Princeton Pike was designated on both the State and National Registers in 1980 but has subsequently been destroyed by fire.

#### LOCALLY DESIGNATED LANDMARKS

Historic landmarks and districts were established at the local level on July 16, 1990 that included all of the National and State Registers designations noted above, with one exception. An exception was made for the modern grounds and buildings of The Lawrenceville School. The Oval and Bowl areas of campus retain their historic designation.

In addition to these listed places, other locally important sites have been designated as local historic landmarks. The sites that have been locally designated are listed below with a brief statement of significance and whether the places are eligible for the State and National Register of Historic Places.

Bainbridge-Phillips House - The house represents the reconstruction of an earlier farmhouse into a Colonial Revival form about 1935. The earlier structure appears to date from at least 1849. It is located at 4419 Province Line Road.

Brewer House - The Brewer House is located at 634 Rosedale Road and is a rare example of a high style Victorian Gothic period residence, dating from 1876 or thereabouts. This property is eligible for inclusion on the National Register.

John Brearley House - The house is a Georgian style center hall plan dating from 1785 that incorporated earlier parts of the house, perhaps as early as 1700, into a unified building. The Brearley family was locally prominent in the early history of Lawrence. It is located at 2 Lewisville Road and is considered eligible for incorporation in the National Register.

Carnegie Road Canal House - The canal house is part of the Delaware and Raritan Canal and is located near the Carnegie Road bridge over the waterway. It was constructed at the same time as the Canal, in 1834. It is significant as a part of the growth of regional transportation within the state.

Cherry Grove Tenant House - The building is a good example of an early stone tenant house thought to have been built about 1730. It has retained its

architectural integrity better than other examples in the area. It is located at 17 Carter Road. The structure is considered eligible for inclusion on the National Register.

Cornelius Ferril House - The house was built about 1820 and is a vernacular 1 1/2 story cottage, representing the continuation of older housing forms into the Georgian and Federalist era. It is located at 335 Cold Soil Road and is considered eligible for inclusion on the National Register.

Gordon Homestead - This house dates from the 1700's but was reconstructed into a Greek Revival/Italianate era residence about 1850 that completely incorporated any earlier structure. This house is located at 4240 Province Line Road and will be moved closer to the hamlet of Port Mercer with the expected construction of Yorkshire Village. The moving of the building will likely eliminate any potential for National Register listing, though the house will remain an architecturally significant local structure.

Gulick House - The Gulick House is the most elaborate high style Italianate dwelling surveyed in the Township. It dates from 1855 or thereabouts. The house is eligible for registration on the National Register and is located at 3601 Lawrenceville-Princeton Road.

John Hill Farm - Located at 265 Cold Soil Road, the farmhouse and associated buildings are an excellent and unusual example of an historic farmstead that has retained the integrity of its buildings and surrounding lands. The farmhouse was built about 1790 with an addition dating from the mid-1860's. The site is considered eligible for National Register status.

Ralph Hunt-Old Brick - This residence is located on the Lawrenceville Preparatory School's grounds with an address of 2750 Main Street. It has been dated to 1705 and was constructed by Ralph Hunt, one of the earliest pioneers of Lawrence. It is the oldest positively identified dwelling in Lawrence.

Benjamin Johnston House - This house is one of two surviving French Second Empire dwellings in Lawrence, dating from 1881, and located at 2685 Princeton Pike. It had been reconstructed from an earlier building moved to the site. Benjamin Johnston was one of the inheritors of the Rising Sun Tavern.

Mounts Mill House - A large stone house dated to about 1816, Mounts Mill was once in the center of a busy commercial area centered on the use of the Assunpink Creek. It is located at 301 Lawrence Station Road.

John F. Phillips House - This house is the best preserved of four Phillips houses in the area. It dates from 1720 with a vernacular Colonial original structure later made a wing by the construction of a larger Federal style side hall plan addition built about 1800. A later Colonial Revival addition was built about 1925. The house is located at 3850 Princeton Pike and is eligible for listing on the National Register.

Joseph Pierson House - The Pierson house combines both vernacular Georgian and Colonial styles and was constructed in several periods, 1720, 1780, and about 1860. It is a very good example of an eighteenth century farmhouse. The house is located at 210 Cold Soil Road. The house is considered eligible for National Register listing.

Port Mercer Canal House - This canal house is similar to the Carnegie Road canal house, dating from 1834 and located at the crossroads of the D & R Canal with Province Line/Quakerbridge Road. It is part of the D & R Canal national landmark designation.

Price-Lanning House - The house was originally constructed sometime in the eighteenth century in a vernacular Colonial style and later added to in a center hall Federal style. Later a twentieth century Colonial Revival addition was added. The Price-Lanning House is located at 3461 Lawrenceville-Princeton Road and is considered eligible for National Register listing.

Rising Sun Tavern - The building housed both a tavern and a residence. The tavern is the only remaining one in Lawrence outside of Lawrenceville itself, being located at 2681 Princeton Pike. The tavern is unusual in its construction with a steeply pitched roof and its great depth. The building is dated to 1821, with the residence probably added a few years later than the tavern portion. Both are vernacular Federal in style. It is considered eligible for inclusion on the National Register.

Scudder House - The Scudder House is found at 96 Denow Road and is dated to about 1715 with a newer addition dating about 1760. It is an example of vernacular Colonial and Georgian architecture. The later Georgian era addition constitutes the larger part of the house constructed with a side hall plan, that relegated the earlier Colonial era portion to a side wing. The house is considered eligible for listing on the National Register.

Israel Stevens House - The Stevens House was built about 1804 in the Federal style and is a very good example of the side hall floor plan typical of that era.

The structure is considered eligible for National Register status. It is located at 2167 Brunswick Pike.

Stokes-Mershon House - Located at 3801 Lawrenceville-Princeton Road, it was constructed about 1740 with additions dating from about 1800 and the early twentieth century. The earliest section of the house is vernacular colonial with Georgian and Federal additions. The Colonial section is now a wing of the side hall plan main section. There has been a considerable amount of discussion on whether or not this house is located in Princeton or Lawrence Townships because the property straddles the municipal boundary. An early map of the area shows the house in Princeton Township though it appears that the actual structure is in Lawrence. This has raised the question of whether or not the house was moved at some point. The foundation of the house is of pre-modern stone construction. If the house was moved, the relocation predates the 20th century. Further research will be required before a conclusion can be drawn about the house.

Benjamin Van Cleve House - The house is part of the Rider College campus and used as their admissions office. It may date to 1870 and is an example of an Italianate style dwelling with an unusual curved roofline. The Township's local designation as a landmark only refers to this building and not any of the other structures on campus.

Van Cleve Homestead - Another house of the Van Cleve family, it is located just beyond the Lawrenceville Historic District at 2942 Main Street. Constructed in the early part of the 1800's it is an example of vernacular Federal style. It is considered eligible for listing on the National Register.

The Theodore Hill House was the last historical building on Franklin Corner Road (no. 144) near the hamlet of Franklin Corner. This building was dismantled in July, 1994 and moved to a farm in Columbia County, New York in the Hudson River Valley. The building is vernacular Greek Revival and may date to 1850. The site itself retains no historic value without the building.

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# *Community Facilities and Recreation*

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## INTRODUCTION

Community facilities are public buildings and grounds that provide locations for the administration and delivery of services. Typically these include the facilities of the municipal government, police, fire, emergency services, school board, and other local service providers.

Recreation facilities are a specialized form of community facilities that provide locations for informal and organized athletic activities and equipment for active enjoyment. Recreational facilities, particularly those located outdoors, are usually part of an open space system that encompasses passive recreation uses and conservation (including farmland preservation) as well.

Community facilities, active recreation, and passive recreation are discussed in this Element. Conservation and farmland preservation issues are examined in the Conservation Element.

## **Community Facilities**

The adequacy of community facilities depends on the demographic characteristics of residents and their cultural preferences. One community's facilities may revolve around senior citizen activities, another may concentrate on youth sports. The characteristics of the population in Lawrence are sufficiently broad that there is a constituency for a large variety of facilities and programs.

The community facilities available in Lawrence are noted below:

#### SENIOR CENTER

The Senior Center on Darrah Lane opened in September, 1991. The majority of programs are developed and operated by volunteer groups. Current programs include art classes, health screenings and social events. The new building houses the Township's Office on Aging and also provides a much needed meeting place for many citizen groups and organizations. In addition to municipal functions, the Mercer County Nutritional Program operates at the Senior Center.

#### NEIGHBORHOOD CENTER

The Lawrence Township Neighborhood Center is located in the Eggerts Crossing section of Lawrenceville. The Center provides day care services, drug and alcohol abuse counselling and other social services through a non-profit organization. At the time of construction, the Township entered into an operating agreement that committed the municipality to retain it as a social services center for 20 years. Though that agreement has now run its course, the center continues to provide social services to Lawrence residents.

#### LIBRARY

A branch of the Mercer County Library opened in the mid-1980's to serve the growing population of Lawrence. The branch library is located at the intersection of Rt. 1 and Darrah Lane. The library serves as the headquarters branch of the nine library system. The library has a number of collections, including general book circulation, reference, periodicals, videos, music, and governmental publications. The library also serves as the depository for Lawrence Township historic materials. The Lawrence library branch has about 123,300 individual library materials. In 1992, the library circulated 283,720 items and was visited 258,700 times. As headquarters branch, the Lawrence library handles all requests for interlibrary loan services, of which there were 4,242 in 1992 for the whole Mercer County Library system. The Lawrence branch has installed Infotrack, an interactive CD-ROM system that permits rapid browsing for magazine articles and business information.

## EMERGENCY SERVICES

Three volunteer fire departments operate in the Township. The Slackwood Fire Company is located on Slack Avenue near Princeton Pike. Lawrence Road Fire Company is located at 1252 Lawrence Road. The Lawrenceville Fire Company is headquartered at 64 Phillips Avenue and also operates a sub-station on Lawrence Station Road in the Lawrence Square Village complex.

The companies have the following equipment:

Slackwood (Station 21): 3 engines, 1 snorkel, and 1 brush truck.

Lawrence Road (Station 22): 3 engines.

Lawrenceville(Station 23): 3 engines, 1 ladder, and 1 brush truck.  
Sub-station: 1 telesquirt truck.

All of the equipment is in good condition and is on a 20 year replacement schedule, with a periodic review after the apparatus is 10 years old.

Each fire company has one paid fire fighter on call during typical business hours. The rest of the company is volunteer and is also supplemented by Township personnel.

Emergency Medical Services (EMS) are based at 165 Pilla Avenue. There is one paid EMS person headquartered at the municipal building.

All of the fire companies have seen a steady increase in the number of calls that parallels the increase in residential and non-residential development. Emergency Medical Service calls have varied more from year to year than those of the fire companies but still show a trend of increasing service calls. Despite these increases, fire and emergency medical services appear to be adequate.

Two sites for additional emergency services have been dedicated for future substations. The Lawrenceville Fire Company owns a triangular-shaped parcel of .7 acres at the southern corner of the Mercer Mall at Rt. 1 and Province Line Road. A second site of 2 acres has been dedicated from the Bristol-Myers Squibb tract that fronts on Carter Road near its intersection with Tall Timbers Drive. These two sites have been landbanked for future use with no current plans to construct a substation on either parcel.



## **MUNICIPAL BUILDING**

The municipal building houses all of the Township's departments with the exception of the Office on Aging at the Senior Center and the Department of Public Works. Adequate space for all departmental functions and sufficient land for expansion, should it be needed in the future, is available at the current location at 2207 Lawrenceville Rd.

## **PUBLIC WORKS**

The 1987 Master Plan had noted the antiquated facilities and poor location of the Township's public works site on Ohio Avenue. Two years ago, the public works department moved into refurbished quarters on Bakers Basin Road, a short distance from Rt. 1. The new facility was a former UPS warehouse that is more centrally located within the Township than the previous facility.

The Department of Public Works manages the curbside collection program operated by a private solid waste hauler, including recyclable materials. Materials recycled include glass, aluminum, plastic, newspapers, cardboard, and office paper/junk mail. The Township's recycling program meets the requirements of Mercer County's Solid Waste Management Plan. Mercer County is the designated regional coordinator for solid waste plans.

The Department's leaf collection program is handled by Public Works personnel. A new composting facility was dedicated in late 1993 at Maidenhead Meadows consisting of 5.5 acres of the 30 acre site located on Princeton Pike.

## **BOARD OF EDUCATION**

The Lawrence Township Board of Education facilities consist of four elementary schools: Slackwood, Eldridge Park, Benjamin Franklin, and Lawrence Elementary (K-3); one intermediate school (4-6); one middle school (7-8); and one high school (9-12). The school district boundaries are coterminous with the municipal boundary. Through a formal agreement, however, the Washington Township school district sends high school students to Lawrence High School.

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Since September 1994, after the completion of several approved building additions, the theoretical capacity of the school facilities under state regulations is 4,372 students. The breakdown by grade level is as follows:

**Table 7 - School District Capacity**

School Level	Grade Level	Theoretical Capacity	@ 90% Capacity
Elementary	K-3	1,516	1,364
Intermediate	4-6	995	896
Middle	7-8	646	581
High	9-12	1,215	1,093
Total		4,372	3,934

*Source:* Lawrence Township Board of Education Growth Subcommittee

This theoretical capacity typically cannot be achieved due to scheduling conflicts or the particular needs of a specific grade level. As a rule of thumb, schools become functionally at capacity once 90% of the State maximum capacity has been reached and sometimes at lower ratios depending on circumstances. Enrollment projections by the Board of Education indicate overcrowding of school facilities above the elementary level within one to five years. As discussed above, the functional capacity would be reached 3 or 4 years earlier. The school district projections are based on the assumption that residential building rates will continue at the same relatively low level (compared to the mid-1980's) that has occurred in the past few years.

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Enrollment projections with a base line year of 1992 are as follows:

**Table 8 - School District Enrollments and Projections.**

<b>School Year</b>	<b>Number of Students by School Level</b>				
	<b><u>K-3</u></b>	<b><u>4-6</u></b>	<b><u>7-8</u></b>	<b><u>9-12</u></b>	<b><u>Total</u></b>
1992	1,093	768	438	930	3,229
1993	1,082	801	445	999	3,327
1994	1,128	829	510	1,075	3,542
1995	1,184	859	574	1,110	3,727
1996	1,208	928	585	1,223	3,944
1997	1,290	956	608	1,320	4,174
1998	1,340	986	638	1,422	4,386
1999	1,358	976	682	1,533	4,549
2000	1,352	1,027	683	1,693	4,755
2001	1,328	1,080	648	1,683	4,739
2002	1,316	1,100	678	1,754	4,848
2003	1,305	1,095	717	1,845	4,962
<b>Program Capacity</b>	<b><u>1,417</u></b>	<b><u>1,005</u></b>	<b><u>609</u></b>	<b><u>1,242</u></b>	<b><u>4,372</u></b>
<b>Remaining Capacity in Year 2003</b>	112	-90	-108	-603	-689

*Source:* Lawrence Township Board of Education Growth Subcommittee, Draft Enrollment Forecast 10C, May 19, 1995.

The projections of population and school enrollment indicate a need to expand educational facilities. Given the nature of the existing physical facilities of the Board of Education, it is unlikely that the expected need can be accommodated on the land owned by the Board. The middle school would appear to be the only building that could be reasonably expanded to meet the expected ten year enrollment. New sites must then be considered.

#### SITE SELECTION CRITERIA

The location of new school facilities should recognize the land use patterns that currently exist in Lawrence and the land use policies embodied in this Master Plan. Proposed sites should be ranked on the following attributes:

- 1) Proximity to the student population the site is designed to serve.
- 2) Access to appropriate streets (collector or arterial roads).
- 3) Lack of environmental constraints such as freshwater wetlands, floodplains, high tension power transmission lines, and hazardous substances contamination.
- 4) Lack of regulatory constraints; examples are deed restrictions for Green Acres or farmland preservation and airport hazard zones.
- 5) A location within or in reasonably close proximity to existing public water and sewer service areas with available utility infrastructure.
- 6) A developable area sufficiently large to permit additional expansion, if needed in the future.
- 7) Adjacent land uses compatible with school functions.

#### PROPOSED SCHOOL SITES

The Lawrence Township Board of Education's Growth Committee examined approximately 25 sites as potential locations for new schools. The Growth Committee eliminated 14 of those sites based on their own criteria. Of the 11 remaining sites, 6 were selected for more intensive review by the Planning Board based on the criteria noted in the previous section. Of the six, three sites have been identified as potential school sites.

- 1) U.S. LAND RESOURCES. This 108± acre site (Block 4201, Lot 11) is located at the intersection of Quakerbridge Road and Lawrence Station Road. The frontage of the site is improved with the Princeton Research Center office/research complex with vacant land partly in agriculture to the south and west. An undeveloped portion of the site fronts on Lawrence Station Road. The current zoning is OI (MXD). Approximately 64 acres

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*Lawrence Township - Mercer County*

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of the tract is constrained by wetlands. The parcel is located in the 208 sewer service area though the actual main is 2,000 feet distant. Water is supplied to the site by a 16" main in Quakerbridge Road.

Surrounding land uses: Town Run mixed use development under construction to north, agricultural across Quakerbridge Road in West Windsor to east, Amtrak Rail corridor and Lawrence Square Village to south and vacant/agricultural to west.

Surrounding zoning: EP/OI (MXD) to north and west, ROM-1 to east (West Windsor), PVD-2 to south.

Circulation: Frontage on existing secondary arterials; Circulation Element recommends a proposed collector road along southwestern tract boundary to connect to TCR road network and Lawrence Station Road.

Additional Comments: Limited developable area net of existing commercial development and wetlands. Former site of monitoring wells; however, NJDEP no longer requires monitoring. Only potential school site zoned for office/industrial use; all others are zoned residential.

- 2) LAWRENCEVILLE SCHOOL. This 39.5 acre site (Block 5801, Lot 30.01) is located on Lewisville Road, east of the existing athletic fields associated with the Lawrenceville School. The developable land area is about 32 acres. The site is currently in an agricultural use; however, new varsity and junior varsity baseball fields for the Lawrenceville School have received approval from the Planning Board in this location. The zoning is EP-2. The site is located in the 208 sewer service area and sewer mains have been extended along Lewisville Road in front of the site. Public water, however, is 3,500 feet away.

Surrounding land uses: Agricultural to north, east and south with office to southeast; Lawrenceville School faculty housing and athletic fields to west.

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*Lawrence Township · Mercer County*

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Surrounding zoning: CP, EG and EP-2 to north, EP-2 to east, RD to south, EG to west

Circulation: Frontage on existing collector (Lewisville Road). Improvements to Lewisville will be required with development of RD district to south.

Additional Comments: The demolition of one residence would be required.

- 3) AT & T. This site is located at the intersection of Cold Soil Road and Keefe Road and consists of a portion of Block 6101, Lot 4. The site is part of an 812 acre tract of land under purchase agreement by Mercer County. The zoning on the site is EP-1. It is not located within the 208 sewer service area. The closest public water and sewer lines are approximately 1,300 feet distant. The school site is almost free of environmental constraints, with only four acres delineated as freshwater wetlands. The entire tract is farmed.

Surrounding land uses: Predominantly agricultural to west, north and east; residential to southeast toward Lawrenceville.

Surrounding zoning: EP-1 residential north, east and west; EP-1, PVD-1 and R-1.5 residential to southeast.

Circulation: Frontage on existing collector (Cold Soil Road) and proposed collector (Keefe Road). Master Plan calls for intersection improvements and improvements to Keefe Road from Cold Soil Road to Lawrenceville-Pennington Rd.

Additional Comments: One monitoring well is located in the northwest portion of the tract.

The AT & T tract is ranked highest among the three as a suitable location for a new school based on the selection criteria previously noted, the stated preference of the Lawrence Township Board of Education, and the site's availability for a school use. An area of about 50 acres has been designated for school purposes.

## Open Space and Recreation

### INTRODUCTION

Open space is a valuable community asset, providing opportunities for recreation, the preservation of wildlife habitats and other natural environments, supplying attractive views and relief from urbanization.

Open space includes active and passive recreation, and conservation areas. If the open space land is large enough, it usually encompasses all three types of open space. Active recreation is generally considered to be organized sports that usually require specialized fields or equipment. Passive recreation includes less formal activities or sports, such as bird watching and hiking. Conservation areas are intended to be left in their natural state for wildlife refuges, as buffers between developments or to protect environmentally sensitive land.

A distinction is being made between farmland and open space in this document. Farmland is land being used for an agricultural purpose to produce commodities for sale. Though farmland typically retains the essential openness of the land, its main use is an economic one, rather than a social or cultural purpose. The Conservation Element discusses the retention of farmland as well as environmentally sensitive land.

### RECREATIONAL LAND AREA

The Township owns approximately 618 acres of open space which are classified as 380 acres of conservation land, 188 acres of developed park land and 50 acres of park land to be developed in the future. [See Table 9, next page.] Developed parks are categorized as community, neighborhood and mini-parks using a variety of criteria, such as population within the park service radius, the range of facilities, activities and amenities offered, and user age groups served. Lawrence Township's recreational needs are served by two community parks, four neighborhood parks and four mini-parks.

Since the adoption of the 1987 Township Master Plan, Village Park has been developed, adding more than 62 acres of active recreation facilities. Although vacant land still exists at this site, much of this has environmental constraints.

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*Lawrence Township - Mercer County*

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**Table 9 - Municipal Open Space Inventory**

<b><u>Park Classification</u></b>	<b><u>Developed* Acreage</u></b>	<b><u>Undeveloped* Acreage</u></b>	<b><u>Total Acreage</u></b>
<b><u>Mini Parks</u></b>			
Stonicker Park	0.3	0.0	0.3
Eldridge Park	2.3	0.0	2.3
Slackwood Park	1.0	3.8	4.8
Craigie Park	<u>0.6</u>	<u>0.0</u>	<u>0.6</u>
Totals	4.2	3.8	8.0
<b><u>Neighborhood Parks</u></b>			
Veterans Park	17.9	0.0	17.9
Colonial Lake Park	36.2	0.0	36.2
Meadowbrook Park	4.0	0.0	4.0
Hamnet Park	<u>3.2</u>	<u>0.0</u>	<u>3.2</u>
Totals	61.3	0.0	61.3
<b><u>Community Parks</u></b>			
Central Park	60.0	46.6	106.6
Village Park	<u>62.6</u>	<u>0.0</u>	<u>62.6</u>
Totals	122.6	46.6	169.2
<b><u>Passive Recreation and Conservation</u></b>			
Battleground Recreation Area	0.0	4.5	4.5
Brearley and Princessville Tract	0.0	79.5	79.5
Cranstoun Farm	0.0	119.0	119.0
Elias Tract	0.0	11.6	11.6
Fackler Road	0.0	9.8	9.8
Five Mile Run	0.0	24.7	24.7
Glenn Avenue	0.0	0.5	0.5
Lawrence Shopping Center	0.0	0.3	0.3
Murray Park	0.0	11.6	11.6
Port Mercer	0.0	69.3	69.3
Shabakunk	0.0	15.3	15.3
Tamanis	0.0	0.3	0.3
Texas Avenue	0.0	17.8	17.8
Shabakunk Woods	0.0	12.7	12.7
Turtleback Park	<u>0.0</u>	<u>17.8</u>	<u>17.8</u>
Totals	0.0	394.7	394.7
<b>Total Open Space</b>	<b>188.1</b>	<b>445.1</b>	<b>633.2</b>

\* - Using NJ Green Acres Program criteria. Source - Lawrence Township Recreation Dept.



The National Recreation and Park Association (NRPA) is an organization devoted to promoting and developing recreational opportunities. The NRPA has published a number of standards for "developed" open space. As a broad measure, the NRPA has established a range of 6.25 to 10.5 acres of developed park land per 1,000 residents. It should be noted that these standards are exclusive of recreational facilities provided by school districts or non-active open space.

Table 10 compares the NRPA standards applied to the Township's 1990 population of 25,787 with the actual developed park land acreage in the Township.

**Table 10 - NRPA Standards Comparison.**

Type of Park	Acreage Needed In Lawrence	Actual Developed Acreage
Mini-Park	6.5 to 12.9	4.2
Neighborhood	25.8 to 51.6	61.3
Community	129.0 to 206.4	122.6
Totals	161.3 to 270.9	188.1

The Township has more than sufficient land in the neighborhood park category, but has a significant deficit in mini-park acreage and a slight deficit in community park land. The Township has an additional 50.4 acres designated as undeveloped park land in Slackwood Park and Central Park. However, developing these two parcels for active recreation is problematic because it would necessitate the clearing of woodlands, which is counter to the goals of the Conservation Element. The undeveloped portions of these parks can be viewed as conservation areas with the potential for passive recreation.

Forecasts averaged from several agencies indicate a year 2000 population of 29,122 and a year 2010 population of 32,125 persons (see Table 15 in the Housing Element). Applying the same standards as Table 10 to the two projected population figures yields the following results:

**Table 11 - NRPA Standards and Forecast Population.**

Type of Park	Forecast Year 2000 29,122 Persons* Acreage Needed	Forecast Year 2010 32,125 Persons* Acreage Needed
Mini-Park	7.3 to 14.6	8.1 to 16.1
Neighborhood	29.1 to 58.3	32.1 to 64.3
Community	145.7 to 233.1	160.7 to 257.1
Totals	182.1 to 306.0	200.9 to 337.5

\* Source: Table 15, Housing Element

Since recreation standards from the NRPA are based on population, an increase in the number of persons residing in the Township also increases the amount of land recommended for park land. Neighborhood parks would continue to be adequate in gross acreage through 2010, but both mini-parks and community parks would be less than the recommended amount.

The demand for active recreation facilities is partially satisfied by using the facilities in Mercer County's Central Park. The park is partially located in Lawrence, though the large majority of its land area is in West Windsor Township. Its close proximity provides reasonably convenient recreational opportunities for Lawrence residents. The park includes field sport facilities, basketball, tennis and a marina for sailing on Lake Mercer. Further, the proposed development of a portion of the Northwest County Park on the AT & T tract for active recreation will provide additional recreation facilities for Lawrence residents.

The State Green Acres Program has taken a balanced land use approach to recreation based on federal, state, county, and municipal open space. The Green Acres guidelines suggest that a minimum of 3% of the municipal land area be set aside for all types of open space. Lawrence Township consists of 14,170± acres. Three percent would equal 425± acres. From this perspective, sufficient land has been set aside in the Township for open space.

The NRPA has also created standards for minimum sizes of each type of developed park land. Mini-parks should be 1 to 2 acres, neighborhood parks

should be 15 acres or larger, and community scale parks should be at least 25 acres. Based on these standards, Stonicker and Craigie parks are less than the recommended minimum for mini-parks. For neighborhood parks, Meadowbrook and Hamnet parks are also undersized for their intended use. Both Central and Village Parks, however, are sufficient in size to meet the NRPA standards.

From a geographic point of view the preponderance of improved park land is south of Interstate 295 within the older developed portion of the Township. As the residentially zoned areas north of I-295 develop over time the lack of neighborhood and mini-parks in this area may need to be addressed.

#### RECREATIONAL FACILITIES

Lawrence Township has developed a substantial number of recreational facilities as part of its park system. Table 6 identifies municipally owned facilities on the following page.

#### NRPA GUIDELINES

The National Recreational Parks Association has established recommended guidelines for public recreational facilities. According to NRPA standards, Lawrence Township meets most of the guidelines for active recreation. In an ideal situation, however, the Township should also have these additional facilities:

- Lighted, full-sized baseball field
- Football field
- Field hockey field
- Amphitheater
- Municipal pool
- Recreation center

Though the NRPA guidelines are intended to exclude school district facilities, from a practical standpoint, Board of Education sports fields and other active recreation facilities are used by amateur and youth sports organizations and the public at large. The Lawrence Township School District offers the use of their playing fields, swimming pool, and tennis courts to the municipal Recreation Department during non-school hours. The School District continues to add recreational facilities for their own educational purposes. Despite the

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availability of facilities at Township schools, certain activities are still below national standards based on 1990's population.

**Table 12 - Municipal Recreational Facilities Inventory**

<b><u>Recreation Facility</u></b>	<b><u>NRPA Standard/Population</u></b>	<b><u>1990 Existing Facilities</u></b>	<b><u>1990 Required Facilities</u></b>	<b><u>Year 2010<sup>1</sup> Required Facilities</u></b>
Baseball 90'	1/6,000	1	4 (-3) <sup>2</sup>	6 (-5)
Lighted Field	1/30,000	1	1 (0)	1 (0)
Softball	1/5,000	8	5 (+3)	7 (+1)
Tennis Court	1/2,000	12	12 (0)	17 (-5)
Basketball Ct.	1/5,000	8	5 (+3)	7 (+1)
Swimming Pool	1/20,000	0	1 (-1)	2 (-2)
Soccer Field	1/10,000	5	3 (+2)	4 (+1)
Golf (9 hole)	1/25,000	0	1 (-1)	1 (-1)
Indoor Center	1/25,000	1	1 (0)	1 (0)
Amphitheater	1/20,000	0	1 (-1)	2 (-2)
Handball Ct.	1/20,000	0	1 (-1)	2 (-2)
Outdoor Skating Rink	1/30,000	1	1 (0)	1 (0)
Volleyball Ct.	1/5,000	2	5 (-3)	7 (-5)
Field Hockey	1/20,000	0	1 (-1)	2 (-2)
Football	1/20,000	0	1 (-1)	2 (-2)

<sup>1</sup> . Year 2010 population projection equals 32,485 people

<sup>2</sup> . A (+) means a facility surplus, (-) means facility deficit.

*Source: Lawrence Township Recreation Department.*

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Table 13 represents school and municipally-owned recreational facilities.

**Table 13 - Municipal and School Facilities Inventory**

<b>Recreation Facility</b>	<b>NRPA Standard/ Population</b>	<b>1990 Existing Facilities</b>	<b>1990 Required Facilities</b>	<b>Year 2010<sup>1</sup> Required Facilities</b>
Baseball 90'	1/6,000	3	4 (-1) <sup>2</sup>	6 (-3)
Lighted Field	1/30,000	1	1 (0)	1 (0)
Softball	1/5,000	10	5 (+5)	7 (+3)
Tennis Court	1/2,000	17	12 (+5)	17 (0)
Basketball Ct.	1/5,000	8	5 (+3)	7 (+1)
Swimming Pool	1/20,000	1	1 (0)	2 (-1)
Soccer Field	1/10,000	8	3 (+5)	4 (+4)
Golf (9 hole)	1/25,000	0	1 (-1)	1 (-1)
Indoor Center	1/25,000	1	1 (0)	1 (0)
Amphitheater	1/20,000	0	1 (-1)	2 (-2)
Handball Ct.	1/20,000	0	1 (-1)	2 (-2)
Outdoor Skating Rink	1/30,000	1	1 (0)	1 (0)
Volleyball Ct.	1/5,000	2	5 (-3)	7 (-5)
Field Hockey	1/20,000	2	1 (+1)	2 (0)
Football	1/20,000	2	1 (+1)	2 (0)

<sup>1</sup> - Year 2010 population projection equals 32,485 people

<sup>2</sup> - A (+) means a facility surplus, (-) means facility deficit.

*Source: Lawrence Township Recreation Department.*

#### SCHEDULING

To reduce the cost of providing new recreation facilities, existing facilities should be utilized in more efficient ways. The scheduling of soccer games, for example, could expand playing times to include Saturday afternoons and early weekday evenings.

#### NEW DEVELOPMENT

Although new residential developments typically provide on-site recreational amenities, the use of these facilities is generally limited to those people living in the neighborhood and do little to offset demands on Township-wide recreation programs.

#### TENNIS

Tennis remains one of the Township's most popular sports. To maximize the use of existing facilities, it is recommended that three lighted courts be added to Village Park and two additional lighted courts be constructed in Central Park. Lighting the five existing courts at the Middle School would also increase the amount of playing time during peak demand hours. The Mercer County Outdoor Tennis Center also provides tennis facilities in the County's Central Park.

#### CENTRAL PARK

To utilize existing facilities at the municipality's Central Park more efficiently, additional parking and better access is needed. Parking should be provided near the existing tennis courts and soccer fields and access to the western area of the park-perhaps along the old trolley line-would provide greater accessibility to these facilities. It is recommended that the existing maintenance garage be renovated to include bathrooms, a concession stand and storage area.

#### COLONIAL LAKE

Over recent years, Lawrence Township residents have grown increasingly concerned over the deteriorating conditions at Colonial Lake. Township officials have focused attention on the need to restore the aesthetic and recreational benefits of the lake. These efforts culminated in 1990 with the preparation of the Colonial Lake Diagnostic/Feasibility Study (Coastal

Services, Inc. 1990) which determined the sources of the problems affecting the lake and recommended a restoration program. The restoration has been placed on hold pending a funding solution. Since the lake's problems have been caused by regional factors, its solution should also be regionally based and include County participation.

### RECREATIONAL TRAILS

Hiking trails and bicycle paths located in greenways are the first priority of this Element for the expansion of recreational opportunities in the Township. Establishing this system will involve the municipal government and perhaps adjacent municipalities, conservation and recreation organizations, and landowners. A successful program will require close cooperation among these groups towards the goal of producing recreational trails. The Lawrence Township Greenway Committee, Lawrence Township Conservation Foundation, and D&R Greenway are committed to establishing a greenway system encompassing the Township (*see also* Conservation Element).

The establishment of a recreational trail greenway should follow the criteria for open space acquisition that is spelled out in the Conservation Element. In particular, the connection of existing open space parcels should be given greater weight than disconnected trail segments. Each trail segment should stand on its own and be useable in its entirety when completed. The proposed greenway and trail system is depicted on the Conservation Map.

### RECREATION PROGRAMS

Recreation programs are administered by the Lawrence Township Recreation Department and several volunteer organizations, which provide a variety of activities from sports and league play to concerts and special events. During 1992, 3,000 individuals completed 4,362 registrations offered through the Recreation Department. This represents a substantial increase from 1991, when 2,454 people completed 3,909 total registrations. Individuals from the five-to-twelve age group represent the greatest portion of participants (56 percent) with some increased involvement by teenagers in the community over previous years.

As noted above, the Lawrence Township School District also provides leisure activities, particularly through its adult evening school and summer youth

enrichment program. Some of these activities are similar to those offered by the Recreation Department, such as art classes, and coordination between these agencies to avoid overlapping services may be in order. A Community Resources Committee that reviews all of the activities sponsored by governmental and private organizations should be established to coordinate similar programs.

Based on NRPA standards and the current park inventory, Lawrence Township will continue to have a deficit in developed park land to accommodate population demands to the year 2010. Unless additional municipal open space is acquired, available space for active recreational facilities will depend on the development of existing municipally-owned open space, such as the Cranstoun Farm or Brearley tract, or the further improvement of existing community parks which may require the clearing of woodland.

Central Park has approximately 46 acres of undeveloped land, but most of this area is densely wooded and potential wetlands could limit future development. If this park is expanded, the parking and access problems will need to be resolved.

Poor access to the Brearley tract and the Cranstoun Farm have limited their development potential. Although development of the Cranstoun Farm could be sufficient to accommodate active recreation demands in the future, frontage to the site is limited to Route 206. A secondary access onto Lewisville Road might be needed to accommodate traffic. A possible solution would be to negotiate an exchange of property with the Lawrenceville School, which owns an adjacent site that has frontage on Route 206 and Lewisville Road.

The Princessville/Brearley tract has considerable potential for many types of recreation activities, including outdoor educational and environmental programs. A long term project for restoring and adapting the historic Brearley House into an environmental center has been publicly discussed over the past ten years. Consideration should be given to the restoration of the exterior of the Brearley House and the conversion of the interior for public use or display. With a more active use of the property, restrooms should be constructed either within the historic structure or as a separate structure on the grounds. The Brearley House could also serve as a supportive facility for access to the Delaware and Raritan Canal because of its close proximity to the waterway. Plans to provide a pedestrian path from the Brearley House across the Shipetaukin Creek and through the adjacent wetlands to the canal are being



prepared.

Active recreation needs may also be met by two county facilities, the existing Mercer County Park and the new Northwest County Park including Rosedale Park, Curlis Woods and the recently acquired A T & T parcel, discussed in the Conservation Plan Element.

#### SUMMARY OF RECOMMENDATIONS

- 1) New residential development should be designed to provide sufficient on-site recreation facilities or where such construction is infeasible, off-site recreation facilities should be enhanced for the expected population.
- 2) Consider forming a standing committee that includes representatives from the Board of Education and the municipal Recreation Department to coordinate leisure activities and recreational programs.
- 3) New school construction should include recreation facilities that are accessible to Township residents during non-school hours within appropriate guidelines.
- 4) Provide a network of hiking and bicycle trails to be concentrated in greenways throughout Lawrence Township.
  - Hiking and bicycle trails should be developed that link schools, parks, employment centers and similar routes in adjoining municipalities. Trails are intended for recreational rather than commuting use.
  - The former Johnson Trolley right-of-way should be physically improved, including the construction of trail heads and off-street parking in appropriate locations.
  - Improvement of the towpath and increased accessibility to the D&R Canal State Park are recommended.
  - The Township should encourage the dedication of easements that allow public access to open space.

- 5) Develop the passive recreation potential of greenways in Lawrence Township.
  - Enhance existing parks along water bodies to encourage water access and to provide destinations for greenways travelers.
- 6) Develop a comprehensive solution to the Colonial Lake siltation problem.
- 7) Consider the development of the Brearley and Princessville tract for a passive recreation community park with an emphasis on the history of the Township, outdoor education, cultural activities and environmental programs. As an initial component of this development, plan for a pedestrian path linking the Brearley House and the nearby office buildings with the Delaware & Raritan Canal State Park.

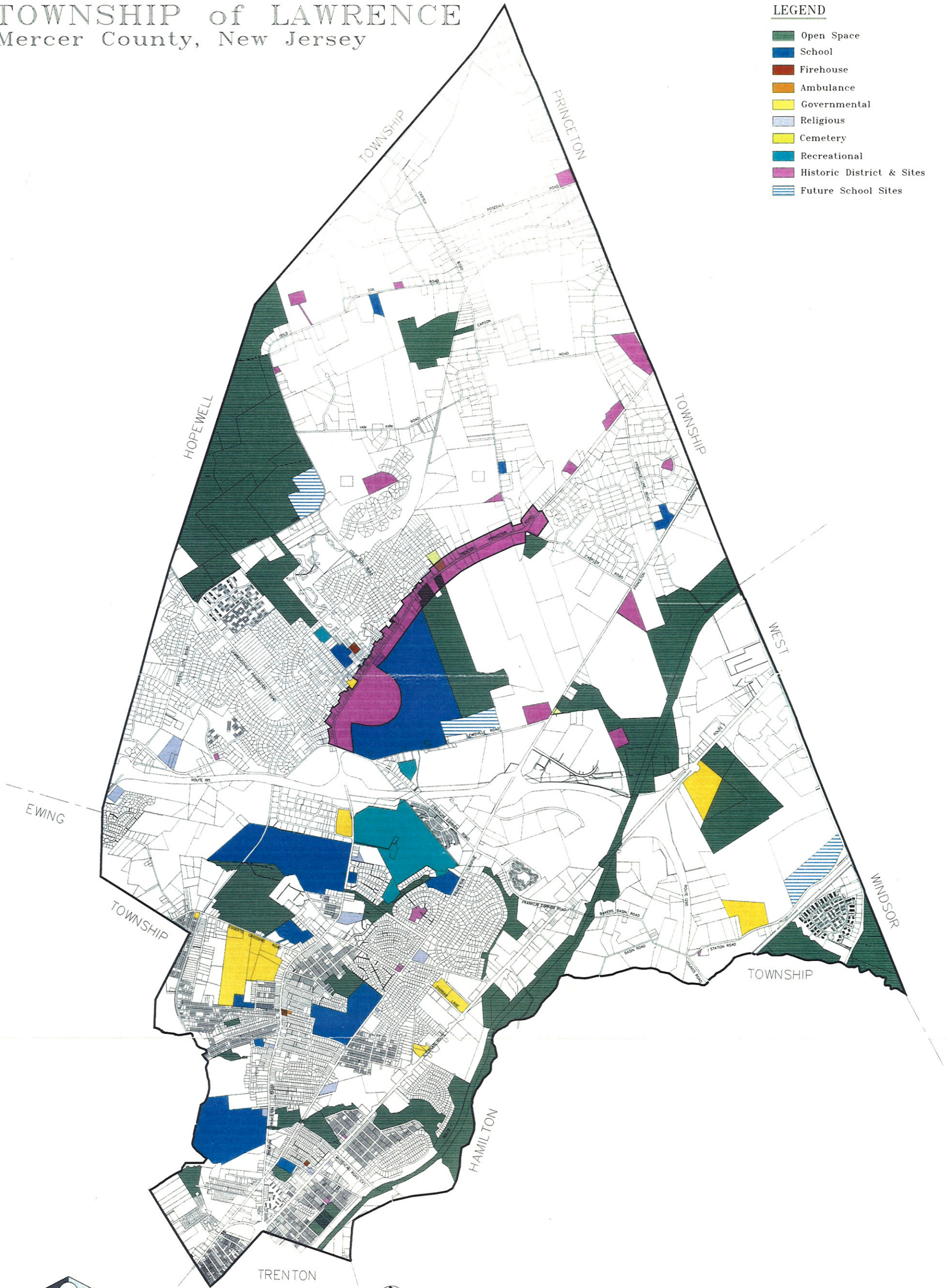


# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

- Open Space
- School
- Firehouse
- Ambulance
- Governmental
- Religious
- Cemetery
- Recreational
- Historic District & Sites
- Future School Sites





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# *Recycling*

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## INTRODUCTION

The recycling of discarded materials has grown in importance in the past decade as the cost of disposing of solid waste has increased in the State of New Jersey and elsewhere in the nation. The cost has risen primarily because of more stringent environmental regulations for the disposal of solid waste and the greater distance of new landfills from population centers. Other factors include higher capital costs for new landfills and the political difficulty in siting new facilities which adds costs in delay.

The economic pressures of increasing disposal costs has led to the investigation of alternative methods of waste disposal at all levels of government. The response in New Jersey has been in three directions; reducing the waste stream so that fewer items need to be discarded, developing resource recovery facilities, and recycling items that do become part of the waste stream. This Element is concerned with recycling policy rather than with issues of waste reduction or resource recovery.

A uniform public policy for solid waste recycling has been set by the state government through the 1987 legislation, The New Jersey Statewide Source Separation and Recycling Act (P.L. 1987, c.102, hereafter "Recycling Act"). The Recycling Act instituted mandatory recycling for the municipalities that did not already have a recycling program in effect and set uniform standards to be followed. Municipal recycling plans are required to be in conformance with District Solid Waste Plans. In this instance, the district is Mercer County.

Lawrence Township, like other municipalities in Mercer County, has an agreement with the County government to pick up recyclable material at curbside in residential developments. These materials are then sorted and sold or transferred to various vendors or manufacturers. The Mercer County program is described in further detail below.

The Recycling Act requires municipalities to incorporate the state's recycling goals and objectives, including implementation, into their Master Plans. The Act further mandates that site plan and subdivision ordinances incorporate

the recycling goals of the Master Plan, including the periodic reexamination requirements. The purpose of this Element of the Master Plan is to comply with the requirements of the Recycling Act by setting forth the recycling policy of the Township in relationship to the development and redevelopment of land within its boundaries. From a practical standpoint, the Township's policy is indistinguishable from that of the County.

The County's institution of mandatory residential recycling in September, 1989 and the subsequent requirement for non-residential (business) recycling plans was developed in response to the Recycling Act. Recycling has been seen at the state level as a method of reducing the need for new landfills, reducing or controlling disposal costs and as a way of generating revenue from the sale of collected items. It was also viewed as bringing environmental benefits such as the reduction in product consumption involving non-renewable resources and the reduction in the need for additional landfilling.

Occasionally, depending on the market for the materials, it is necessary to pay to dispose of the recyclable materials. Recycling is cost effective only so long as the cost of collecting and disposing of the recyclable materials is less than the cost of disposing of the solid waste in a landfill or in a resource recovery facility. It is in the long term interest of policy makers to encourage the market for items made from recycled materials, a fact recognized in the state Recycling Act.

In conjunction with the need to control disposal costs, state, local and county officials, along with the general populace, have become increasingly aware of the effects of improperly disposed solid waste and the environmental consequences such disposal may have. In short order, recycling has become a normal function of governmental operations.

#### **MERCER COUNTY'S RECYCLING PROGRAM**

The Recycling Act requires the separation and recycling of at least three categories of solid waste from a wide range of materials. The County requires the separation from trash of the following items:

- Wastepaper, which includes newspapers, magazines, and corrugated cardboard
- Clear, brown and green food and beverage glass.

- P.E.T. and H.D.P.E. (Nos. 1 and 2) Plastic containers, generally beverage and milk containers.
- Tin and bi-metal cans, primarily food containers.
- Aluminum food and beverage cans.
- Vehicle batteries
- White goods.
- Tires.
- Grass clippings.
- Iron and steel automotive scrap.

Recyclable materials are collected at curbside by the County's contractor and are taken to the transfer station at 391 Enterprise Avenue in Trenton. Contractors that pick up recyclable material at multi-family complexes are required to recycle the same materials.

Autumn leaf recycling is handled by the Township's Public Works Department. Several collections are made through the Fall season and deposited for composting purposes at the Township's approved Maidenhead Meadows compost site.

Non-residential operations must also recycle the same types of materials, and are also required to recycle wood products. Certain commercial, industrial, and institutional operations are required to have recycling plans in place depending on the number of employees. The final deadline for all recycling plans is December 31, 1995.

#### **CONSISTENCY OF LAWRENCE'S RECYCLING POLICY WITH THE DISTRICT SOLID WASTE MANAGEMENT PLAN OF THE COUNTY**

The recycling element of the County's Solid Waste Management Plan has been adopted to implement the requirements of the State Mandatory Source Separation and Recycling Act. Mercer County adopted the objectives of the

State Recycling Act to reduce the amount of solid waste being sent to landfills or incinerators by 60% by 1993. According to the Recycling Element of the County's District Solid Waste Plan, 70% of recyclable materials are being recycled.

The County government has entered into intra-district agreements with each of the thirteen municipalities in Mercer County. As such, Lawrence Township's plan, including recycling, is consistent with the District Solid Waste Plan and no modification is necessary to the municipality's goals and objectives for recycling and solid waste reduction.

#### STATE GOALS

In 1990 the New Jersey Solid Waste Emergency Task Force was created to re-examine the original goals of the Recycling Act and to make new recommendations. These recommendations included, among others, setting two goals for recycling. The first of these is to recycle a minimum of 50% of the municipal and vegetative waste stream by the end of 1995. The second is to recycle a minimum of 60% of the total solid waste stream, both municipal and other waste, by the same date. In general, this would require institutional and commercial establishments to recycle a greater percentage of their solid waste than municipalities in order to meet the goal. These recommendations have been adopted as the official policy for the State. The County currently meets the 1995 requirements for recycling.

#### SUMMARY OF RECOMMENDATIONS

Mercer County, and by extension Lawrence Township, has in place a well developed plan for the recycling of designated materials.

The following recommendations are made to implement the Township's Recycling Element and to comply with the State Recycling Act:

- 1) The Land Use Ordinance of the Township should be amended to require the submission of recycling plans for all applications for single family developments in excess of 50 dwelling units and multi-family developments in excess of 25 dwelling units. Furthermore, any commercial development in excess of 1,000 sq. ft. must include provisions for recycling.

- 2) The criteria for approval of site plans or subdivisions by the Planning Board should be amended to include the conformity of the provisions made for recycling in accordance with the threshold numbers in the first recommendation.



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# *Housing Plan*

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## INTRODUCTION

This element of the Master Plan is concerned with the provision of affordable housing under the requirements of the Fair Housing Act of 1985<sup>1</sup>.

The Fair Housing Act established the Council on Affordable Housing as a legislative response to a series of judicial decisions collectively known as the *Mt. Laurel Doctrine*. The *Mt. Laurel Doctrine*, briefly stated, established the municipal obligation to provide, through local land use regulation, a realistic opportunity for the provision of a fair share of the regional need for housing for households of low and moderate income.

The Council on Affordable Housing (COAH) has established a formula which determines each municipalities' "fair share" of affordable housing. COAH's initial formula was developed for a six year period, from 1987 through mid-1993. That formula, or method, has been superseded by recent COAH regulations (N.J.A.C. 5:93-1.1 et seq.) which recompute a portion of the 1987-1993 fair share obligation for each municipality and which calculate the additional municipal housing need through 1999. This element has been prepared in accordance with the substantive and procedural regulations of the Council on Affordable Housing<sup>2</sup>.

Once the Housing Plan is adopted, the municipality has the option to submit the element and a "Fair Share Plan" to COAH for approval of its total plan, called "substantive certification". The Fair Share Plan is a document that contains proposed implementing ordinances and administrative procedures designed to effectuate the provision of affordable housing in the municipality. Substantive certification of the Housing Plan provides a measure of legal protection from suit alleging that a municipality's land use regulations are invalid or unconstitutional because of a failure to provide an opportunity for the construction of affordable housing.

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<sup>1</sup> - P.L. 1985, Chapter 222 (N.J.S.A. 52:27D-301 et seq.)

<sup>2</sup> - N.J.A.C. 5:91-1 et seq. and 5:93-1.1 et seq.

#### PREVIOUS PLANNING ACTIVITY

The first round fair share obligation was established as 911 affordable housing units. The 911 unit obligation, or pre-credited need, was made up of 138 indigenous and 733 reallocated present and prospective need units. These different categories of need are described in the subsequent section of this Housing Element entitled, FAIR SHARE ALLOCATION. The Township claimed a credit for 161 affordable age-restricted units which were built in the early 1980's and 70 rehabilitated units restricted to low and moderate income households for a total of 231 units. This established a net need to provide the opportunity for 680 affordable housing units.

#### 1987 HOUSING PLAN ELEMENT

The Township adopted a Fair Share Plan in July, 1987 which was certified by COAH on October 19, 1987. This plan proposed 359 dwellings plus 11 credits that involved projects under construction or with final planning approval. The 11 credits reflected a bonus, equal to  $\frac{1}{3}$  unit for each of 33 affordable rental dwellings. Additional units were proposed through zoning requirements for inclusionary development totalling 285 units. Lastly, 68 units were proposed to be rehabilitated through the Township's existing housing program. In total 712 units plus 11 credits were proposed and accepted by COAH to constitute Lawrence's Fair Share Plan. This total of 723 units was 43 units in excess of the required number of 680 units.

#### 1990 AMENDED HOUSING PLAN

In 1990, it became apparent that the development projects identified in the 1987 Housing Plan would not produce as many affordable housing units as expected due to changes in their approved plans. Further, a major inclusionary site behind the Mercer Mall shopping center (Yorkshire Village) was approved for development with a lower than expected number of units because of environmental factors. The changes reduced the total number of affordable units from 723 to 646 units (634 actual units plus 12 credits), leaving the Township 34 units short of its obligation. The plan was amended to include 59 additional units to be rehabilitated and 179 rental units in an inclusionary development adjacent to the Quakerbridge Mall (Town Run) for a subtotal of 238 units. Adding the 646 to the 238 units created a total of 884 units for an anticipated surplus of 204 units. The surplus was intended to be applied toward the second round of housing obligation. This amendment was adopted by the Township on March 28, 1990 and approved by COAH on

November 7, 1990.

#### 1991 AMENDED HOUSING PLAN

In 1991, the Housing Plan was further amended by removing Maidenhead Meadows (a proposed development) as an inclusionary housing site and adjusting certain inclusionary other sites. Maidenhead Meadows was purchased by the municipality and is now used for the Township's leaf composting facility. Maidenhead Meadows was earmarked for 54 units of affordable housing. The Housing Plan was further amended by reducing the Town Run site to 183 units, increasing the senior citizen zoned area to 83 units, and reducing the rehabilitation component to 71 units. To account for these reductions, an additional site known as U.S. Land Resources adjacent to the Trammell Crow project was placed in the inclusionary MXD district for an additional 114 units. In total, 880 actual units equalling 916 credits were adopted as the Township's plan for affordable housing. The amendment was adopted on July 24, 1991 and approved as an amendment to the Township's Fair Share Plan by COAH on November 4, 1991.

#### INTERIM CERTIFICATION

In July 1993, the Council on Affordable Housing adopted a rule amendment to create a process of interim certification when it became apparent that the new substantive rules would not be adopted as originally expected. The interim certification rules provided a bridge for the time period between the date when Lawrence Township's substantive certification expired, and the adoption of the new rules. The Township petitioned for interim certification and received it from COAH on November 10, 1993. COAH also established a nine month grace period for municipalities to develop and adopt a new housing plan and petition for approval once the rules were formally adopted. The rules were adopted by COAH on May 10, 1994 and officially published on June 6, 1994. The official publication established a time period for adoption and petition for substantive certification of a new Housing Element and Fair Share Plan until March 6, 1995.

**POPULATION CHARACTERISTICS**

Lawrence Township has had significant growth in population that is particularly evident since World War II. The historic population of Lawrence is compared to Mercer County in Table 14.

**Table 14. Population, 1940-1990, Lawrence Township and Mercer County.**

Year	Lawrence Township	% Change	Mercer County	% Change	Lawrence as % of Mercer
1940	6,522	N/A	197,318	N/A	3.31%
1950	8,499	30.31%	229,781	16.45%	3.70%
1960	13,665	60.78%	266,392	15.93%	5.13%
1970	19,567	43.19%	304,116	14.16%	6.43%
1980	19,724	0.80%	307,863	1.23%	6.41%
1990	25,787	30.74%	325,824	5.83%	7.91%

*Source:* U.S. Bureau of the Census, 1940-1990 Decennial Census

Except for a hiatus in the 1970's when the growth of population in Mercer County was also limited, Lawrence has increased its population by more than 30% each decade since 1940. Growth is expected to continue, though at a reduced rate, through the year 2010. Several projections of population are presented in Table 15.

**Table 15. Projected Lawrence Township Population.**

Agency	1990 Population	2000 Projection	2010 Projection
New Jersey Department of Labor	25,787	28,200	31,200
Mercer County Low Range	25,787	28,200	30,178
Mercer County High Range	25,787	30,841	34,635
Delaware Valley Regional Planning Commission	25,787	29,245	32,485
Average	25,787	29,122	32,125

*Sources:* U.S. Bureau of the Census, 1990 Census of Population and Housing; New Jersey Department of Labor, Division of Labor and Demographic Research, February, 1993; Mercer County Planning Division, *Mercer County Data Book, 1993*; Delaware Valley Regional Planning Commission, *Year 2020 Population and Employment Forecasts*, November, 1993

These projections forecast an additional 4,400± to 8,900± people residing in Lawrence Township in the two decade period between 1990 and 2010. In percentage terms, this represents a yearly growth rate of between .95% and 1.5%.

#### AGE COHORTS

In reviewing the changes in distribution of age among the population, several factors stand out in the decade between 1980 and 1990. There has been an increase in the percentage of the population under 15 years and a substantial absolute increase in numbers. This has had the effect of increasing enrollments in the public school system. The percentage of the population in mid- to late middle age (45-64 years old) has declined from 24.2% of the total population to 18.1%. The absolute number of people has declined as well, despite the 30.7% increase in population. The largest percentage and absolute number increase is found in the 35-44 years old age cohort where the percentage of total population rose from 10.9% to 16.5% and numbers increased from 2,150 persons to 4,247. The older elderly population (75+ years old) has

*Housing Plan Element · Master Plan  
Lawrence Township · Mercer County*

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increased from 4.1% to 5.1% of the population. An imbalance exists in the percentage of females in Lawrence. In 1980, females constituted 51.8% of the total population and males 48.2%. By 1990, the percentage of females had increased to 52.9% and males decreased to 47.1%. Median age in 1990 was 33.6 years old. Table 16 quantifies age cohorts in 1990 by sex and percentage of total.

**Table 16. Age Cohorts in Lawrence Township, 1990.**

Age Cohorts	Female Persons	% of Total	Male Persons	% of Total	Total Persons	% of Total
0-4 yrs.	738	5.4%	766	6.3%	1,504	5.8%
5-9 yrs.	758	5.6%	647	5.3%	1,405	5.4%
10-14 yrs.	640	4.7%	712	5.9%	1,352	5.2%
15-19 yrs.	954	7.0%	1,048	8.6%	2,002	7.8%
20-24 yrs.	1,636	12.0%	1,381	11.4%	3,017	11.7%
25-29 yrs.	992	7.3%	1,031	8.5%	2,023	7.8%
30-34 yrs.	1,214	8.9%	1,025	8.4%	2,239	8.7%
35-44 yrs.	2,219	16.3%	2,028	16.7%	4,247	16.5%
45-54 yrs.	1,282	9.4%	1,135	9.4%	2,417	9.4%
55-64 yrs.	1,181	8.7%	1,072	8.8%	2,253	8.7%
65-74 yrs.	1,166	8.5%	833	6.9%	1,999	7.8%
75-84 yrs.	597	4.4%	385	3.2%	982	3.8%
85+ yrs.	276	2.0%	71	0.6%	347	1.3%
<b>Totals</b>	<b>13,653</b>	<b>100.0%</b>	<b>12,134</b>	<b>100.0%</b>	<b>25,787</b>	<b>100.0%</b>

Source: 1990 U.S. Bureau of the Census, STF 3A

**HOUSING CHARACTERISTICS**

As may be expected, the number of housing units has increased along with the population, though at a greater rate than the growth in the population in the decade between 1980 and 1990. The total number of units increased from 6,316 to 9,640, an increase of 52.6%, compared to a population increase of 30.7%. The comparable Mercer County increase was 10.8% in the number of units and only a 5.8% increase in population. The growth in Lawrence Township accounted for 27.6% of the increase in the number of housing units and 33.8% of the population increase in Mercer County. Only West Windsor Township accounted for a greater proportion of the County's increase in population and no municipality surpassed Lawrence's share of the increase in the County's housing stock.

**OCCUPANCY CHARACTERISTICS**

The number of renter occupied dwellings in Lawrence increased more quickly between 1980 and 1990 than owner occupied units; from 25.5% of the total number of units in 1980 to 27.75% in 1990. Table 17 illustrates occupancy characteristics of housing units for Lawrence.

**Table 17. Occupancy Characteristics for Lawrence Township, 1980 and 1990**

Year/Change	Total Units	Owner Occupied	Renter Occupied	Vacant
1980	6,316	4,555	1,559	202
1990	9,640	6,580	2,527	533
Absolute Change	3,324	2,025	968	3.2% <sup>1</sup>
Percentage Change	52.6%	44.5%	62.1%	5.5% <sup>2</sup>

<sup>1</sup> - Percentage of all housing units in 1980

<sup>2</sup> - Percentage of all housing units in 1990

Source: *Mercer County Data Book*, Mercer County Division of Planning, 1993

The increase in the proportion of renter occupied units to owner occupied units in Lawrence was not reflected in the County. Renter occupied units increased

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Lawrence Township · Mercer County*

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by 3.8% whereas owner occupied units increased 14.2% in Mercer County. Lawrence Township accounted for two-thirds of the increase in renter occupied housing in the county, 968 of 1,444 units.

The municipal vacancy rate in Mercer County ranged from a low of 2.6% in Hamilton Township to a high of 8.4% in Trenton. Lawrence Township's vacancy rate at 5.5% in 1990 was mid-range.

AGE OF HOUSING STOCK

Lawrence Township's recent history exhibits the suburbanizing land development patterns characteristic of formerly agricultural communities that surround central cities. This suburbanizing pressure developed later than closer-in townships such as Ewing and Hamilton, but earlier than more distant municipalities such as West Windsor and Washington. As such, the median age of the Township's housing was 20 years old in 1990. The percentage of housing built in 1939 or earlier in Lawrence is less than half that of the county average. Housing 50 years or older is much more likely to be substandard and occupied by a low or moderate income household and thereby a candidate for rehabilitation. The age of Lawrence's housing stock is illustrated in Table 18.

**Table 18. Housing Units by Year Structure Built**

	1980-1990	1970-1979	1960-1969	1950-1959	1940-1949	1939 or earlier	Total Units	Median Year Built
Lawrence Twp.	3,355	1,391	1,507	1,487	678	1,222	9,640	1970
% of all Units	34.8%	14.2%	15.6%	15.5%	7.1%	12.8%	100.0%	-
Mercer County	17,180	17,393	21,543	20,457	11,983	35,110	123,666	1957
% of all Units	13.9%	14.1%	17.4%	16.5%	9.7%	28.4%	100.0%	-

Source: *Mercer County Data Book*, Mercer County Division of Planning, 1993



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Lawrence Township · Mercer County*

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HOUSING TYPE

The majority of the housing units in Lawrence are single family detached dwellings, accounting for 58.2% of all occupied residences in 1990. The single family detached unit type is even more prevalent among owner occupied housing, with 76.0% of the total. This correlation of owner occupancy to single family detached housing is common in suburban communities.

Among renter occupied dwellings, residences in structures with five or more units represent half of the total. This is reflective of the relatively recent age of most Lawrence Township's housing where the conversion of older, larger single family homes into two or three units is rare. Renter occupied housing in Lawrence is more likely to be found in apartment complexes. Housing types in 1990 in Lawrence are enumerated in Table 19.

**Table 19. Housing Type in Lawrence Township, 1990**

Housing Unit:	One, Detached	One, Attached	Two	Three & Four	Five or More	Mobile, Trailer	Other	Total Units
Owner Occupied	5,004	931	112	81	391	7	54	6,580
Renter Occupied	293	525	238	130	1,267	0	74	2,527
Totals	5,297	1,456	350	211	1,658	7	128	9,107

Source: *Mercer County Data Book*, Mercer County Division of Planning, 1993

SUBSTANDARD UNITS

Substandard housing includes units with building code violations that require repair or replacement of a major system such as a roof or structural defects. There is little direct information on the extent of substandard housing. COAH recognizes this data problem and uses a surrogate for substandard housing based on several factors that studies have indicated are strong indicators of modest incomes and poor housing conditions. U.S. Census tables show that no Lawrence Township households lack kitchen facilities and only eight units lack complete plumbing facilities out of 9,460 total occupied and vacant dwellings. Overcrowding is another condition that correlates with substandard units.

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Units are considered overcrowded if they have more than 1 person per room. Table 20 tabulates overcrowding in units in Lawrence in 1990.

**Table 20. Persons per Room, by Tenure, 1990.**

Tenure	.50 or Less	.51 to 1.00	1.01 to 1.51	1.51 to 2.00	2.01 or Greater
Owner Occupied	5,341	1,186	41	10	2
Renter Occupied	1,720	750	33	19	5
Totals	7,061	1,936	74	29	7

Source: 1990 U.S. Bureau of the Census, STF 3A

Of the 9,107 occupied housing units in Lawrence, 110 are considered overcrowded, or 1.2% of the total. What is not known from the data available is the extent to which overcrowded units are occupied by low and moderate income households and have a major code violation. COAH's surrogate calculation indicates 77 units which are substandard and occupied by a low and moderate income household.

**HOUSING VALUE: FOR SALE UNITS**

Housing value is self-reported data from the 1990 U.S. Census that includes only single family dwellings that are owner occupied on less than 10 acres of land and without a commercial business on the same lot. In Lawrence, the median reported housing value was \$174,900 in 1990. The median is the mid-point where half of all houses are valued higher and the other half lower. The 25th percentile of housing value, was reported as \$131,000 while the 75th percentile of housing value was \$244,700 in 1990. Median value for Mercer County as a whole was \$136,700. Lawrence Township's median value was 127.9% higher than Mercer County. Median value among all Mercer County municipalities ranged from a low of \$70,600 in Trenton to \$339,800 in Princeton Township. Table 21 represents the range of reported housing value.

**Table 21. Lawrence Township Housing Value,  
Owner-Occupied Units, 1990.**

Housing Value	Number of Units	Percentage of Total
Less than \$25,000	32	0.5%
\$25,000-\$49,999	117	2.1%
\$50,000-\$74,999	155	2.8%
\$75,000-\$99,999	352	6.2%
\$100,000-\$124,999	548	9.7%
\$125,000-\$149,999	912	16.2%
\$150,000-\$174,999	703	12.5%
\$175,000-\$199,999	701	12.4%
\$200,000-\$249,999	816	14.5%
\$250,000-\$299,999	568	10.1%
\$300,000-\$399,999	449	8.0%
\$400,000-\$499,999	161	2.9%
\$500,000 or more	120	2.1%
Average Value	\$199,050	
Median Value	\$174,900	

*Source:* U.S. Bureau of the Census, 1990, STF 3A

Multiple listing service figures of for-sale housing compiled by the Mercer County Board of Realtors lend credence to the census information for Lawrence Township. Starting in 1987, the average sales price was \$188,876 based on 244 sales. By 1988, on 191 sales, the average price peaked at \$202,263 and in 1989, fell to \$193,823, based on 169 sales. In 1990, the average price rose to \$199,198 on 172 sales. Sales increased in 1991 to 203 houses, but the average price was reduced to \$173,087. In 1992, sales reached 213 houses with an average price of \$169,399. Average prices are usually higher than median prices because of the skewing effect from the highest house sale prices. Median prices are usually considered to provide a better statistical picture of

housing value.

HOUSING VALUE: RENTAL UNITS

In the Township, median gross rent was \$731 per month and median contract rent was \$650 in 1990. Contract rent is the amount paid for shelter, while gross rent includes contract rent and other associated housing costs, which are mainly utilities. Table 22 illustrates the range in monthly gross rent in the municipality in 1990.

**Table 22. Monthly Gross Rent, Lawrence Township, 1990.**

Gross Monthly Rent	Number of Units	Percentage of Total
\$0-\$99	13	0.5%
\$100-\$199	83	3.3%
\$200-\$299	77	3.1%
\$300-\$399	47	1.9%
\$400-\$499	82	3.3%
\$500-\$599	346	14.0%
\$600-\$699	466	18.8%
\$700-\$999	730	29.4%
\$1,000 or more	546	22.0%
No Cash Rent	90	3.6%
Total	2,480	100.0%
Median Gross Rent*	\$731	

\* - For those paying cash rent.

Source: U.S. Bureau of the Census, 1990, STF 3A

The median gross rent for Mercer County in 1990 was \$570, representing a range from \$451 in Trenton to \$823 in Washington Township. Lawrence's median gross rent of \$731 is 28.2% higher than the County median. Median gross rent in 1980 in Lawrence was \$348. In the 1980 to 1990 period median

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Lawrence Township · Mercer County*

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gross rent increased by 110.9% compared to 109.6% for the County as a whole. Median gross rent increased the most in Washington Township (152.5%) and the least in Ewing Township (82.7%) in the same time period.

**HOUSEHOLD AND FAMILY INCOME**

Household income in Lawrence increased by nearly one hundred percent from 1979 to 1989 (the latest figures available). While this is a substantial increase, it is less than the comparable increase in the Mercer County of 109.7%. While incomes in Lawrence did not increase as fast as in Mercer County, household income was 123.8% of the median Mercer County income in 1989. Family income increased more and is roughly the same as the increase in the County family income median, 109.4% v. 111.1% from 1979 levels. Per capita income, on the other hand, outpaced County per capita income by 149.1% v. 133.9% in the County in 1989. A comparison of changes in these three measures of income between Lawrence and Mercer County are tabulated in Table 23.

**Table 23. Household, Family, and Per Capita Income Comparison,  
Lawrence Township and Mercer County, 1979-1989.**

Income Category*	Lawrence Township	Mercer County
Household Income, 1979	\$25,615	\$19,659
Household Income, 1989	\$51,035	\$41,227
Percentage Change	99.2%	109.7%
Family Income, 1979	\$28,558	\$22,972
Family Income, 1989	\$59,807	\$48,490
Percentage Change	109.4%	111.1%
Per Capita Income, 1979	\$9,477	\$8,095
Per Capita Income, 1989	\$23,605	\$18,936
Percentage Change	149.1%	133.9%

\* - Median income in the subject category.

Source: *Mercer County Data Book*, Mercer County Division of Planning, 1993

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Lawrence Township · Mercer County*

DISTRIBUTION OF INCOME

Household distribution of income in 1989 is shown in Table 24.

**Table 24. 1989 Distribution of Household Income, Lawrence Township.**

Income Category	Number of Households	Percentage of Total
\$0-\$4,999	135	1.5%
\$5,000-\$9,999	293	3.2%
\$10,000-\$14,999	382	4.2%
\$15,000-\$19,999	376	4.1%
\$20,000-\$24,999	491	5.4%
\$25,000-\$29,999	451	5.0%
\$30,000-\$34,999	540	6.0%
\$35,000-\$39,999	568	6.3%
\$40,000-\$44,999	585	6.4%
\$45,000-\$49,999	612	6.7%
\$50,000-\$54,999	460	5.1%
\$55,000-\$59,999	464	5.1%
\$60,000-\$74,999	1,090	12.0%
\$75,000-\$99,999	1,359	15.0%
\$100,000-\$124,999	574	6.3%
\$125,000-\$149,999	257	2.8%
\$150,000 or more	435	4.8%
Total	9,072	100.0%
Median Income	\$51,035	

Source: U.S. Bureau of the Census, 1990, STF 3A

LOW AND MODERATE INCOME LEVELS

The Council on Affordable Housing has established low and moderate household income levels based on federal Housing and Urban Development information. These income levels are noted in Table 25 as follows:

**Table 25. COAH Income Limits for Low and Moderate Income Households, 1994**

Number of Persons in Household	Low Income Maximum	Moderate Income Maximum
One	\$18,309	\$29,294
Two	\$20,924	\$33,478
Three	\$23,540	\$37,663
Four	\$26,155	\$41,848
Five	\$28,248	\$45,196
Six	\$30,340	\$48,544
Seven	\$32,432	\$51,891
Eight	\$34,525	\$55,239

Source: Council on Affordable Housing, July 20, 1994

The average annual number in the housing component of the Consumer Price Index (CPI) has increased from 138.7 in 1990 to 151.9 in 1993, or 9.5%. If it is assumed that self-reported housing value increased uniformly across all price categories, then it permits an estimate of 1993 value to be compared with the income levels in Table 25. In Table 26 the CPI increase is multiplied by the price categories in Table 8.

**Table 26. Estimated Housing Value in Lawrence Township, 1993.**

Housing Value	Number of Units
< \$27,375	32
\$27,375 to < \$54,750	117
\$54,750 to < \$82,125	155
\$82,125 to < \$109,500	352
\$109,500 to < \$136,875	548
\$136,875 to < \$164,250	912
\$164,250 to < \$191,625	703
\$191,625 to < \$219,000	701
\$219,000 to < \$273,750	816
\$273,750 to < \$328,500	568
\$328,500 to < \$438,000	449
\$438,500 to < \$547,500	161
\$547,500 and Greater	120

*Sources:* U.S. Bureau of the Census, 1990; and U.S. Bureau of Labor Statistics, February 1994

Assuming a mortgage rate of 10% per annum, condominium or homeowner's association fees of \$100 per month, and 10% down payment, a three person low income household would be able to afford a unit selling for up to \$45,000. A three person moderate income household would be able to afford a unit selling for up to \$78,000 under the same assumptions. Approximately 74 existing units in Lawrence would be affordable to a three person low income household and 265 to moderate income households under this scenario. Actual affordability will depend on prevailing interest rates, household assets and liabilities, lending practices, unit size, and market changes.

If it is assumed that rental cost increased at the same rate as housing value over the same period, then Table 27 on the following page illustrates an estimate of 1993 renting costs.



**Table 27. Estimated Rental Cost in Lawrence Township, 1993**

Rental Cost per Month*	Number of Units
< \$110	12
\$110 to \$163	57
\$164 to \$218	26
\$219 to \$273	27
\$274 to \$327	50
\$328 to \$382	18
\$383 to \$437	29
\$438 to \$492	23
\$493 to \$546	59
\$547 to \$601	106
\$602 to \$656	240
\$657 to \$711	127
\$712 to \$765	339
\$766 to \$820	129
\$821 to \$1,095	601
\$1,096 or Greater	546

\* - Rounded to the nearest dollar.

Sources: U.S. Bureau of the Census, 1990; and  
U.S. Bureau of Labor Statistics, February 1994

HUD and COAH guidelines limit the cost of shelter to 30% of gross monthly income for renting households. Under these guidelines, the upper limit for a one person low income household is \$458 and the upper limit for an eight person moderate income household is \$1,381. Under this type of limit, all rental units, with the exception of the highest rental category, would be affordable to low and moderate income households under the same set of assumptions that has been made on for-sale housing. A more representative

view of rental affordability may be gained by examining three person households since this household size is close to the Township median. The upper limit of low income households of this size is \$589 per month. For moderate income three person households, the upper limit on rental cost is \$942 per month. Approximately 425 rental units would be affordable to three person low income households and an additional 1,144 units would be affordable to three person moderate income households.

### HOUSING STOCK PROJECTIONS

Certificates of Occupancy for 1994 include 62 single family, 34 townhouses, 24 garden apartments and 21 affordable units for a total of 141 dwellings. By comparison, the Township's Department of Community Development projected housing completions for 1995-1996 and one projection beyond this time period<sup>3</sup>. In 1995, 99 single family, 10 townhouses, 192 garden apartments, and 36 affordable units for a total of 337 units are projected. Additional units expected to be completed in 1996 include 53 single family, 0 townhouses, 110 garden apartments, and 26 affordable units for a total of 189 units. Projections after 1996 include 639 single family, 118 townhouses, 65 garden apartments, and 191 affordable units for a total of 1,013 housing units. If it is assumed that all of the units in the projection will be constructed by the end of 1999, then a total 274 affordable units, including 1994's total, would be completed in the second round.

The projections of completed housing units assume a level of construction activity of approximately 330 dwellings per year, slightly higher than the ten year average. The early 1990's had considerably less construction activity due to the extraordinarily long economic recession in New Jersey. The recession officially ended in the third quarter of 1992 after 44 months and it is likely that housing construction will increase gradually throughout the decade. However, 455 permits were issued in 1993 and while 1994's activity was less, newly approved construction, for instance Yorkshire Village, should increase the pace of new housing starts. Over the past ten years, construction activity has ranged from a low of 37 units in 1990 to a high of 1,157 units in 1986. The ten year (1985-1994) average is 313 permits per year.

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<sup>3</sup> - *Lawrence Township Housing Report*, Department of Community Development, March 25, 1993

**EMPLOYMENT**

Employment in Mercer County, and particularly in Lawrence Township, has steadily increased over the long term. The number of jobs, however, has been stable in the 1989 to 1992 year period, reflective of the recent business recession and corporate restructurings that have held down job growth. Though employment in Lawrence has been flat in this time period, it has been better than many other parts of the state where there has been significant loss in employment. The Rutgers Regional Report estimates that New Jersey's employment total was reduced by 260,000 jobs during the recession. The number of covered jobs on an average annual basis is illustrated in Table 28.

**Table 28. Covered Employment in Lawrence Township, 1983-1992**

Year	Average Annual Employment	Number of Establishments
1983	15,793	637
1984	17,829	665
1985	17,649	690
1986	19,114	682
1987	20,637	732
1988	20,633	750
1989	21,129	768
1990	21,913	825
1991	21,481	903
1992	21,021	846

*Source:* NJ Dept. of Labor, Division of Planning and Research, Office of Demographic and Economic Analysis, February, 1994

*Note:* Covered employment data include jobs that fall under New Jersey's unemployment compensation law and consequently understate the number of employed persons.

Lawrence is an employment center with an employment to work force ratio of approximately 1.8:1 compared to a County estimate of 1.3:1, based on 1990 information. Both Lawrence Township and Mercer County attract significant numbers of workers who reside outside of the region.

With the exception of Trenton City, all of the municipalities in Mercer County have had lower unemployment rates than the state average, in some instances, considerably lower. Lawrence Township's estimated labor force in 1991 was 14,616 people of which 14,145 people were employed<sup>4</sup>. The unemployment rate was 3.2%. This compares to a low of 2.0% in Hopewell Borough and a high of 11.6% in Trenton. The County average was 5.5%.

The estimated labor force declined in Lawrence to 14,498 in 1992 and the unemployment rate increased to 3.8%, based on estimated employment of 13,945 persons. Unemployment increased in the county from a low of 2.4% in Hopewell Borough to a high of 13.5% in Trenton. The County unemployment rate averaged 6.5%.

#### EMPLOYMENT PROJECTIONS

Employment projections indicate steady employment in Lawrence Township. If the percentage of the resident population in the work force remains constant, this means that the ratio of jobs to work force will decrease over time as the population increases. Projected employment for Lawrence is illustrated in Table 29 on the following page. Projected employment includes all persons in the work force and is not strictly comparable to the covered employment numbers in Table 28.

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<sup>4</sup> - Data as of May of subject year. Source: *Mercer County Data Book*, Mercer County Division of Planning, 1993

**Table 29. Projected Employment in Lawrence Township, 2000-2020**

Year	Projected Employment	Percentage Change
2000	29,066	N/A
2010	30,106	3.6%
2020	30,673	1.9%

*Source: Delaware Valley Regional Planning Commission, Year 2020 County and Municipal Interim Population and Employment Forecasts, June, 1993*

**FAIR SHARE ALLOCATION**

On June 6, 1994 COAH adopted a new set of substantive regulations (N.J.A.C. 5:93-1 et seq.) which replace the regulations under which the Council has administered the Fair Housing Act since 1986. These regulations allocate municipal affordable housing obligations through 1999 and establish a new policy framework for fair share compliance during the next six year period.

Municipal housing allocations are composed of three components: Indigenous need, reallocated present need, and prospective need. However, COAH has modified the method of calculating the statewide and regional housing need and the method of allocating that need among the constituent municipalities. A tabular summary of the Township's affordable housing obligation is presented in Table 30.

**Table 30. Lawrence Township's 1993-1999 Housing Need.**

Formula Category	Number of Units
Indigenous Need	77
Reallocated Present Need	53
Present Need 1993	130
Prospective Need 1993-1999	553
<b>Total Need</b>	<b>683</b>
Prior Cycle Prospective Need	362
Demolitions	9
Filtering	-75
Conversions	-12
Spontaneous Rehabilitation	-5
Pre-Credited Need	962
Inclusionary Zoning Reductions	-623
Credits from First Round	-161
20% Cap on Vacant Land	0
<b>Calculated Need</b>	<b>178</b>

Source: New Jersey Council on Affordable Housing, October 11, 1993

The components of calculated housing need are outlined as follows:

*Indigenous Need* is the number of dwellings that are substandard and inhabited by a low and moderate income household. Indigenous Need is a part of Present Need. This number is calculated from U.S. Census surrogates that stand in for the actual count since data at the minor civil division level is not available. Lawrence's Indigenous Need number is 77 units.

*Reallocated Present Need* is equal to the dwelling units assigned to municipalities from a regional pool of indigenous need. Each housing region has a regional average of all of its indigenous need units. If a municipality has more than the regional average, then the amount above the average is placed in a regional pool and reassigned to other municipalities within the region. The Reallocated Present Need number for Lawrence is 53 units.

*Present Need 1993* is the total of Indigenous Need and Reallocated Present Need. Both Reallocated Present Need and Prospective Need (*see below*) are distributed to municipalities through a formula that includes the municipal share of the regional undeveloped land, equalized non-residential property valuation, change in equalized non-residential property valuation, and aggregate household income differences. For Lawrence, Present Need 1993 equals 130 units (77 + 53).

*Prospective Need 1993-1999* is the share of future households of low and moderate incomes allocated to Lawrence Township which will require affordable housing not provided by the normal housing market. The Prospective Need 1993-1999 number is 553 units.

*Present and Prospective Need 1993-1999* together are called *Total Need* and equal 683 units. The Total Need is then added to Prospective Need from the first round, which is 362 units, for a two round cycle (1987-1999) of 1,045 units. This number in turn is modified by several factors intended to account for normal housing market adjustments. These factors are:

*Demolition* which is the number of units that are expected to be removed from the housing stock in the second round. In Lawrence, 9 units are expected to be demolished. This number is added to the two-cycle total.

*Filtering* is an adjustment that assumes over time the typical household will move up in price in the housing market, thereby selling a lower priced house to another household. In turn, the second household sells a still lower priced

house to a third party, and so on. This process of filtering creates housing opportunities for low and moderate income households. Filtering subtracts 75 units from Lawrence Township's total.

*Residential Conversion* is the process of providing affordable housing by the conversion of larger single family homes to two or more dwellings; or, the conversion of previously non-residential buildings to residential uses. Conversion subtracts 12 units from the Township's total.

*Spontaneous Rehabilitation* is the reconstruction of the existing substandard housing stock to meet building and housing code requirements outside of governmental programs. This adjustment is based on per capita income. Spontaneous Rehabilitation removes 5 units from the Township's total.

*Pre-Credited Need* is the sum of all of the preceding components and is equal to 962 units. From this number are subtracted the credits and inclusionary zoning in place to produce affordable housing. Subtracting this number results in a fair share number of 178 additional units for the second round.

#### IMPLEMENTATION OF THE HOUSING PLAN

The Pre-Credited Need affordable housing obligation for Lawrence Township for 1987-1999 is 962 units. As noted above, the Township's prior credit of 161 units (see Table 17) for the construction of Lawrence Plaza reduces this obligation to 801 units.

#### HOUSING REHABILITATION

The maximum number of units which can be addressed through rehabilitation is calculated as follows:

Indigenous Need	77 units
Less Spontaneous Rehabilitation	<u>-5 units</u>
Rehabilitation Component	72 Units

Furthermore, under COAH regulations the Township is entitled to take a credit against this rehabilitation component for every qualified unit that is rehabilitated between April 1, 1990 and the date that the Township receives substantive certification of its next Fair Share Plan (N.J.A.C. 5:93-3.4). Units



are eligible for a credit only if the average capital expenditure is at least \$8,000 and if the unit was and is occupied by a low or moderate income household.

A total of 57 qualified units have been rehabilitated in Lawrence since 1990 through the federal Small Cities Community Development Block Grant Program and the state Neighborhood Preservation Program. These credits reduce the rehabilitation component of the Township's Fair Share Plan to 15 units.

Pursuant to COAH regulations, the Township must provide sufficient funding to meet one-third of this rehabilitation component within one year of substantive certification (N.J.A.C. 5:93-5.2(h)1). At the COAH standard of \$10,000 per unit (which includes the capital cost plus administrative costs), this requirement translates to a funding commitment of \$50,000. Thereafter, the Township must provide sufficient funding for 2.5 units, or \$25,000, per year for the next four years.

Rehabilitation funding may be provided through developer fees collected under the Township's affordable housing fee ordinance or through state and federal programs such as those which financed the prior rehabilitation work.

Deleting this rehabilitation component of 72 units from the fair share obligation of 801 units yields a balance of 729 units.

#### ALTERNATIVE LIVING ARRANGEMENTS

COAH's regulations permit municipalities to receive credit against their housing obligations for qualified units within "alternative living arrangements" (N.J.A.C. 5:93-5.8). Alternative living arrangements include group homes for the developmentally disabled and mentally ill as licensed and/or regulated by the NJ Department of Human Services and residential health care facilities as licensed by the Department of Health. The unit of credit in such circumstances is the bedroom.

Since 1986, four group homes have been established within Lawrence Township, one is under construction and one additional residence has received financing. These homes comprise a total of twenty bedrooms, thus the Township is entitled to twenty credits against its fair share obligation.

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The St. Lawrence Rehabilitation Center constructed a 100 bed residential health care facility on the site of Morris Hall. State licensing requirements mandate that 10%, or 10 of the 100 beds, be used for low income Supplemental Social Income patients. Accordingly, the Township is entitled to ten additional credits against its fair share obligation.

Project Freedom @ Lawrence Township will be constructing a barrier-free independent living facility in the Township. This facility will consist of forty-four (44) one-bedroom units and ten (10) two-bedroom units for a total bedroom count of sixty-four (64). Project Freedom's participants are taken from the "Waiting List" of the Division of Developmental Disabilities in the New Jersey Department of Human Services. Therefore the Township is entitled to 64 additional credits against its fair share obligation.

In total these combined credits of 94 (20 group homes, 10 St. Lawrence Rehabilitation Center and 64 Project Freedom) reduces the Township's 729 unit fair share need to 635 units. <sup>1</sup>

#### REGIONAL CONTRIBUTION AGREEMENTS

The Stipulation of Settlement executed in 1993 for the Yorkshire Village development provided for the inclusion of 98 age restricted inclusionary units to be located in a new 4-story mid-rise apartment building, producing a total of 110 credits towards the Township's Mount Laurel obligation. The Settlement was amended in 1999 to convert the 98 units to market rate, age restricted rental apartments and to provide for a Regional Contribution Agreement with Trenton. The RCA will enable the 98 units to be transferred without age restrictions through a \$20,000 per unit payment to Trenton, funded by Yorkshire Village, LLC. Pursuant to the Agreement, at least 20 of the 98 units are to be new non age-restricted rental units created in Trenton. As a result, the Township has room for 98 more age-restricted units under the 25% cap (see Table 35) and will increase its Mount Laurel credits from 110 to 118 (see Table 38a)". <sup>2</sup>

#### INCLUSIONARY DEVELOPMENT

The Township's remaining affordable housing obligation is satisfied by the various sites which were previously zoned for inclusionary development in the 1987 Fair Share Plan (as amended in 1990 and 1991).

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<sup>1</sup> Revised per Resolution 8-00 on 1/24/00

<sup>2</sup> Revised per Resolution 25-99 on 9/13/99

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Table 31 below, identifies the inclusionary development sites for which preliminary site plan or subdivision approval has been granted and the number and type of affordable housing credit involved.

**Table 31. Built and Occupied Inclusionary Developments, Affordable Housing.**

Development	Sale	Rental	Bonus	Totals
Eagle's Chase	41	0	0	41
Tiffany Woods	12	0	0	12
Stonerise	12	0	0	12
Steward's Crossing	0	36	36*	72
Lawrence Square Village	164	0	0	164
TCR - Town Run West	0	64	64*	128
<b>Totals</b>	<b>229</b>	<b>100</b>	<b>100</b>	<b>429</b>

\* - COAH regulations now permit municipalities to receive rental bonus credit for one full unit for each unit of family rental housing constructed retroactively to those units addressing the 1987-1993 fair share obligation (N.J.A.C. 5:93-5.13). This policy increases the credit from .33 per unit credit previously in effect.

Table 32 lists the approved inclusionary developments.

**Table 32. Approved Inclusionary Developments, Affordable Housing.<sup>1</sup>**

Development	Sale	Rental	Bonus	Totals
Tiffany Woods	12	0	0	12
RFP, Inc.*	0	15	5**	20
TCR - Town Run East	0	31	31	62
<b>Totals</b>	<b>12</b>	<b>46</b>	<b>36</b>	<b>94</b>

\* - Senior citizen development.

\*\* - COAH regulations limit bonuses for senior citizen developments to a .33 per unit credit.

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<sup>1</sup> Revised per Resolution 25-99 on 9/13/99

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In addition, three other sites which are currently zoned for inclusionary development are still realistic and comprise the remainder of the Township's fair share plan. These sites are identified along with projected data regarding their respective capacity for accommodating affordable housing in the table below. All the inclusionary development sites are designated on the Affordable Housing Plan Map, appended.

**Table 33. Inclusionary Development Zoned Sites, Affordable Housing.**

Development	Sale	Rental	Bonus	Totals
SCH (Drive-In)*	40	0	0	40
South Village GDP (TCR)	64	0	0	64
U.S. Land Resources	53	0	0	53
Totals	157	0	0	157

\* - Senior citizen development.

The number of affordable housing units proposed for two of the sites listed in Tables 32 and 33 has been revised since the 1991 amendment to the Township's Housing Element. These changes are described below.

U. S. Land Resources

The 1991 Plan noted that the U.S. Land Resources tract contains 108 acres and is adjacent to the Trammell Crow Residential (TCR) site. Both tracts have a Mixed Use Development (MXD) zoning overlay. The Plan assumed that the U. S. Land Resources site would be developed at a comparable density to the TCR site - 5.28 units per acre - thus yielding a total of 570 dwelling units. The affordable housing set-aside at 20% of the total tract would be 114 units.

In November, 1992, the Lawrence Township Planning Board granted General Development Plan approval to the TCR tracts and the U. S. Land Resources tract. This conceptual plan for U. S. Land Resources calls for the retention of existing commercial development along Quakerbridge Road frontage of the site with multi-family residential development behind. The GDP design includes a total of 264 units on the U.S. Land Resources tract of which 20% or 53 units would be set aside as affordable housing.

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SENIOR CITIZEN HOUSING

COAH regulations limit the proportion of affordable units within a municipality's plan which can be restricted to occupancy by income qualified senior citizens (N.J.A.C. 5:93-5.12). The formula limits Lawrence to 178 senior citizen units, as shown in Table 34 on the following page.

**Table 34. Limitations on Age-Restricted Affordable Housing.**

Pre-Credited Need	962 units
Less 1987-1993 Credits	-161 units
Less Rehabilitation since 1990	-57 units
Less Credits for Alternate Living Beds	-30 units
Total	714 x .25 = 178 units

The Township is within this senior citizen limitation by 123 units as noted in Table 35, below. <sup>1</sup>

**Table 35. Approved and Zoned Age-Restricted Inclusionary Sites. <sup>1</sup>**

RFP, Inc.*	15 units
SCH (Drive-In)	40 units
Subtotal	55 units
Total (Senior Citizen Cap)	178 units
Units remaining under Cap	123 units

\* - Does not include the expected 5 bonus credits.

RENTAL HOUSING

COAH regulations require each municipality to provide for the realistic opportunity for a proportion of its affordable housing to be for rent rather than for sale (N.J.A.C. 5:93-5.13). Lawrence Township incurred a rental housing obligation since its fair share number exceeded 125 units under its 1987-1993

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<sup>1</sup> Revised per Resolution 25-99 on 9/13/99

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Fair Share Plan. Coincidentally, the rental obligation was 125 units. This obligation was set forth in COAH's prior regulations (N.J.A.C. 5:92-14.4(a) & (b)) as 20% of the total. However, pursuant to current COAH regulations this may be increased to 25% as indicated in Table 36.

**Table 36. Rental Housing Obligation, 1987-1993.**

Pre-Credited Need	911 units
Less 1987-1993 Credit	-161 units
Less Rehabilitation Component	-127 units
Subtotal	623 units
Total	623 x .25 = 156 units

Under the current regulations, the Township's prior rental obligation is carried forward and combined with a supplemental obligation of 27 units, calculated as follows:

**Table 37. Rental Housing Obligation, 1993-1999.**

Calculated Need	178 units
Less Rehabilitation Component	-72 units
Total	106 x .25 = 27 units

Thus, the Township's collective rental obligation for its 1987-1999 Fair Share Plan is 183 (27+156) units. At this time the Township's Fair Share Plan includes a total of 146 units of affordable rental housing in projects which have been approved by the Lawrence Township Planning Board and 20 units of affordable housing that have been transferred as part of the Yorkshire Village Regional Contribution Agreement. These projects are set forth in Table 38 and 38a on the following page, along with the bonus units attributable to them (*see* Tables 31-33 for further project information).<sup>1</sup>

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<sup>1</sup> Revised per Resolution 25-99 on 9/13/99

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**Table 38. Inclusionary Rental Sites.**

Project Development	Units	Bonus	Totals
Steward's Crossing	36	36	72
RFP, Inc.*	15	5	20
TCR/Town Run West	64	64	128
TCR/Town Run East	31	31	62
<b>Totals</b>	<b>146</b>	<b>136</b>	<b>282</b>

\* - Senior citizen development.

**Table 38a. Rental Units - Regional Contribution Agreements <sup>1</sup>**

Contributing Project	Non-committed units	Rental Units Committed	Rental Credits	Totals
Yorkshire Village	78	20	20	118
<b>Totals</b>	<b>78</b>	<b>20</b>	<b>20</b>	<b>118</b>

Thus, the Township constructed or approved plans for more than its rental obligation.

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<sup>1</sup> Revised per Resolution 25-99 on 9/13/99

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CONCLUSION

The 1991 Fair Share Plan projected a surplus of affordable housing capacity which would be sufficient to satisfy the post-1993 fair share need. As is evident from this Housing Element, the Township's compliance plan meets and exceeds the additional obligation allocated by COAH for the 1993-1999 period. This fair share compliance is summarized in the following table.

**Table 39. Affordable Housing Compliance Plan Summary. <sup>1</sup>**

<b>1987-1999 Fair Share Obligation</b>	<b>962 units</b>
Credits for pre-1986 Construction	161 units
Credits for Alternative Living Beds <sup>2</sup>	94 units
Rehabilitation Program	72 units
Inclusionary Development - Built Sites	
Affordable Units	329 units
Rental Unit Credits (Table 31)	100 units
Inclusionary Development - Approved Sites	
Affordable Units	58 units
Rental Unit Credits (Table 32)	36 units
Inclusionary Development - Zoned Capacity (Table 33)	157 units
Regional Contribution Agreements	
Transferred Units	98 units
Rental Unit Credits (Table 38a)	20 units
<b>Total</b>	<b>1,125 units</b>
<b>Surplus Over Fair Share Obligation</b>	<b>163 units</b>

<sup>1</sup> Revised per Resolution 25-99 on 9/13/99

<sup>2</sup> Revised per Resolution 8-00 on 1/24/00



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The St. Lawrence Rehabilitation Center constructed a 100 bed residential health care facility on the site of Morris Hall. State licensing requirements mandate that 10%, or 10 of the 100 beds, be used for low income Supplemental Social Income patients. Accordingly, the Township is entitled to ten additional credits against its fair share obligation.

In total these credits reduce the Township's 729 unit fair share need to 699 units.

INCLUSIONARY DEVELOPMENT

The Township's remaining affordable housing obligation is satisfied by the various sites which were previously zoned for inclusionary development in the 1987 Fair Share Plan (as amended in 1990 and 1991).

Table 31 below, identifies the inclusionary development sites for which preliminary site plan or subdivision approval has been granted and the number and type of affordable housing credit involved.

**Table 31. Built and Occupied Inclusionary Developments, Affordable Housing.**

Development	Sale	Rental	Bonus	Totals
Eagle's Chase	41	0	0	41
Tiffany Woods	12	0	0	12
Stonerise	12	0	0	12
Steward's Crossing	0	36	36*	72
Lawrence Square Village	164	0	0	164
TCR - Town Run West	0	64	64*	128
Totals	229	100	100	429

\* - COAH regulations now permit municipalities to receive rental bonus credit for one full unit for each unit of family rental housing constructed retroactively to those units addressing the 1987-1993 fair share obligation (N.J.A.C. 5:93-5.13). This policy increases the credit from .33 per unit credit previously in effect.

Table 32 lists the approved inclusionary developments.

**Table 32. Approved Inclusionary Developments, Affordable Housing.**

Development	Sale	Rental	Bonus	Totals
Tiffany Woods	12	0	0	12
RFP, Inc.*	0	15	5**	20
Yorkshire Village*	0	98	12**	110
TCR - Town Run East	0	31	31	62
<b>Totals</b>	<b>12</b>	<b>144</b>	<b>48</b>	<b>204</b>

\* - Senior citizen development.

\*\* - COAH regulations limit rental bonuses for senior citizen developments to a .33 per unit credit. Yorkshire Village limited to 12 credits based on Table 22.

In addition, three other sites which are currently zoned for inclusionary development are still realistic and comprise the remainder of the Township's fair share plan. These sites are identified along with projected data regarding their respective capacity for accommodating affordable housing in the table below. All the inclusionary development sites are designated on the Affordable Housing Plan Map, appended.

**Table 33. Inclusionary Development Zoned Sites, Affordable Housing.**

Development	Sale	Rental	Bonus	Totals
SCH (Drive-In)*	40	0	0	40
South Village GDP (TCR)	64	0	0	64
U.S. Land Resources	53	0	0	53
<b>Totals</b>	<b>157</b>	<b>0</b>	<b>0</b>	<b>157</b>

\* - Senior citizen development.

The number of affordable housing units proposed for two of the sites listed in Tables 32 and 33 has been revised since the 1991 amendment to the Township's Housing Element. These changes are described below.

### Yorkshire Village

The 1991 Plan proposed 176 units of affordable housing for Yorkshire Village within a proposed development of 880 units. Due to market changes, an expanded wetland delineation and other considerations, the developer reduced the project to a total of 490 units. Of this total, 98 units (20%) will be reserved for senior citizens as a 100% affordable housing building. This revised configuration is incorporated and approved settlement of litigation between the developer and the Township.

### U. S. Land Resources

The 1991 Plan noted that the U.S. Land Resources tract contains 108 acres and is adjacent to the Trammell Crow Residential (TCR) site. Both tracts have a Mixed Use Development (MXD) zoning overlay. The Plan assumed that the U. S. Land Resources site would be developed at a comparable density to the TCR site - 5.28 units per acre - thus yielding a total of 570 dwelling units. The affordable housing set-aside at 20% of the total tract would be 114 units.

In November, 1992, the Lawrence Township Planning Board granted General Development Plan approval to the TCR tracts and the U. S. Land Resources tract. This conceptual plan for U. S. Land Resources calls for the retention of existing commercial development along Quakerbridge Road frontage of the site with multi-family residential development behind. The GDP design includes a total of 264 units on the U.S. Land Resources tract of which 20% or 53 units would be set aside as affordable housing.

### SENIOR CITIZEN HOUSING

COAH regulations limit the proportion of affordable units within a municipality's plan which can be restricted to occupancy by income qualified senior citizens (N.J.A.C. 5:93-5.12). The formula limits Lawrence to 178 senior citizen units, as shown in Table 34 on the following page.

**Table 34. Limitations on Age-Restricted Affordable Housing.**

Pre-Credited Need	962 units
Less 1987-1993 Credits	-161 units
Less Rehabilitation since 1990	-57 units
Less Credits for Alternate Living Beds	-30 units
<b>Total</b>	<b>714 x .25 = 178 units</b>

The Township is within this senior citizen limitation by 25 units as noted in Table 35, below.

**Table 35. Approved and Zoned Age-Restricted Inclusionary Sites.**

RFP, Inc.*	15 units
Yorkshire Village**	98 units
SCH (Drive-In)	40 units
Subtotal	153 units
<b>Total (Senior Citizen Cap)</b>	<b>178 units</b>

\* - Does not include the expected 5 bonus credits.

\*\* - Does not include the expected 12 bonus credits.

#### RENTAL HOUSING

COAH regulations require each municipality to provide for the realistic opportunity for a proportion of its affordable housing to be for rent rather than for sale (N.J.A.C. 5:93-5.13). Lawrence Township incurred a rental housing obligation since its fair share number exceeded 125 units under its 1987-1993 Fair Share Plan. Coincidentally, the rental obligation was 125 units. This obligation was set forth in COAH's prior regulations (N.J.A.C. 5:92-14.4(a) &

(b)) as 20% of the total. However, pursuant to current COAH regulations this may be increased to 25% as indicated in Table 36.

**Table 36. Rental Housing Obligation, 1987-1993.**

Pre-Credited Need	911 units
Less 1987-1993 Credit	-161 units
Less Rehabilitation Component	-127 units
Subtotal	623 units
Total	$623 \times .25 = 156$ units

Under the current regulations, the Township's prior rental obligation is carried forward and combined with a supplemental obligation of 27 units, calculated as follows:

**Table 37. Rental Housing Obligation, 1993-1999.**

Calculated Need	178 units
Less Rehabilitation Component	-72 units
Total	$106 \times .25 = 27$ units

Thus, the Township's collective rental obligation for its 1987-1999 Fair Share Plan is 183 (27+156) units. At this time the Township's Fair Share Plan includes a total of 244 units of affordable rental housing in projects which have been approved by the Lawrence Township Planning Board. These projects are set forth in Table 38 on the following page, along with the bonus units attributable to them (see Tables 31-33 for further project information).

**Table 38. Inclusionary Rental Sites.**

Project Development	Units	Bonus	Totals
Steward's Crossing	36	36	72
RFP, Inc.*	15	5	15
Yorkshire Village*	98	12	110
TCR/Town Run West	64	64	128
TCR/Town Run East	31	31	62
<b>Totals</b>	<b>244</b>	<b>148</b>	<b>392</b>

\* - Senior citizen development.

Thus, the Township constructed or approved plans for more than its rental obligation.

**CONCLUSION**

The 1991 Fair Share Plan projected a surplus of affordable housing capacity which would be sufficient to satisfy the post-1993 fair share need. As is evident from this Housing Element, the Township's compliance plan meets and exceeds the additional obligation allocated by COAH for the 1993-1999 period. This fair share compliance is summarized in the following table.

**Table 39. Affordable Housing Compliance Plan Summary.**

<b>1987-1999 Fair Share Obligation</b>	<b>962 units</b>
Credits for pre-1986 Construction	161 units
Credits for Alternative Living Beds	30 units
Rehabilitation Program	72 units
Inclusionary Development - Built Sites	
Affordable Units	329 units
Rental Unit Credits	100 units
Inclusionary Development - Approved Sites	
Affordable Units	156 units
Rental Unit Credits	48 units
Inclusionary Development - Zoned Capacity	157 units
<b>Total</b>	<b>1,053 units</b>
Surplus Over Fair Share Obligation	91(+) units

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

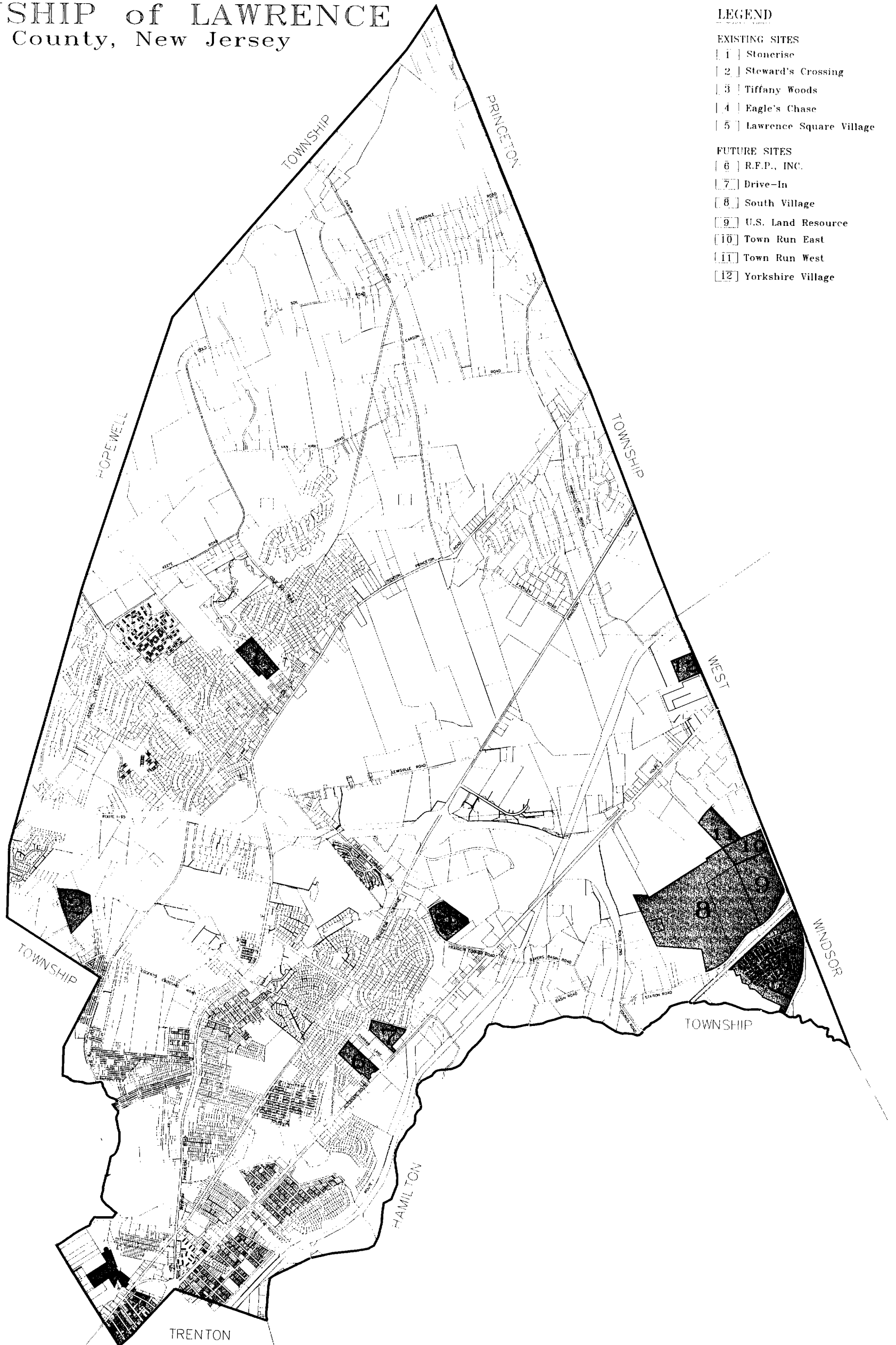
## LEGEND

### EXISTING SITES

- [ 1 ] Stonerise
- [ 2 ] Steward's Crossing
- [ 3 ] Tiffany Woods
- [ 4 ] Eagle's Chase
- [ 5 ] Lawrence Square Village

### FUTURE SITES

- [ 6 ] R.F.P., INC.
- [ 7 ] Drive-In
- [ 8 ] South Village
- [ 9 ] U.S. Land Resource
- [ 10 ] Town Run East
- [ 11 ] Town Run West
- [ 12 ] Yorkshire Village





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# *Utility Element*

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## INTRODUCTION

The Utility Element addresses public infrastructure that supplies potable water, treats wastewater, and manages storm water prior to its discharge into the natural system of streams, lakes, and rivers. Other utilities, such as natural gas supply, electricity distribution and cable television broadcasting are regulated by higher governmental levels and are not included in this Element.

## PUBLIC WATER

Lawrence Township is currently served by the Elizabethtown Water Company, Lawrenceville Water Company and the Trenton Water Utility, a division of the City of Trenton Public Works Department. The franchise areas have been long established and are subject to change only by approval from the local governing body and the New Jersey Board of Public Utilities. Although the franchise areas have remain unchanged since the 1987 Township Master Plan, the boundary of areas actually being served has been extended in some places (*see Water Utility Map*).

The 1987 Township Master Plan notes that the Lawrenceville Water Company needed improvements to its lines and storage capacity. Supplies to Lawrenceville Water Company which originate from groundwater are limited in the franchise area due to limited aquifers. To address these deficiencies, the Elizabethtown Water Company provides a supplemental supply of a minimum of 500,000 gallons a day to the Lawrenceville Water Company through an eight inch interconnection in the area of Laurel Wood Drive and Holly Lane. The Trenton Water Department is also connected to the Lawrenceville Water Company for emergency purposes through a six inch main located at Rider University.

The 1987 Master Plan also noted that the Lawrenceville Water Company had insufficient storage capacity. Since that time the Lawrenceville Water Company has constructed a 1.86 million gallon standpipe on Bergen Street. This supplements a pre-existing 574,000 gallon standpipe which is located on Hamilton Court. The Lawrenceville Water Company has publicly stated that no capacity or pressure constraints now exist within their service area. However, at public meetings conducted as part of the Master Plan process residents of the Lawrenceville Green area noted that pumps installed to boost pressure in their homes when the original problem was identified still operate periodically. This issue requires further study as a foundation for zoning standards for this area.

#### SANITARY SEWERAGE

The entire Township is located within the sanitary sewerage district area of the Ewing-Lawrence Sewage Authority (ELSA). The ELSA Wastewater Management Plan (WMP) includes only Lawrence and Ewing Townships in the WMP "district". The "service area" in which ELSA has agreed to provide wastewater collection and treatment services includes about two-thirds of Lawrence, all of Ewing and a small portion of Hopewell Township which includes Janssen Pharmaceutical and Brandon Farms<sup>1</sup>. Sanitary sewer service to Hopewell Township is limited to 400,000 gallons per day by agreement (dated December 14, 1992) between the municipality and ELSA. Extensions of the sewer service boundary within Lawrence Township must be approved by Township Council and be consistent with this Element and the Mercer County Water Quality Management 208 Plan and 201 Sewer Service Plans (see Sewer Utility Map).

ELSA was required to renew its discharge permit with the New Jersey Department of Environmental Protection (DEP) in 1992. As part of their application, ELSA finalized its Wastewater Management Plan in 1993. The purpose of the WMP is to identify existing and proposed facilities for waste water collection, treatment and disposal within ELSA's service area. The WMP has been officially adopted by ELSA and after approval by DEP will become a part of the County's 208 plan.

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<sup>1</sup> - Hopewell Township tax assessment parcels Block 73; Lots 11, 12, 14, 18, 19, 20, 28 and 119, and Block 76, Lot 1 at the time of the signed agreement with ELSA.

Based on the WMP, the Authority does not plan to increase its treatment and discharge of effluent beyond its current capacity. ELSA is currently permitted by DEP to discharge a monthly average flow of 16 million gallons per day (mgd) into the Assunpink Creek. The 1990 average flow treated by ELSA was 11.2 mgd or 70% of the authorized capacity.

As part of the WMP, Lawrence Township was given the opportunity to review and comment on the report. Lawrence Township hired Omni Environmental Corporation to review the draft WMP and make recommendations to the Council. Omni's review was presented in a report dated July 9, 1991. According to Omni's findings, ELSA's available treatment capacity is adequate to accommodate projected growth in the franchise area through the year 2010. The average flow treated by ELSA had increased by .7 mgd to 11.9 mgd by 1994 which is essentially in line with Omni's projection.

The Lawrence Township Planning Board found the WMP to be substantially consistent with the 1987 Township Master Plan in terms of projected plant capacity, although some modifications regarding the delineation of the sewer service boundary were recommended. The Planning Board adopted Resolution 27-91 recommending that Lawrence Township Council adopt the WMP. However, Lawrence Township has not yet officially endorsed the plan due to an inconsistency between the 1987 Master Plan and the WMP in the area between Princeton Pike and the D&R Canal which is the subject of ongoing litigation.

One of the primary purposes of ELSA's Wastewater Management Plan was the establishment of the sanitary sewer service area. This delineation is significant because it establishes where sanitary sewer service is permitted. The extension of sewer service into non-sewered areas typically generates pressure from the private sector to increase the permitted land use intensity.

However, the appropriate intensity of land use depends upon a multitude of planning factors in addition to the availability of public utilities. Consequently, in order to minimize conflict between the development goals of this Master Plan and the WMP future extension of services is not recommended for those portions of Lawrence that are not now serviced by public sewer and water. It is further recommended that areas served by public water not necessarily be served with public sewer.

Special situations may present themselves which could justify the extension of public or private sewer beyond the current service area and into districts classified as environmental protection in the Land Use Element. In two locations these extensions are recommended. The first of these is the extension of the sewer service area to the proposed school site located at the northwest corner of Keefe and Cold Soil Roads. This site is expected to be approximately 50 acres in size, or sufficient for a Middle School. Public health considerations dictate that a facility of this size be connected to a public treatment system via a line dedicated to school use. The second location is Block 6701, Lots 45-48 in between the Province Hill and Foxcroft developments. Extending the sewer area from the adjacent Province Hill to include this parcel would permit development at a density of one unit per two acres and lot sizes consistent with the two existing neighborhoods. Additionally, the physical connection to the system would be able to utilize existing easements in the Province Hill subdivision.

#### STORMWATER MANAGEMENT AND FLOOD CONTROL

Environmental protection rules requiring the management of storm water have led to the construction of on-site detention basins for each site or subdivision. Detention basins are intended to minimize off-site stormwater runoff, increase on-site and natural infiltration, simulate natural drainage systems, and minimize the off-site discharge of pollutants to ground and surface water. Typically, the responsibility for maintaining detention facilities belongs to homeowner's or condominium associations, or, individual lot owners. Individual basins consume significant areas of open space, however, and need to be frequently maintained so that the benefits of proper storm water management are secured. Inspection of individual facilities may be necessary by Township personnel to ensure proper maintenance, in much the same manner as fire personnel check private property for hazardous conditions.

Regional detention basins provide an opportunity to solve some of these issues by eliminating individual facilities. Reducing the number of basins could consume less open space, centralize maintenance and minimize negative visual impacts. Instituting regional detention facilities could require an inter-municipal or regional entity for implementation. Though the idea of regional storm water management facilities may be difficult to put into practice, its benefits over individual basins and piping are worth pursuing.

There are areas in the Township, particularly properties along Five Mile Run which are experiencing flooding and erosion along stream banks. Periodic monitoring of known problem areas is essential to ensure that stream corridors are preserved, a goal of the Conservation Element through its Greenway Network and one that requires attention as the path system is implemented.




#### SUMMARY OF RECOMMENDATIONS

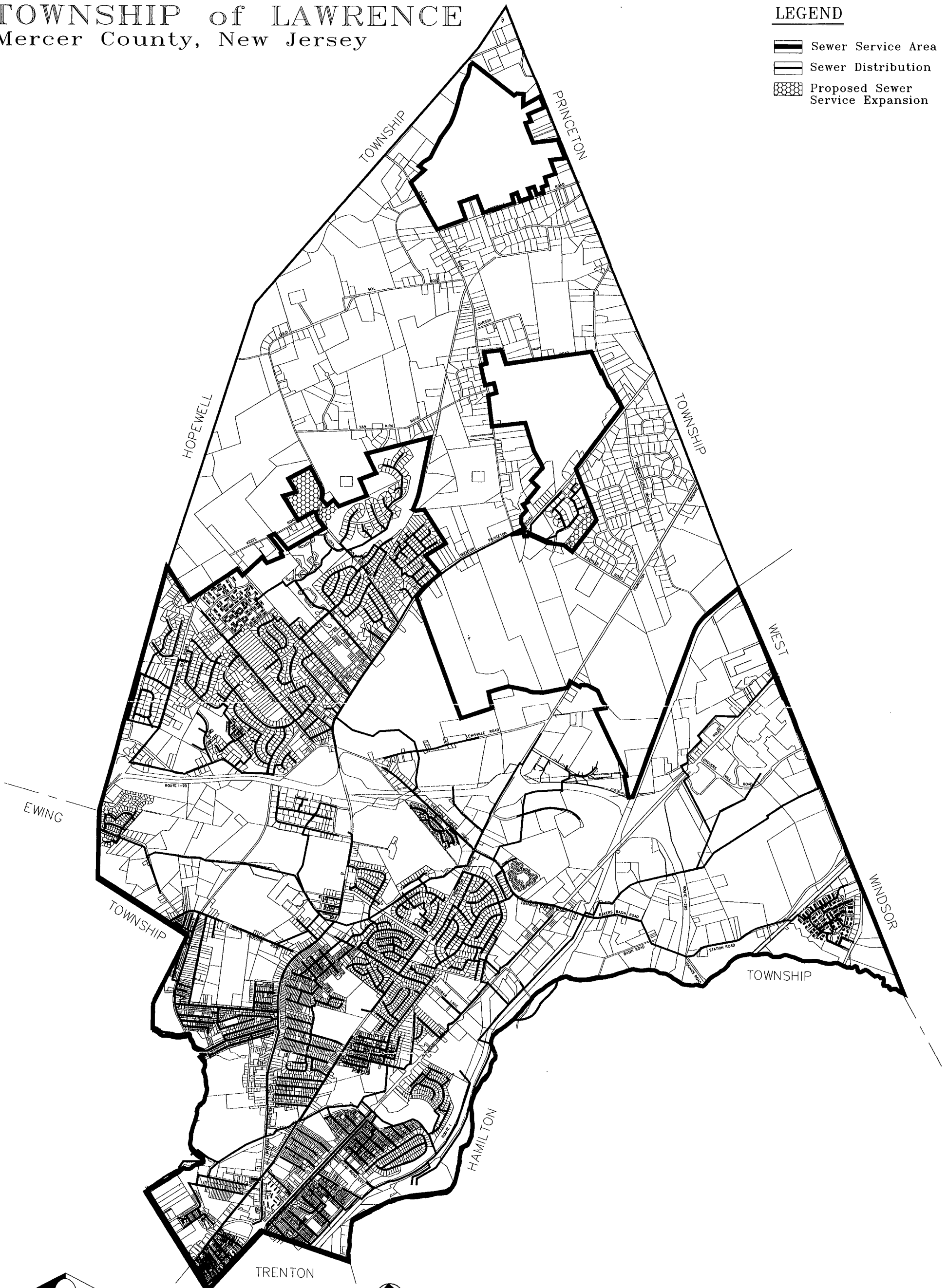
- 1) The provision of infrastructure should be tied directly to the Land Use Element.
- 2) The feasibility of providing regional detention basins in Lawrence Township should be investigated as funding permits.
- 3) Water quality should be maintained at the highest standard permitted by federal and state rules and regulations.
- 4) Lawrence Township should consider initiating an annual septic system inspection program pursuant to N.J.A.C. 7:9A-12.2.
- 5) Development regulations should be adopted which encourage the compatibility of uses and recognize the relationship between land use timing and the provision of public infrastructure, services and facilities.

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND



-  Sewer Service Area
-  Sewer Distribution
-  Proposed Sewer Service Expansion

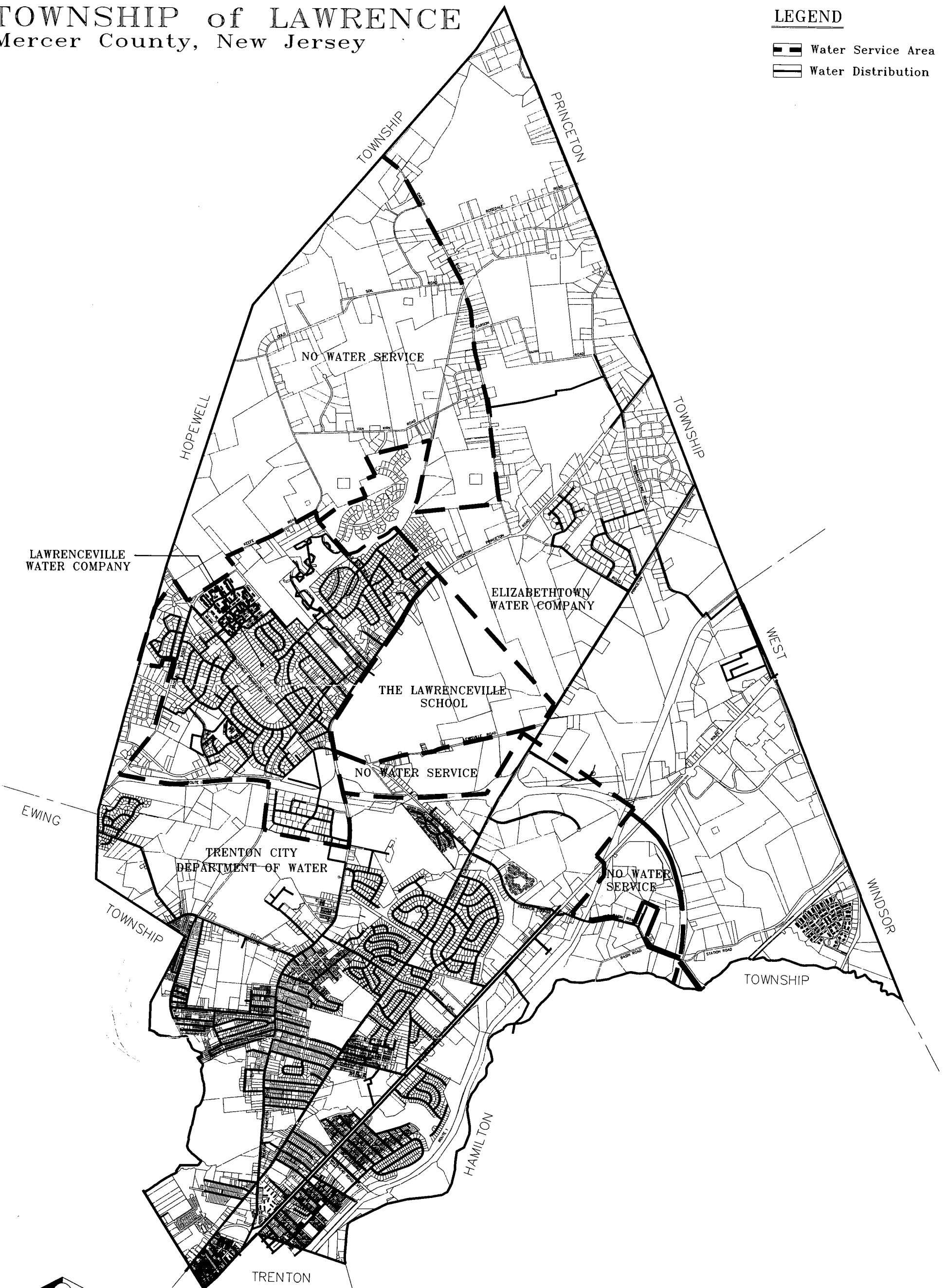


# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  Water Service Area
-  Water Distribution



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# *Circulation*

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## INTRODUCTION

Circulation is the movement of people and goods from one point to another. Efficient circulation is a vital element in the economic growth of the Township. Land use and transportation are inextricably linked. The relationship between the two form a key part in making choices about the intensity of development.

The Circulation Element examines the existing network of vehicular, transit, and pedestrian routes in the Township. An adequate transportation system has always influenced the development and redevelopment of land. In the early history of the country, rivers were the earliest transportation routes, supplemented by trails that connected them. Later, canals, such as the Delaware and Raritan, improved the use of water borne transportation. Later, railroads supplanted canals as the network of choice for moving goods and people. From the earliest days in New Jersey, royal roads to move the mail and tie together county seats were established and influenced the growth of the new colony. Today, the Interstate highway system provides new access to cities and the countryside.

This element will primarily focus on the street and highway network, with secondary emphasis on public transportation and changes in governmental policy that affect local circulation.

## DESCRIPTION OF THE ROAD NETWORK

The jurisdiction of the public road network is divided among state, county, and local governments. In this discussion, federal aid highways, such as Interstate 295 and Route 1 have been placed in the state's jurisdiction since the Department of Transportation (NJDOT) has the responsibility for maintenance and petitioning for capital funds. The private road network, consisting primarily of large multi-family developments, the Quakerbridge Mall streets, and research campuses, also serves some of the same functions as the public



street network, but will not be dealt with in this element.

Table 40 below depicts the total number of miles under each level of government.

**Table 40. Road Miles by Governmental Level.**

<u>Governmental Level</u>	<u>Number of Miles</u>
New Jersey	18.8
Mercer County	16.7
Lawrence Township	<u>91.7</u>
Total	127.2

Though the municipality has the majority of road miles under its jurisdiction, its system accounts for few of the problems encountered in the road system.

Table 41 lists the roads under state and county jurisdiction. These roads primarily function as routes for regional traffic and long distance travel.

**Table 41. State and County Roads.**

NEW JERSEY STATE ROADS: Interstate 95/295  
 Route 1 & Alternate Route 1 (Brunswick Pike)  
 Route 206

MERCER COUNTY ROADS: Rosedale Road  
 Carter Road (Route 569)  
 Quakerbridge Road (Route 533)  
 Princeton Avenue (Route 583)  
 Lawrenceville-Pennington/Franklin Corner/  
 Benjamin Franklin Road (Route 546)  
 Lawrence Station Road (.7 mile from  
 Quakerbridge)  
 Whitehead Road  
 Brunswick Circle Extension  
 Grovers Mill Road

## ROAD CLASSIFICATION FOR EXISTING STREETS<sup>1</sup>

Roads may be classified into several different types based on their design capacity and access function.

PRINCIPAL ARTERIALS are intended to handle large volumes of regional and through traffic. Typically, they are under the jurisdiction of the state. The state usually receives substantial funding from the federal government for their construction and maintenance. Examples are Interstate 295 and Route 1. Highways of this type are intended for volumes of traffic exceeding 25,000 vehicles per day (on an annual basis). The Federal Highway Administration classifies roads into urban and rural types. Lawrence would be considered an urban area. In the urban system, roads are classified into principal arterials, minor arterials, collectors, and local streets. Limited access highways, expressways, and major arterials are all considered Principal Arterials.

MAJOR ARTERIALS are intended to move traffic from municipality to municipality within a region and to provide connections between higher and lower orders of streets. Most of these roads are under Mercer County's jurisdiction but two are owned by the State and one, Princeton Pike, by the Township. Other examples include Quakerbridge Road, a County road, and Rt. 206, a State road. Their average annualized daily traffic (AADT) is 10,000 to 25,000 vehicles. Major Arterials are considered Principal Arterials under the federal system.

MINOR ARTERIALS function in much the same way as major arterials but with lesser volumes of traffic and fewer through routes. They provide a connection between major arterials and residential or non-residential collector streets, as well as providing intra-municipal travel paths. Almost exclusively the province of Mercer County, a few minor arterials are municipally owned. Bakers Basin Road and Carter Road are examples of minor arterials. Township streets that function as minor arterials are simply known as arterials. The intended number of vehicles ranges between 3,000 and 10,000 per day (AADT). Minor Arterials are considered Principal Arterials under the federal system.

COLLECTOR streets are the next lower step in the street hierarchy. Collectors distribute traffic between residential access and subcollector streets and

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<sup>1</sup> Road classifications are based on *Model Subdivision and Site Plan Ordinance*, by David Listokin and Carole W. Baker, Center for Urban Policy Research, Rutgers - The State University of New Jersey, January, 1987

arterial order streets in residential subdivision design. Non-residential collectors also service industrial and business parks by channeling traffic to arterial roads. The Quakerbridge Mall ring road, for example, serves as a non-residential collector. Other examples are Texas Avenue and Gordon Avenue. Collectors are intended to carry up to 3,000 vehicles per day (AADT). Collectors are also considered Collectors under the federal system.

RESIDENTIAL SUBCOLLECTORS distribute traffic between residential access streets and collector roads. This type of street is expected to carry up to 1,000 vehicles per day, but only 500 per loop. As a rule of thumb, single family detached housing generates 10 vehicle trips per day, leading to the design need of a residential subcollector for every 100 houses. Glenn Avenue is an example of a residential subcollector. Residential Subcollectors are considered Local Streets under the federal system.

The lowest order of street is RESIDENTIAL ACCESS, also known as a minor street. The residential access street should be intended for no more than 500 total vehicle trips per day, or 250 for each loop. Specialized forms of residential access streets are cul-de-sacs and rural residential streets. Cul-de-sacs should be limited to 200 vehicles per day. Rural residential streets are designed for low volume roads in an area of large lot suburban residences and agriculture where provisions for on-street parking or storm water channelization to inlets are not necessary. Residential Access streets are considered Local Streets under the federal system.

This classification of roads is consistent with the hierarchy of streets begun in the *1987 Master Plan*. The classification of the road network is depicted on the Circulation Plan map on page 183.

#### RESIDENTIAL STREET DESIGN

Most of the streets that will be built in the future in Lawrence Township will be designed to service new residential development. New residential streets are created as part of the subdivision and development of land. Eventually, almost all of these streets become the jurisdiction of the Township. The Township, then, has an important interest in the design and layout of streets. The Township's jurisdiction is largely confined to intra-municipal traffic. Regional or through traffic is mainly a function of higher levels of government that have their own set of standards. This section of the Circulation Element is intended to address residential street design under the Township's

jurisdiction.

The design of new residential streets in Lawrence significantly continues the policies originally stated in the 1987 Master Plan, in the following form:

**ARTERIAL** - Arterial roads function to handle regional traffic and as such will only rarely be the responsibility of the Township. In some instances, however, new arterial segments may become necessary to correct a deficiency in the road network either from an existing condition or because of concentrated development. Direct access to arterial roadways for access to individual residences is currently prohibited. Lots should be designed with reverse frontages and landscape buffers should be installed between rear yards and the arterial for residential uses. Direct access for commercial uses should be strongly discouraged. As funding permits, new commercial collectors should be developed to provide alternative access to arterials. A minimum right-of-way of 80 feet is recommended to accommodate the provision of shoulders and a clear zone free of fixed obstructions such as trees and utility poles to provide sufficient width for storm water management and snow removal. Additionally, the right-of-way provides a buffer between abutting properties and the flow of vehicles, which may reach heavy volumes. The right-of-way provides sufficient width for the installation of turn lanes at intersections or a continuous median with left turn should such improvement become necessary in the future.

Arterials should be constructed with shoulders ranging in width from 3 to 8 feet, depending on the prevailing traffic volumes and speeds, to ensure their safe use by both bicyclists and motorists. The shoulder also provides a place for vehicles with mechanical breakdowns to park out of the main traffic stream. Where appropriate, rows of street trees should be planted along the street 35 feet from the centerline of the road.

**COLLECTOR** - Like arterial roads, direct access from residential uses to collector streets should not be permitted. The function of collector roads is the free flow of traffic and direct access increases the potential for collisions and turning conflicts. Parking should also be prohibited for the same reason. Reverse frontage lots and landscape buffers should be required, with access being provided from residential subcollectors. A right-of-way of 66 feet is recommended, with a cartway of 26 to 30 feet. Because of lower traffic volumes and speeds on collectors, a 26 to 30 foot wide cartway provides sufficient width to safely accommodate bicyclists and motorists in most situations. Where traffic volumes in excess of 2,000 vehicles per day (AADT) or where the percentage of trucks are anticipated to be greater than 10% of all

vehicles, a 32 foot wide cartway may be necessary. The 66 foot width of the right-of-way is necessary to allow an adequate separation of motorized vehicles using the cartway from sidewalks, bikeways, and utility poles. Street trees may be planted closer to the curblin on collector streets than arterials because of their lower design speed. A maximum of 25 feet from the centerline of the road to create a tree canopy is preferred.

**SUBCOLLECTOR** - Subcollectors may provide limited access to residential lots. Subcollectors should serve as interconnections between neighborhoods in order to facilitate an interconnected grid for the community. Subcollectors should be designed to reduce their use as shortcuts and with a design speed not to exceed 25 miles per hour. In addition, techniques for the reduction in the speed of traffic, commonly called "traffic calming" measures, should be employed as appropriate. The cartway of subcollectors should not exceed 30 feet if parking is permitted or 22 feet if parking is prohibited. The narrower width requires road grading 30 feet wide but with a natural drainage system. Curbing and guttering would be eliminated in this instance. Stub streets for subcollector connection to future development should be encouraged.

**ACCESS OR LOCAL** - As many lots as possible should front on access streets. Access streets should primarily carry traffic that has an origination or destination on the street itself. The right-of-way should be 50 feet wide, with a typical paved cartway of 28 feet. Rural residential streets that are intended to be low volume access streets and to preserve desirable aesthetic characteristics need to be no wider than 18 feet but graded to 24 feet. Rural residential streets should be limited to the EP-1 and EP-2 land use areas.

Cul-de-sacs, another specialized access street, should have the same width standard as a typical access street with a turn around radius of at least 38 feet at the end, in a right-of-way with a 50 foot radius. Stub streets on local streets, unless they are provided to a future section of an existing development, should not be permitted. Cul-de-sacs and loop streets should be limited because of their promotion of vehicle trips and the restrictions they place on pedestrian movement. Cul-de-sacs also create municipal service difficulties with trash pick up and snow removal. Where cul-de-sacs and loop streets are constructed, pedestrian and bicycle linkages should be required with a minimum of an 8 foot wide paved path to accommodate both types of users.

**SIDEWALKS AND BIKEWAYS** - Pedestrian sidewalks along arterials and collectors should be separated from use by bicyclists. Bicycle commuters along arterial roads move at speeds up to 30 miles per hour and present a danger to

pedestrians using the same system. More leisurely recreational cycling on local streets should use the cartway. The lower design speeds and the speed of traffic on local streets permit bicyclists and motorists to use the same cartway.

These right-of-way classifications provide a reasonable set of standards for the design of new streets in the municipality.

#### IDENTIFICATION OF PROBLEM AREAS

The continuing development of Lawrence and surrounding communities has increased the number of people and goods that must be moved on the street network. Roads that were previously uncongested have become increasingly busy. Delays at intersections have become longer. Demographic factors such as the decrease in household size and the increase in two-earner households have added to the number of vehicles on the road.

Recognizing that mobility is an important quality of life factor in Lawrence, the Township commissioned a traffic study of 45 key intersections. The study, performed by Orth-Rodgers & Associates, Inc. in several working papers from 1991 to 1993, had a two-fold purpose; 1) to identify current problems, and 2), to anticipate new congestion points based on the full development of vacant or agricultural parcels under the existing zoning regulations. The focus of the study was on intersections since congestion typically occurs where roads cross. As vehicles are added to a roadway, it is intersections where delay occurs; backing up vehicles in the road segments between intersections.

The analysis of existing conditions included traffic counts at peak hours, accident rates, intersection and road segment design, and signalization. The study intersections with the twenty highest morning peak hour volumes are shown in Table 42, as follows:

**Table 42. Morning Peak Hour Volumes.**

<u>Intersection</u>	<u>Volume</u>
Route 1 & Franklin Corner/Baker's Basin Road	5,149
Quakerbridge Road & Clarksville Road	3,083
Princeton Pike & Lenox Drive	3,078
Route 206 & Lawrenceville-Pennington Road	2,736
Princeton Pike & Spruce Street	2,705
Princeton Pike & Franklin Corner Road	2,610
Quakerbridge Road & Village Road	2,571
Princeton Pike & Province Line Road	2,300
Whitehead Road Ramps (from Rt. 1)	2,264
Princeton Pike & Lewisville Road	2,257
Princeton Pike & Access Road	2,218
Princeton Pike & Fackler Road	2,176
Route 206 & Carter Road	2,167
Route 1 Alternate & Slack Avenue	2,078
Route 1 Alternate & Whitehead Road	2,046
Route 206 & Province Line Road	2,015
Route 206 & Vanderveer Drive/Rider University	1,997
Route 206 & Cold Soil Road	1,924
Route 206 & Darrah Lane	1,904
Spruce Street & Tiffany Woods Drive	1,826

Source: Orth-Rodgers & Associates, Inc., *Township-Wide Traffic Study, Working Paper No. 1*, October 1, 1991 Table I

The twenty highest traffic volumes in the evening peak hour are listed in Table 43 on the following page.

**Table 43. Evening Peak Hour Volumes.**

<u>Intersection</u>	<u>Volume</u>
Route 1 & Franklin Corner/Baker's Basin Road	5,501
Quakerbridge Road & Clarksville Road	3,879
Princeton Pike & Spruce Street	3,567
Quakerbridge Road & Village Road	3,522
Route 1 Alternate & Slack Avenue	3,187
Princeton Pike & Franklin Corner Road	3,175
Route 1 Alternate & Whitehead Road	2,732
Route 206 & Lawrenceville-Pennington Road	2,662
Princeton Pike & Access Road	2,618
Route 206 & Gedney Road/Lawn Park Avenue	2,560
Princeton Pike & Province Line Road	2,557
Princeton Pike & Gedney Road/Texas Avenue	2,537
Route 1 Alternate & Darrah Lane	2,488
Princeton Pike & Darrah Lane	2,472
Princeton Pike & Lenox Drive	2,467
Route 206 & Vanderveer Drive/Rider University	2,306
Route 206 & Princeton Pike	2,207
Spruce Street & Arctic Parkway	2,137
Princeton Pike & Fackler Road	2,105
Spruce Street & Tiffany Woods Drive	2,076

*Source:* Orth-Rodgers & Associates, Inc., *Township-Wide Traffic Study, Working Paper No. 1*, October 1, 1991 Table II

Another indication of traffic congestion and design problems at intersections and road segments is illustrated by the annual list of accident reports compiled by the Township Police Department. The locations with the highest number of accidents at intersections and the highest on road segments for the year 1994 and 1992 are noted in Table 44 on the following page.



**Table 44. 1994 Highest Accident Locations.**

<u>Intersection Location</u>	<u>Number of Accidents</u>	<u>1992 Rank</u>
1) Route 1 & Franklin Corner Road	42	1
2) Route 1 & Quakerbridge Mall Overpass	35	2
3) Route 1 & I-295	35	4
4) Brunswick Avenue Traffic Circle	34	3
5) Rt. 206 & Lawrenceville-Pennington Road/ Franklin Corner Road	31	5
6) Route 1 and Baker's Basin Road	29	6
7) Alternate Route 1 & Whitehead Road	26	7
8) Princeton Avenue & Mulberry Street	21	10
9) Alternate Route 1 & Texas Avenue	18	N/R
10) Alternate Route 1 & Spruce Street	18	N/R

N/R = not ranked

<u>Road Segment Location</u>	<u>Number of Accidents</u>	<u>1992 Rank</u>
Route 1 & Franklin Corner Road	26	1
Route 1 & Quakerbridge Mall Overpass	24	2
Route 1 & I-295	21	3
Alternate Route 1 & Bakers Basin Road	18	N/R

N/R = not ranked

*Source:* Memorandum No. 95-48, February 8, 1995, Lawrence Township Police Department, John H. Prettyman, Chief of Police

The elimination of the intersection of Route 1 with the New Jersey Motor Vehicle Agency inspection station in 1994 just north of Interstate 95/295 removed a location that consistently scored in the top ten highest accident rankings.

**PROPOSED SOLUTIONS: IMMEDIATE ACTIONS<sup>2</sup>**

Based on the traffic volumes, accident rates and observations, an immediate plan of action was developed of low cost options for improving congestion points. The plan does not constitute a panacea since a number of the most congested intersections will require the addition of new turning lanes, new traffic signals and other capital intensive projects. The locations where immediate steps could be taken were identified as:

- 1) Princeton Avenue and Spruce Street - Leftmost westbound lane on Spruce Street should be striped as left turn only lane. (jurisdiction Mercer County)
- 2) Route 206 and Princeton Pike - Retiming of signals to give more time to Princeton Pike traffic. (jurisdiction NJDOT and Lawrence Township)
- 3) Route 206 and Cold Soil Road - Restriping of Rt. 206 to permit left turn lane to Cold Soil Road provided there is sufficient cartway, without widening. (jurisdiction NJDOT)
- 4) Route 206 and Eggerts Crossing Road - Improve the signal timing to allow for more time for southbound Rt. 206 traffic. (jurisdiction: NJDOT)
- 5) Princeton Avenue - Restripe to reduce travel lanes to one in each direction with a center left turning lane. (jurisdiction: Mercer County)
- 6) Princeton Pike - Restripe to define one travel lane in each direction between Darrah Lane and Franklin Corner Road. (jurisdiction: Lawrence Township)
- 7) Darrah Lane - Restripe to define one travel lane in each direction between Rt. 206 and Alternate Rt. 1. (jurisdiction: Lawrence Township)

Striping improvements to Princeton Pike and Province Line Road and removal of vegetation and reconfiguring of the parking lot at the intersection of Lawn Park Avenue and Route 206, noted in the traffic study, have already been completed.

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<sup>2</sup> More detailed information may be found in the draft *Lawrence Township: Township-wide Traffic Study: Recommended Improvements*, by Orth-Rodgers & Associates, Inc., March 24, 1993.

#### POTENTIAL SOLUTIONS: FUTURE ACTIONS

Traffic movements through both signalized and unsignalized intersections are classified according to "Level of Service", rated from A to F. For signalized intersections, levels of service refer to the average length of delay for a vehicle approaching the intersection to proceed through it. For unsignalized intersections, the level of service classification is based on the reserve capacity of the roadway. As a matter of policy for the study, the Lawrence Township Growth Management Committee established a Level of Service D objective for all approaches and movements through an intersection (ie., through, right-turn, and left turn for each "leg" of the intersection). For signalized intersections, this means an average delay ranging between 25.1 to 40 seconds with noticeable congestion. Unsignalized intersections at a Level of Service D have a reserve capacity of 100 to 199 vehicle trips, based on the *1985 Highway Capacity Manual* published by the Transportation Research Board.

The recommendations for future capital improvements at intersections are based on projected development of vacant and agricultural areas in accordance with established zoning districts. Obviously, if land development intensities are significantly increased, then additional improvements will be necessary. Conversely, if new technology or social patterns develop reducing the use of private vehicles, then lesser improvements will suffice.

The expected traffic generation from each of the land uses, plus expected background increases (from development in other jurisdictions based on historical trends), were assigned to various traffic arteries using well established computer modelling techniques. Next, the capacity of the roadways and intersections were compared with expected traffic. Then from this analysis, recommendations were made for improvements. In some instances, the Township's goal of a Level of Service D was not met, though the recommended improvements will greatly facilitate traffic movement into the foreseeable future. These recommendations are as follows:

- 1) Province Line Road and Rosedale Road - Potential future signalization. This intersection will be monitored for traffic increases by the Educational Testing Service as part of a condition of site plan approval in 1994. (jurisdiction: Lawrence Township and Mercer County)
- 2) Route 206 and Province Line Road - Periodically review signal timing to optimize traffic movements. (jurisdiction: Lawrence Township and NJDOT)

- 3) Princeton Pike and Province Line Road - Reconstruction and roadway widening on all four approaches with separate left-turn and through lanes. (jurisdiction: Lawrence Township)
- 4) Route 206 and Lawrenceville-Pennington Road - A major improvement has been proposed by NJDOT for this intersection to allow for better traffic movement separation, increases in through-lane capacity, and greater vehicle stacking for turning movements. Proposed improvements must have an acceptably low impact on the Lawrenceville historic district.. (jurisdiction: Mercer County and NJDOT).
- 5) Princeton Pike and Lewisville Road - Directly align Lewisville Road and the IMO Industries driveway and signalize the intersection. (jurisdiction: Lawrence Township)
- 6) Quakerbridge Road and Grovers Mill Road/Clarksville Road - Add another southbound Quakerbridge Rd. through lane, allow through movements in the right turn lane on Grovers Mill Rd., improve signalization. Grovers Mill Road, proposed as an extension in the Orth-Rodgers report, has been improved to Rt. 1 by the State. Grovers Mill Road is a County Road. (jurisdiction: NJDOT and Mercer County)
- 7) Quakerbridge Road and Lawrence Square Boulevard/Village Road - Add left turn lanes on Lawrence Square Boulevard South and Village Road in West Windsor Township for vehicle movements onto Quakerbridge Road and improve signalization to add left turn arrows. (jurisdiction: Mercer County, Lawrence Township and West Windsor Township)
- 8) Princeton Pike Collectors - Construct new collector streets, including overpasses, to serve the office developments along Princeton Pike between Lewisville Road and Franklin Corner Road. A special improvement or transportation district to fund improvements should be considered. (jurisdiction: NJDOT and Lawrence Township)
- 9) Route 1 Collectors - Reduce the number of access points on the portion of Route 1 north of Interstate 95/295 by implementing a series of commercial collector streets to interconnect commercial properties. (jurisdiction: NJDOT and Lawrence Township)

Coordination between local, county, and state officials is crucial to implementing the recommendations incorporated here and is more important

now than in the past. All levels of government have constrained resources and cooperative ventures among government and the private sector will have a better chance of succeeding both for funding solutions and in acting in a timely manner to address needed improvements.

#### OTHER PROPOSED OR COMPLETED IMPROVEMENTS AND ROADS

##### NEW JERSEY DEPARTMENT OF TRANSPORTATION

Several notable improvements are planned or under construction by NJDOT and Mercer County. Over the next several years, Route 1 will be improved by adding additional lanes, grade separated intersections, better signalization, and the removal of safety hazards. Most of these improvements will be north of Lawrence. One major improvement that has been constructed, is the extension of Grovers Mill Road from its terminus near the Quakerbridge Mall to Route 1, thereby creating a partial loop. This has enabled NJDOT to eliminate the traffic signal to the Motor Vehicle Agency on Route 1. This will provide easier access to the Agency from West Windsor Township and points further north and east via Clarksville and Quakerbridge Roads. The traffic signal entrance has also been the site of numerous traffic accidents which are expected to be reduced with this improvement. This improvement was depicted on the 1987 Circulation Plan map. The 1987 Plan also showed the grade separation of Rt. 1 and Quakerbridge Road. This improvement was constructed in 1988-89.

NJDOT has planned and designed major intersection improvements for the intersection of Route 1 and Franklin Corner Road/Bakers Basin Road. This intersection has the highest traffic volume and highest accident rate in the Township and is the top priority for improvement in the NJDOT Region 3 area. Right-of-way acquisition is expected to begin in mid-1995 and construction is expected to be completed in 1998.

##### MERCER COUNTY

Mercer County is facilitating the construction of a second bridge over the Delaware and Raritan Canal in the Port Mercer area. Currently, Province Line Road has several sharp turns between Princeton Pike and Route 1. The new bridge would cross the canal from its west side to a new road that would pass through the proposed Yorkshire Village development and connect with Nassau Park Boulevard (in West Windsor Township) at Province Line/Quaker

Bridge Road. The new bridge would be about 1,370 feet south of the existing bridge. These improvements are being almost entirely paid by developers. The bridge and new road segment are expected to be completed by early 1996. This improvement was depicted on the 1987 Circulation Plan map.

Two recommendations of the Orth-Rodgers report have been or are near completion. The first of these is the intersection of Carter Road and Rosedale Road which was improved with the construction of separate turning lanes (excepting the right turn northbound on Carter Road) and improved signalization. Secondly, the intersection of Lawrenceville-Pennington Road and Keefe Road/Federal City Road has been reconstructed for signalization. Installation of the traffic signal is imminent.

Mercer County is also expecting to install a traffic signal at the intersection of Mulberry Street and Princeton Avenue to facilitate movements from the farmer's market.

#### NEW ROAD SEGMENTS AND ALIGNMENTS

Proposed new road segments and alignments are depicted on the Circulation Plan map (p. 183) and generally continue the recommendations of the 1987 Master Plan. Two proposed road segments identified in the 1987 Plan have been constructed in the interval. These include the extension of Gordon Avenue from Bergen Street to Village Park and the extension of Bergen Street northeast from Cold Soil Road. Three of the 1987 recommended realignments have been constructed. These are the realignment of Keefe Road with Federal City Road at Lawrenceville-Pennington Road, the straightening of a jog in Cold Soil Road near Terhune Orchards, and the reduction of a sharp curve on Bunker Hill Road.

Three areas were depicted for additional collector streets in the 1987 Master Plan. These include the area behind Quakerbridge Mall, the area behind Mercer Mall, and a connector between Strawberry Street and Whitehead Road along the railroad line. All of these new collector streets are proposed to be continued with this Element, except for the elimination of the connection through Yorkshire Village to Rt. 1 at the new Grovers Mill intersection. This route would require a substantial wetlands crossing and incur high condemnation costs for the intersection with Rt. 1. It would also require the re-installation of a traffic signal on Rt. 1 in the location where the signal was removed in 1994.

Two additional alignments are proposed to be continued in this Circulation Element on Keefe Road and Cold Soil Road. The first of these is the jog of Keefe Road at Yeger Drive that should be eliminated by constructing a new "S" segment through Block 6101, Lot 7. Yeger Drive should be continued to the new Keefe Road segment and the old cartway removed from Block 6201, Lots 40 and 41 where it is located in a temporary right-of-way. Block 6101, Lot 7 is proposed to be acquired by Mercer County for open space purposes (see Conservation Element). Both of these improvements should be funded by Mercer County as part of their open space development. The proposed new County open space is planned to be used for active and passive recreation. The County conceptual plan for this land proposes two park entrances in Lawrence. The first entrance is proposed to be located at the intersection of Keefe Road and Yeger Drive. The second entrance is proposed at the intersection of Cold Soil Road and Van Kirk Road. The County conceptual plan lastly proposes a trailhead on Keefe Road where Gordon Avenue is proposed to be extended.

The second realignment is at the intersection of Keefe Road and Cold Soil Road. As part of the Kingsbrook development, Ashleigh Drive was proposed to be extended to create a four-legged intersection with the realignment. Consideration in the alignment of this intersection will have to be given for the proposed school site on a portion of Block 6101, Lot 4; the residential property located on Block 6201, Lot 1; and any change in traffic flow which may be anticipated from the development of the new County park.

One additional extension has been depicted on the Circulation Plan map showing the connection of Kings Road to Princess Avenue through the Princeton South Development that is expected to be constructed with private funding as part of Phase V of that project.

## **ROUTE 1**

Route 1 encompasses several different roadways and functions in the Township from limited access highway to commercial boulevard. The road has four distinct segments. Route 1 from its intersection with Interstate 95/295 northward to the West Windsor boundary is a four to six lane divided highway. Highway access occurs from interchanges, controlled access points at shopping centers, and from individual lots. This area generally includes the newest retail complexes in the municipality. The decision to abandon the construction of Interstate 95 from the Trenton metropolitan area north has increased the use of Route 1 in this segment. The New Jersey Department of Transportation

has instituted a series of improvements to handle the additional through traffic as well as growth along the corridor. These have included the removal of the traffic signal and jughandle at the Motor Vehicle Inspection Station, the grade separation of the Quakerbridge Road intersection, the replacement of the Dinky Line railroad bridge in West Windsor, the grade separation of the Scudders Mill Road intersection in Plainsboro and the new bridge over the Amtrak main line in North Brunswick. Other improvements are also planned.

The second segment runs from Colonial Lake north to the Interstate. Route 1 in this area is a four lane divided highway with left turns accomplished by the use of jughandles. Direct access to the highway is common in this segment of the highway. The land uses are primarily retail though generally older than the more northern segment of the road. Route 1 branches off in this segment to become the Trenton Freeway, a limited access highway beginning just north of Darrah Lane and running through the southern boundary of Lawrence and south to the Morrisville Bridge over the Delaware River. This is characterized as the third part of Route 1.

The last segment is the portion from the Brunswick Circle to Colonial Lake characterized by a five lane highway with left turning movements from the center lane. The land use pattern is generally one of small lots with interspersed commercial and residential uses. This is the oldest section of the roadway.

Alternate Route 1 was designed to handle greater volumes of traffic than it now does because the Trenton Freeway has siphoned off a significant amount of the regional traffic. Alternate Route 1 handles about the same level of traffic as Rt. 206, a two lane road with occasional dedicated left hand turn lanes (about 22,000 trips per day). Two processes in the state Highway Access Management Code may be used to propose a reduction in the size of the cartway and the establishment of a grassed median, preferably with trees, in order to create a commercial boulevard streetscape throughout this southern segment of the highway.

The first process would be to propose a different access level thereby permitting a cartway design of the street more appropriate for the commercial boulevard. Route 1 has been classified as access level 3 for its entire length, even though the portion between the Trenton boundary and Brunswick Circle is more appropriately an access level 6 and the section between the Circle and Colonial Lake is similar to access level 4. Once the access level is revised, then an access management plan based on the new access classification could be



prepared.

The access management plan is a joint effort between NJDOT and the municipality (or a county) to create a detailed set of drawings that indicate proposed access from individual sites to the state highway network. In effect, the highway access is pre-planned by relating the expected density of development, lot size, and lot frontage with the access level, design speed, and ultimate highway width assigned by NJDOT. It may provide a method for the Township to design its own desirable typical section (DST), which is the name NJDOT gives to the different types of cartway in the state highway network. If this were to occur, then the Township would be able to create a more pedestrian-oriented, aesthetically pleasing streetscape along the Route 1 corridor, an objective of the Master Plan since its 1987 adoption.

#### SCENIC ROADWAYS

In part, the physical character of Lawrence is determined by views from the street. The design of the street itself, the openness of the land, the terrain, and the type of vegetation found along the roadway are all aspects that contribute to the character of the Township. Some streets, such as Van Kirk Road, retain their rural character. The scenic value of some streets is also enhanced by their historical nature. Rt. 206 in the Lawrenceville Historic District, for instance, is defined both by its physical characteristics as well as its historic nature. Scenic roadways promote aesthetic values in Lawrence and enhance the Township's image. The Planning Board should develop specific standards for scenic roadways in the Land Development Ordinance and create a set of criteria whereby such roads may be designated.

#### GREENWAYS

The Township proposes the establishment of a Greenway Network to provide connected open space, retention of environmentally sensitive and ecologically important lands, and for recreational purposes (see Greenway Network Map in the Conservation Element). The Greenway Network encompasses part of the Conservation and Community Facilities Elements in addition to this Element. Greenways typically encompass the stream and floodway corridor but may include adjacent upland areas. All of the larger park and open space tracts owned by Lawrence Township have streams flowing through or bordering them. Establishing greenways along stream corridors would allow

the creation of an interconnected passive recreation system through the Township that would provide a natural counterpoint to the built environment characterized by the street network. Portions of the Greenway Network also include parts of the street network where it is impractical to utilize a stream corridor.

Since greenways by definition encompass environmentally sensitive lands, the institution of a trail system must be designed to minimize disturbance. Most stream corridors in the municipality also support adjacent wetlands within the flood plain. The construction of a trail system will likely require obtaining a New Jersey Department of Environmental Protection general permit to traverse wetlands or transition buffers.

Recreational bikeways are proposed as part of the Greenway Network. Bikeways are intended to be hard surfaced paths or paved streets. Bikeways are not intended to be constructed, except for incidental crossings, through environmentally sensitive lands. Paths that follow stream corridors are intended for pedestrian use rather than as bikeways unless sufficient upland area is available for the trail. Paths for passive recreation would be constructed of natural materials to meet the State's general wetlands permit requirements.

One portion of the paved system deserves particular mention because of the necessary coordination that would be involved. An overpass for southbound traffic to and from the Quakerbridge Mall exists in a location that could potentially provide a connection over Route 1 for pedestrians and bicyclists. A ten foot wide bridge may be able to be attached to the south side of the overpass to bridge Route 1. This would provide direct access to the Mall from the west and in the other direction to the D&R Canal. The Yorkshire development to the west includes a dedicated ingress and egress easement to the public street network that could connect to a ramp and bridge over Route 1. This project would involve the mall owner and NJDOT as well as the Township.

#### **PUBLIC TRANSPORTATION**

For a suburban community, Lawrence Township has a substantial amount of public transportation available, including five local bus routes, regional commuter bus routes, airport connection buses, and at the Mercer County Airport in Ewing, commuter shuttle services. New Jersey Transit bus routes are located within 1,000 feet of most residents of the Township. These routes

include the following:

- 600 Express service between Plainsboro and Trenton, including a stop at the Quakerbridge Mall.
- 603 A local route from Trenton to the Mercer Mall and Quakerbridge Mall shopping centers via Brunswick and Princeton Pikes. This route serves the Lawrence Shopping Center, Lawrence High and Middle Schools, and the Princeton Pike Corporate Center.
- 605 A local service to the Quakerbridge and Mercer Malls from Princeton and Montgomery Townships via the Market Fair shopping center and Canal Point Road. This service may be extended to Hillsborough or Somerville in the future.
- 606 A local route from Mercerville to Trenton and Princeton via Route 206 in the Township. This service provides access to the Trenton Train Station on Clinton Street and in Princeton provides a connection to the Suburban Transit service to Hightstown and New York City.
- 609 A local service from the Quakerbridge Mall to Trenton via Quakerbridge Road and Mercerville.

New Jersey Transit is operating an experimental WHEELS service that provides shuttle vans between Lawrenceville Green and the village of Lawrenceville to the Princeton Junction Train Station. This service requires an advance reservation. Taxi service is available through companies in Trenton and Princeton. Lastly, the Princeton Airporter provides airport shuttle service operating from Palmer Square in Princeton.

Three rail stations in the vicinity provide commuter service. The Trenton railroad station provides service on New Jersey transit trains to both Philadelphia and Newark. At Newark, connections to PATH trains provide service to New York City. The Trenton rail station is also the local stop for Amtrak national service. A recently opened parking garage associated with the rail station has increased the use of the station. Princeton Junction, located in West Windsor Township provides similar train service as the Trenton rail station, though with less frequent Amtrak service. The third station is the West Trenton rail station in Ewing Township that provides SEPTA service to downtown Philadelphia and connection with Amtrak trains. New Jersey Transit is in the process of building a new rail station at the Sloan

Avenue exit of Interstate 295 in Hamilton Township to provide more easily accessible service to the New Jersey Transit rail system.

#### MERCER COUNTY TRANSPORTATION DEVELOPMENT DISTRICT

Mercer County created a Transportation Development District (TDD) under the Transportation Development District Act of 1989 that permits the assessment of fees on development for off-tract transportation improvements in a defined area. The district was approved by the County in December, 1992 and includes parts of Ewing, Hopewell, and Lawrence Townships. It extends from the Mercer County airport east to Federal City Road, with Pennington-Washington Crossing Road/Lawrenceville-Pennington Road roughly corresponding to the northern boundary, and Upper Ferry Road the southern boundary. Interstate 95/295 runs through the center in an east/west direction. A small portion of Lawrence is included in the district.

The largest effect from the district will be the traffic impact that comes from the extension of Denow Road. Denow Road currently extends into the Hovnanian development from Denow Road's intersection with Federal City Road. Eventually the extension will connect to Reed Road. The extension will create a new arterial road to the north of the Interstate to service existing and proposed office developments. The extension of Denow Road will provide easier access from Ewing and Hopewell Townships to Princeton Pike, Route 206, and Route 1.

#### STATE HIGHWAY ACCESS MANAGEMENT CODE

The New Jersey Department of Transportation adopted a Highway Access Management Code in April, 1992 that applies to all of the roads under their jurisdiction. In Lawrence these include Interstate 95/295, Route 1, and Route 206. The access code is intended to balance the competing demands for access to state highways and to move people and goods efficiently. Each state highway segment has been classified, with Interstate roads the most restricted. The access level determines the spacing requirements of new driveways that intersect the state road. The Department of Transportation is promoting the use of shared driveways, access to secondary streets that intersect with state highways, and interconnected parking lots. These design techniques are ones that have been encouraged in the past in the Township and contribute to the consistency of the circulation element with the state highway access management code. A continuation of this policy is recommended.

## FEDERAL ACTIONS THAT AFFECT CIRCULATION

Two major federal legislative initiatives have occurred that will affect the movement of people and goods in the future. The first of these is the 1990 amendments to the Clean Air Act. In New Jersey, almost the entire state is in non-compliance with the air standards for ozone and carbon monoxide set in the original 1970 Act. Motor vehicles account for about 50% of ozone emissions and about 90% of carbon monoxide emissions. Employers with 100 or more employees will be required to reduce the number of single occupant vehicles (SOVs) arriving at their workplaces. Though there have been recent efforts at the national level to make employer trip reduction voluntary, state law requiring mandatory reduction would remain in effect. Plans to implement these reductions are due in the fall of 1995. This requirement has increased interest in transportation demand associations (TMAs) such as the Greater Mercer TMA and other demand reduction techniques. The initial aim is to reduce the number of passenger vehicles on the road by 15% with greater reductions by the end of the decade.

The supply side approach to building new roads and increasing the capacity of existing roads has been shown to have its limitations in fiscal, political, and social constraints. The focus on reducing congestion has shifted to reducing the demand for more road capacity at peak times. Demand management includes such techniques as flexible and staggered work hours to reduce peak use of the road network, car and van pooling, telecommuting, bicycling, and walking. Reducing the demand for more road capacity may include the institution of a trip reduction ordinance by a municipality, creating TMAs, private or public subsidies to use mass transit, and reducing parking requirements (a maximum parking limit, for example).

This philosophical view is embodied in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 which instituted several major changes in transportation policy at the federal level. For the first time, highways and mass transit have been put on an equal funding basis. States will have more flexibility on deciding whether to spend money on highways or mass transit, since some of the spending categories allow trading one type of funding for another. For the first time, non-traditional items, such as turning abandoned railroad lines into bicycle commuting paths and preserving scenic roadways, have their own spending categories. Transportation demand management techniques, smart highways, and paratransit are all encouraged with the Act.

#### SUMMARY OF RECOMMENDATIONS





- 1) The first suggestion is to implement the recommendations of the Township-Wide Traffic Study. This may be accomplished through the following actions:
  - Implement immediate recommendations to the extent possible solely by municipal action through the appropriate Township agency.
  - Create a priority list from the recommendations for future actions and incorporate the ranking into the Township's capital improvement program.
  - Meet with State and County officials on the Township's priorities for capital improvements under the jurisdiction of the other governmental agencies and coordinate proposed projects.
- 2) Secondly, the classification of the street network into different orders of road should be continued.
  - Street and cartway widths as previously established should continue as the standards for the Township.
- 3) Scenic roadways should be designated in order to promote and preserve positive community characteristics.
  - The Land Development Ordinance should be amended to develop specific standards for scenic roads.
  - The Planning Board should develop criteria for designating scenic roads.
- 4) Bikeways should continue to be designated in the Master Plan for development and construction.
  - Bikeways should be hard surfaced or packed gravel and limited to upland areas, excepting crossings, or existing and new streets.
  - Bikeways should be a part of the Township's Greenway Network.

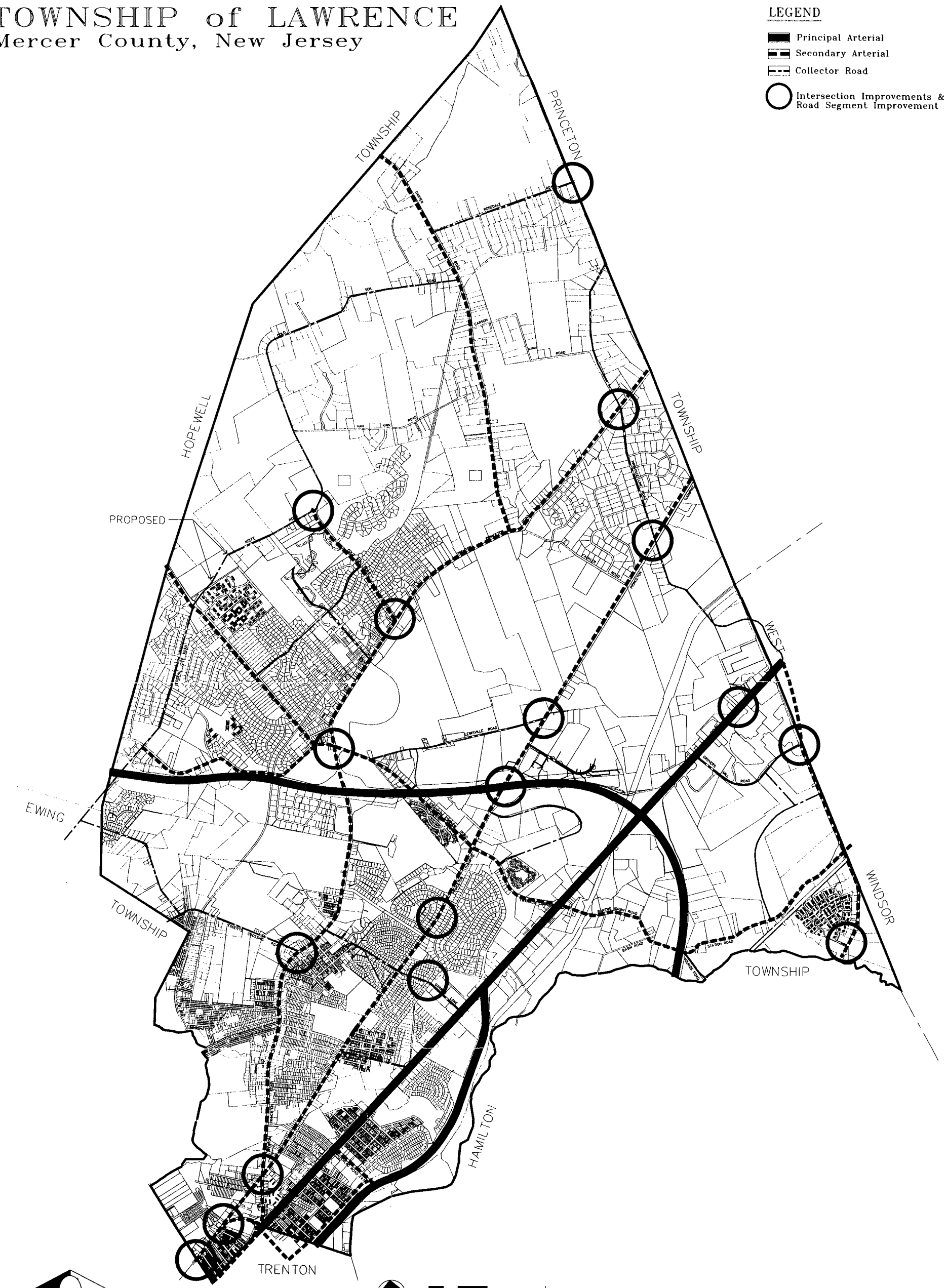
- Bikeways are intended primarily as recreational amenities rather than as commuting routes.
- 5) The Township's land development regulations should be consistent with the New Jersey Highway Access Management Code and amended if inconsistent.
- The Township may consider instituting its own access management code on roads under its jurisdiction.
  - The Township may consider petitioning the New Jersey Department of Transportation to raise the access level classification for Alternate Route 1.
  - The Township may consider exploring a coordinated highway access management code with Mercer County or the New Jersey Department of Transportation.
- 6) Transportation Management Associations and other non-traditional methods of controlling congestion should be encouraged where appropriate.

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  Principal Arterial
-  Secondary Arterial
-  Collector Road
-  Intersection Improvements & Road Segment Improvement





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# *Land Use*

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## INTRODUCTION

The land use element is designed to help implement the goals and objectives of the Master Plan in map and text form and is a synthesis of the other elements that make up the plan. The land use element designates different geographic areas of Lawrence for a spectrum of land uses based on the existing development pattern, market trends, the policy objectives for land development and redevelopment in the Township and related factors. This element provides both a policy and legal foundation for the zoning or land development ordinance. The land use plan delineates area boundaries for the land use classifications and forms the basis for the zoning map.

The previously adopted 1987 future land use plan classified land into nineteen categories and these will largely be carried forward in order to provide a measure of continuity between plans. Large scale changes are not contemplated. Land use regulation has grown more complex since the adoption of the previous Master Plan in response to changing real estate markets, new housing products, increasing environmental awareness, new policy objectives and regulation imposed by other levels of government, and continuing judicial interpretation of the laws governing land use.

The Land Use Plan must also be responsive to changes in the state of the art of planning as new techniques are proposed, examined, and adopted. The intent is to create an implementation document that will be used regularly to review and assess development and redevelopment proposals while promoting the goals and objectives of this Master Plan.

## EXISTING LAND USE

A survey of the Township to determine how land is actually being used, as distinct from what is permitted by the municipality's land development regulations, was undertaken in August 1994. The survey was made by direct observation, a review of recent aerial photographs, and from Township land records. Based on the survey, the existing land use in Lawrence can be

divided into fourteen broad functional categories: Single family detached residential on lots 2 acres or larger, 1 to 2 acres, and 1/2 to 1 acre; single family detached and single family attached units on less than 1/2 acre lots; multi-family residential; office and research uses; commercial; transportation and utility; institutional; industrial; open space comprising conservation, park, and quasi-public lands; and vacant land. The existing land use survey is intended to determine the potential land resource for development without any policy considerations. For example, the vacant category includes land in agricultural use that is also the subject of preservation policies. Table 45 indicates the amount of land in each category in the Township by acreage and percentage.

**Table 45. Existing Land Use in Acres and as Percentage of Total Land Area.**

Existing Land Use Classification	Acres	Percent
Single Family Detached 2 acs. or more	1,157	8.2%
Single Family Detached 1-2 acs.	653	4.6%
Single Family Detached ½-1 ac.	589	4.2%
Single and Two-Family less than ½ ac.	1,448	10.2%
Multi-Family	421	3.0%
Institutional	1,085	7.7%
Office and Research	1,048	7.4%
Commercial	542	3.8%
Transportation and Utility	1,079	7.6%
Industrial	280	2.0%
Open Space: Conservation	814	5.7%

**Table 45. Existing Land Use in Acres and as Percentage of Total Land Area, cont.**

Open Space: Park	1,010	7.1%
Open Space: Quasi-Public	249	1.8%
Vacant	3,795	26.8%
Totals	14,170	100.0%

*Note:* Land areas are approximate.

The existing land use map is found on the following page.

#### SINGLE FAMILY DETACHED

Three different single family detached districts are shown on the existing land use plan corresponding to different densities of development. The lowest density, one unit per 2 acres or more, is generally found north and east of the village of Lawrenceville. Development in these areas has occurred without public sewer and in most cases without public water. Two acres represents the smallest minimum lot size permitted under the clustering provisions of the Environmental Protection 1 and 2 zoning districts. This designation has also been used for farm clusters of residences, barns, equipment sheds, and similar accessory uses where the majority of the land is in agricultural use. Residential sites of this size are also found scattered in areas south of Interstate 95/295.

Development at one unit per 1 to 2 acres is also found primarily north of Lawrenceville and north of Fackler Road in areas where an older development pattern exists. In certain areas such as Foxcroft, public water has been installed thereby alleviating some of the environmental impact from lots of this size located in an area with poor water resources and lack of septic system suitability. In addition to the northerly end of Lawrenceville, lots of this size are also found as frontage lots on Lawrenceville-Pennington Road and to the west of the municipal building.

Single family detached housing on lots of ½ to 1 acre in size predominates south of Lawrenceville-Pennington Road, along Franklin Corner Road and Drift Avenue, and in numerous scattered locations throughout the Township.

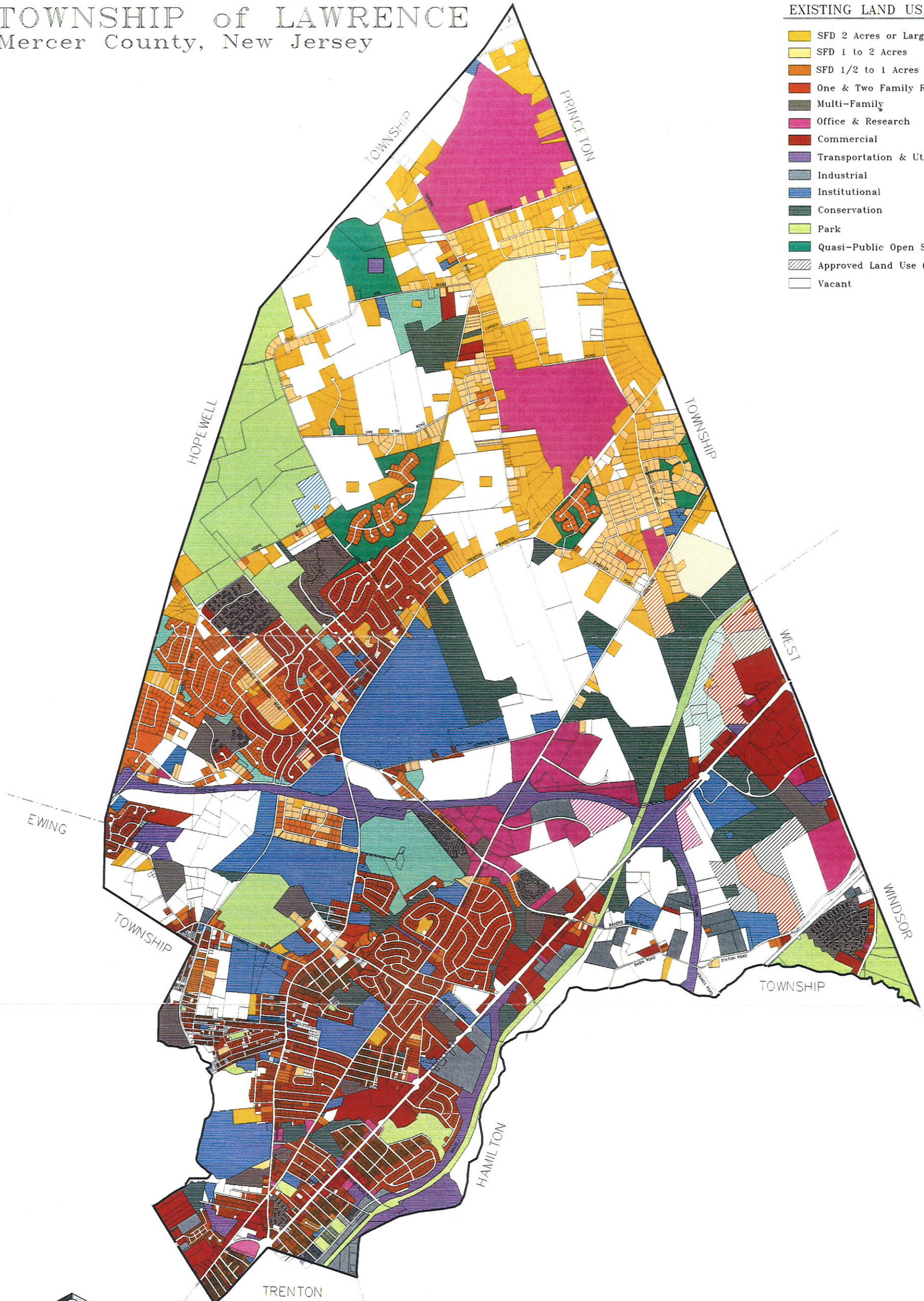


# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## EXISTING LAND USE

- SFD 2 Acres or Larger
- SFD 1 to 2 Acres
- SFD 1/2 to 1 Acres
- One & Two Family Residential
- Multi-Family
- Office & Research
- Commercial
- Transportation & Utility
- Industrial
- Institutional
- Conservation
- Park
- Quasi-Public Open Space
- Approved Land Use (Typical)
- Vacant





Two cluster developments, Kingsbrook and Province Hill, have net lot sizes in this land use category, although the gross density is .55 units per acre.

#### SINGLE FAMILY AND TWO-FAMILY RESIDENTIAL

This category includes the remaining single family detached, single family attached (excluding townhouse developments) and two-family residential land uses. These areas include most of Lawrenceville proper and the residential neighborhoods south of I-95/295. It also includes the rowhouse area in the southernmost portion of the Township. The density of development ranges from two units to twenty units per acre but with an average density of 3½ units per acre. It includes most of the oldest developed areas of Lawrence Township.

#### MULTI-FAMILY RESIDENTIAL

The multi-family residential classification has been applied to the garden apartment complexes, townhouse developments, and land approved under the Township's planned village development option. This category has also been applied to three senior citizen facilities: Lawrence Plaza, the Lawrenceville Nursing Home and the approved but unbuilt R.F.P. congregate care project at Darrah Lane near Alternate Route 1.

#### INSTITUTIONAL

The institutional use classification has been applied to religious uses, governmental functions, educational uses and other institutions of society. Religious uses include houses of worship and their associated residences, parochial schools, administrative offices and other similar types of land use.

Governmental uses include federal, state, and local government functions such as the New Jersey Department of Transportation maintenance yard on Route 1, the post office on Route 1, the municipal building on Lawrenceville Road, the Township Public Works garage on Bakers Basin Road, the Township composting facility at Maidenhead Meadows, and the Mercer County fire training facility on Lawrence Station Road. The volunteer fire companies and emergency rescue service facilities are also included in this category. The largest land areas in this category, however, are Rider University and The Lawrenceville School. Additionally, the Morris Hall complex with a convalescent facility, residential rehabilitation center, and nursing home associated with the Diocese of Trenton has been included in this land use

classification.

#### OFFICE AND RESEARCH

The office and research classification applies to stand-alone facilities as well as corporate parks. Office and research uses exhibit a wide range in their scale of development from 5,000 square foot lots to 360 acre complexes. The largest single uses in this land use classification are the Educational Testing Service facility on Rosedale Road and the Bristol-Myers/Squibb headquarters on Carter and Province Line Roads. This land use category, however, also encompasses small professional offices such as those converted from residential use along the southern portion of Alternate Route 1. The concentration of office development around the Princeton Pike interchange with I-95/295 typifies the middle of this range.

#### COMMERCIAL

Commercial land uses involve a wide range of non-residential business activities, including retail and wholesale sales, business services, general offices, professional groups, and entertainment, among others. Commercial activities are concentrated along highway corridors, primarily on Alternate Route 1 and Route 1 excluding the freeway.

The intensity of commercial development in the Township is reflective of the municipality's role as an employment center in the Central Jersey area, which in turn is a function largely of its geographic position and the transportation network in the region.

Several commercial nodes are located in areas adjacent to established neighborhoods where they provide personal services and retail uses for nearby residents. These include Lawrenceville proper, Quakerbridge Road near Mercer County Center Park, and a cluster around Eldridge Avenue and Route 206, among others.

Existing commercial land uses within highway corridors are typically retail sales and services in strip shopping centers and individual stores. They appeal to motorists and much of their trade is dependent on high volumes of traffic. The shopping centers are no larger than 150,000 sq. ft. and are distinguished by providing more localized services rather than attracting people from throughout the region.

Lastly, commercial uses may have a regional attraction with a high concentration of stores and services. The Quakerbridge Mall on Route 1 is in this category of commercial land use. The profile of this interchange within the regional marketplace is being heightened by the planned development of up to 1.3 million square feet of retail space in West Windsor. Increasingly, the regional attraction of the shopping mall spawns secondary retail uses in close proximity.

#### TRANSPORTATION AND UTILITY

The transportation and utility classification identifies significant land areas associated with highways, rail lines, and publicly regulated utilities such as water, sewer, electricity, and natural gas facilities. Included in this category, for example, are the Transcontinental Gas Pipe Line pumping facility on Cold Soil Road, the Public Service Electric and Gas transformer and work yard on Bunker Hill Road and Quakerbridge Road, respectively, the land area occupied by the Interstate highway and Amtrak's main rail line.

#### INDUSTRIAL

The industrial existing land use classification is the smallest in area of the categories. The industrial classification is limited to manufacturing, assembly, and fabricating purposes. The existing industrial purposes may be considered light manufacturing. There are no heavy industry uses in the Township. The industrial land use category is found in the south of Lawrence along the D & R Canal, on Litho Road, and in the Bakers Basin Road area.

#### OPEN SPACE

Open space comprises both land and water which is intended for conservation, active recreation, and passive recreation. The use and enjoyment of the land may be intended for a private group of people - for instance a homeowner's association - or for the public at large. Open space has been classified as conservation land, park land, or as quasi-public.

Conservation uses are either owned by the state or the municipality, or in a few instances, conservancy trusts, and are typically purchased with the intention of leaving the land in its natural state. Conservation uses may also be used for passive recreation such as bird watching or recreational walking. Conservation land contains at least one of the environmentally sensitive factors identified in the Conservation Element. Examples of conservation land include

the Delaware and Raritan Canal corridor, the Shipetaukin Woods owned by the Lawrence Township Conservation Foundation, and Tiffany Woods owned by Lawrence Township.

In contrast to the conservation classification, open space park land typically has active recreational facilities, such as tennis courts, playgrounds, and athletic fields, but may also include passive recreation facilities. In the existing land use survey, recreational facilities owned by the municipality have been shown as Open Space because they are the primary use of the land. Similar facilities owned by the Lawrence Board of Education, however, have been included in the Institutional category because they are secondary to the primary purposes of education. Central Park and Village Park are illustrations of open space park lands.

Quasi-public open space may encompass conservation, active, and passive recreation types; its salient aspect is private ownership. Quasi-public open space entails land dedicated as part of a clustered residential subdivision or associated with a condominium residential development. It also includes the member-owned Green Acres Country Club across from the municipal complex.

#### VACANT

The remaining existing land use classification is vacant land. In this instance vacant is simply intended to mean land that has not been built upon in any significant way and is not open space. The vacant land use category includes agricultural land, land being held for development, and environmentally sensitive land not under governmental control. It does not include land classified under any of the Open Space categories.

#### SUMMARY

The existing land use survey depicts a pattern of increasing residential density from north to south through Lawrence with substantial non-residential development supporting a significant number of jobs along major transportation corridors. Significant, though declining, agricultural areas exist in the northwest portion of the Township adjacent to the Hopewell Township border. Major changes in the established land use pattern are not anticipated.



## Land Use Issues

In the course of examining policies for development and redevelopment in Lawrence Township, several issues arose that have a strong bearing on this element. These are discussed in the sections that follow. In the discussion of land use issues, the term floor area ratio is used. Floor area ratio is the relationship between the gross square footage of a proposed or existing development and the area of the lot or tract upon which the building is or will be placed and is a common measurement of the intensity of development.

### RURAL CHARACTER AND FARMLAND RETENTION

Lawrence Township has a wide diversity of development patterns that provide archetypes of urban, suburban, and rural character for a well balanced landscape. Of these three types, rural character is the most difficult to maintain. Urban and suburban development patterns occur from the conversion of rural land to the other types. Economic market forces and federal government policies such as the subsidization of highway and sanitary sewerage systems and mortgage deductions for owner-occupied residences have promoted this conversion. Against these forces, the maintenance of rural character in an area facing growth pressure requires using a variety of planning tools to achieve this goal.

Rural character is inextricably bound with the retention of agricultural uses as one of the main components of the rural development pattern. Characteristics of the rural landscape include cleared fields, woodlands, field edges defined by hedgerows and drainage ditches, narrow roads, farm buildings, and occasional non-farm residences on significantly sized lots. The retention of agriculture provides the contrast between closed and open vistas which are an integral part of rural character in Lawrence. Without agricultural uses, fields will eventually reseed and over time will turn into successional woodland.

Recognition of these factors in the maintenance of the rural landscape has led to various policies intended to retain farmland, including:

- Encouraging enrollment in county agricultural preservation programs.
- Restricting sanitary sewer access to reduce development pressure.
- Restricting development to single family housing on two to six acre lots

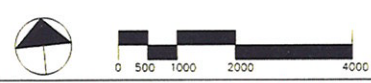
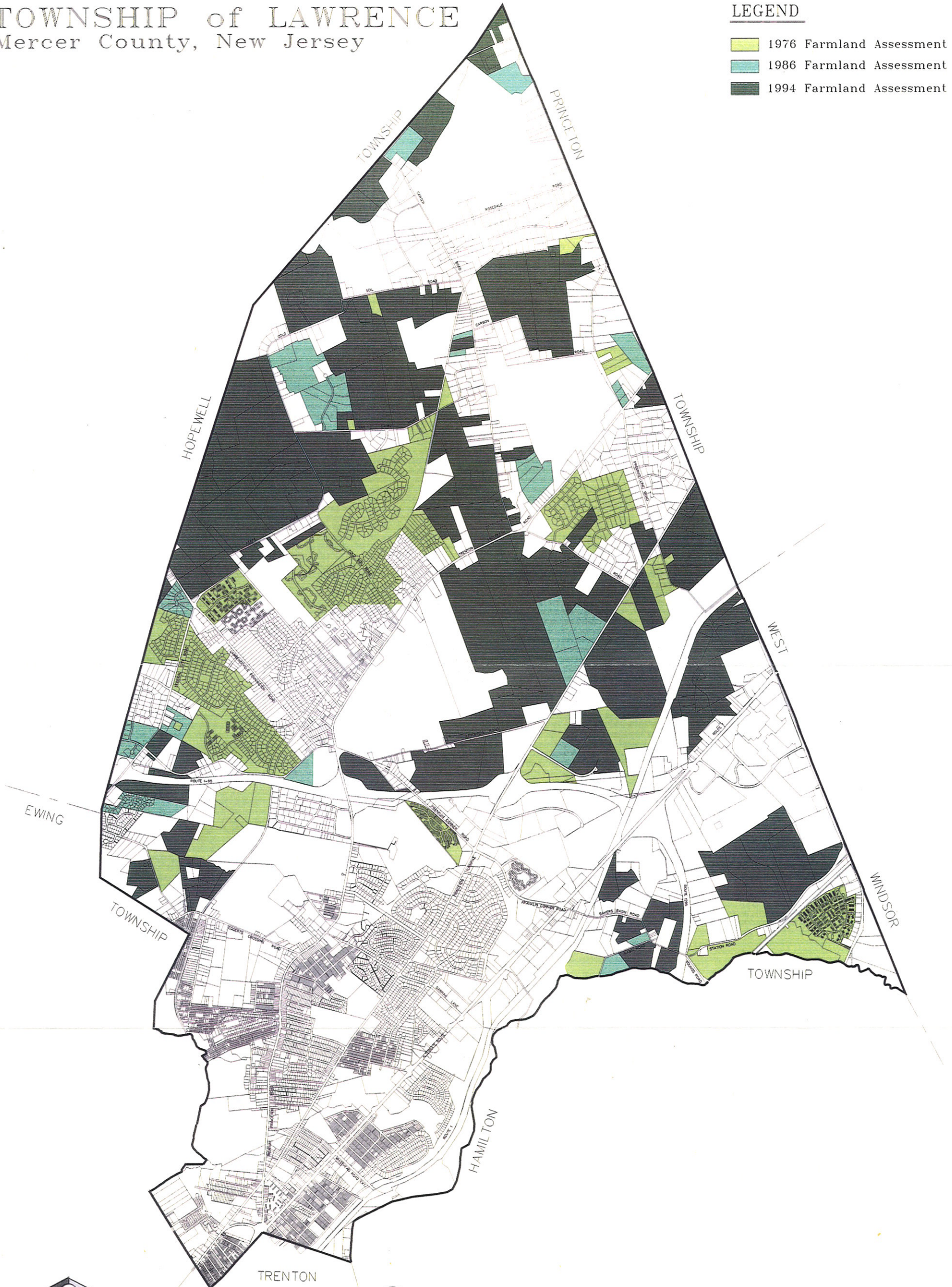


# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

- 1976 Farmland Assessment
- 1986 Farmland Assessment
- 1994 Farmland Assessment





- to reduce the visual impact of buildings in the environment.
- Permitting transfer of development credits to shift density from farmland areas to growth areas as a means of preserving equity.

Despite these efforts, additional farmland continues to be converted to residential uses. The rate of loss of farmland between 1986 and 1994, however, has been lower than the rate between 1976 and 1986, as illustrated on the preceding page.

Certain areas under farmland assessment, as shown on the Farmland Assessment Map, are not essential to the retention of rural character either because of existing suburban or urban development nearby or because of the small areas involved. Geographically, the areas of prime importance in maintaining rural character include the Princeton Pike corridor north of Lewisville Road; the area south of the Route 206 and Carter Road/Fackler Road intersections; and the region north of Keefe Road and the Kingsbrook development, west of Carter Road to the Hopewell Township border.

Of the 3,742 acres identified as vacant land, approximately 1,500 acres have been identified as important to the retention of rural character and agriculture. These lands are almost exclusively in one of the two environmental protection zoning districts. A view shed analysis was undertaken to determine primary and secondary views from arterial roads. Tree line edges were determined from observation and aerial photography. Based on the view shed analysis and other factors (see below), sites were ranked according to primary, secondary, and tertiary importance for the preservation of rural character. The results of the ranking are depicted on the rural character map on the following page.




The criteria for ranking the sites are:

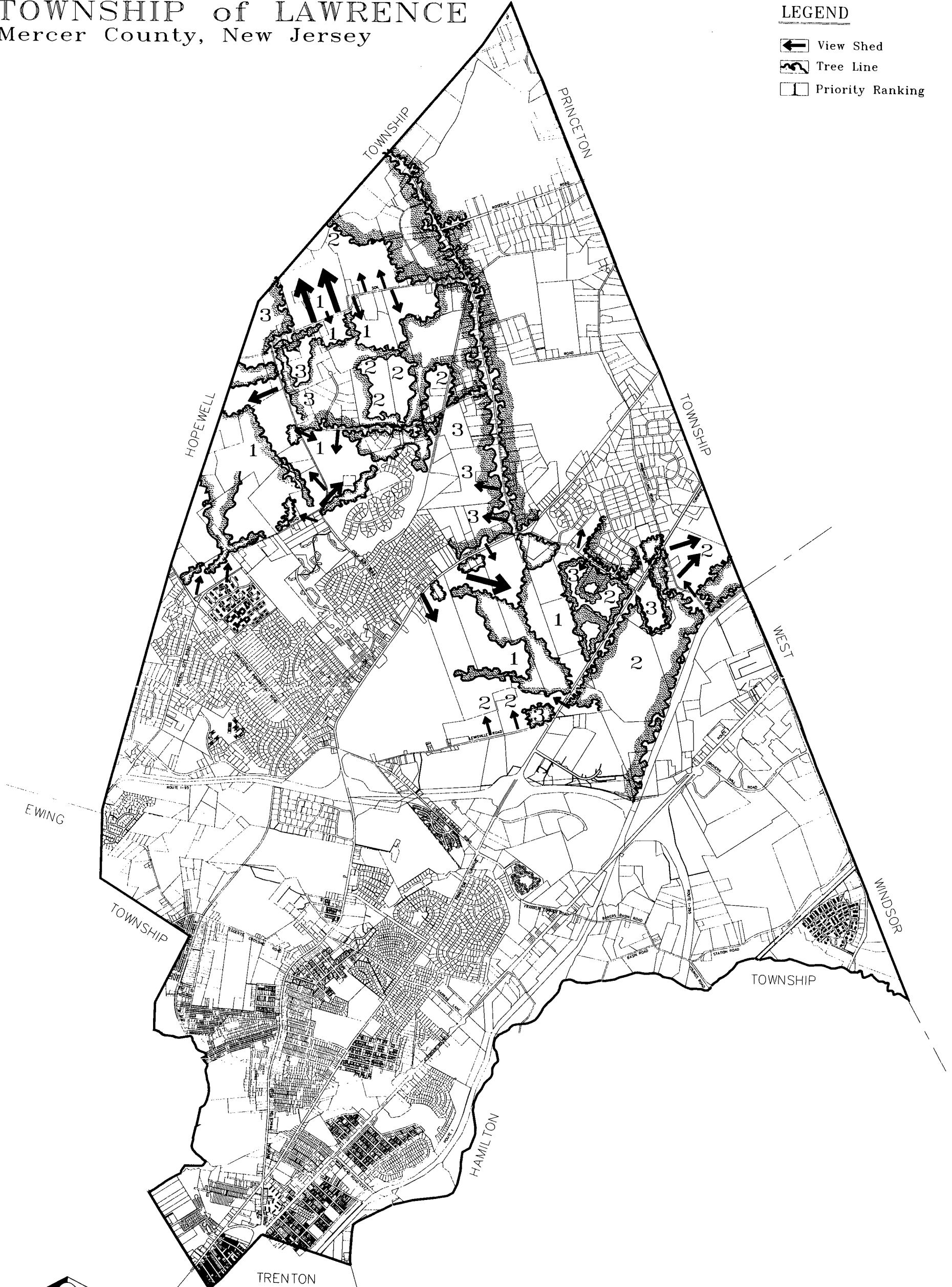
1. Presence of rural characteristics, such as active farming and/or orchards, clusters of farm buildings, hedgerows, lack of suburban intrusions, etc;
2. Contiguity with other open space either preserved or likely to be preserved and its relationship to the Greenways plan;
3. Visibility from public property and rights-of-way, particularly those with frequent use; inability to mitigate effects of development;
4. Relationship to existing and prospective land use patterns, likelihood of long term preservation of adjacent properties; and

# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

-  View Shed
-  Tree Line
-  Priority Ranking



5. Likelihood of near term development.

The ranking of priority sites allows resources to be allocated on a rational and planned basis. Applications for development may be reviewed against a background of the noted importance of each identified site to the preservation of agricultural uses and rural character.

Two farms are presently deed-restricted to farmland under the Mercer County Agricultural Development Board that purchases easements of a temporary or permanent nature with state and county funding. Terhune Orchards on Cold Soil Road has been permanently restricted to agricultural use through this program and Cherry Grove Farm on Route 206 and Princeton Pike is temporarily restricted. Cherry Grove Farm's temporary restriction will be lifted at the end of 1998.

In addition, applications have been made for the purchase of development rights to the Princeton Research Lands on Cold Soil Road north and west of Terhune Orchards. The purchase of these development rights has been endorsed by the Township Council. A concentration of restricted land is located at the north end of Cold Soil Road with two parcels (in addition to Terhune Orchards) which have been restricted from development. The Transcontinental Gas Pipe Line Company has restricted most of its property on the north side of Cold Soil Road for a 99 year period, with the easement rights running to the New Jersey Conservation Foundation. Shipetaukin Woods, south of Terhune Orchards, has been purchased with the aid of state, local and private funding by the Lawrence Township Conservation Foundation.

The efforts noted above demonstrate two of the techniques that have been successfully used in the preservation of rural character. Other possibilities include fee simple or development rights purchase by the municipality, or development rights purchase for transfer to other areas of Lawrence better suited for development. A discussion of transfer credits will be made in the following section of this element concerning policies for the environmental protection land use classifications.

Design techniques for residential development in the study area may also advance the preservation of rural character. Clustering of development on one portion of a tract is the surest method of retaining at least part of the development in farming use or open space. This zoning method will also be discussed further in the environmental protection section.

The strategic use of woodlands and hedgerows provide another design technique useful in retaining rural character. In New Jersey, the edges of tree masses often define suitable versus unsuitable soils for agriculture and development. A new tree line may be established in clustering that redefines the farmed edge and which allows residential development behind it to be screened from view. In places where woodlands are on upland soils, houses can be nestled within the tree edge, thereby reducing their visibility. The type of vegetation planted to simulate woodland or hedgerows must be comprised of native species.

Strict attention to rural and scenic road standards is also important in preserving rural character. In essence, this means narrow cartways, natural drainage systems, and a lack of sidewalks and curbing. Since the density of development is typically low, the need for wider streets to handle higher traffic volumes does not arise.

#### POLICIES FOR ENVIRONMENTAL PROTECTION LAND USE

The environmental protection land use classification was developed in the previous master plan based on the mapping of factors that present constraints for development. The soil associations and geologic formations that underlie the land in this classification are poor providers of water and make for poor receptors of effluent from septic fields (*see Conservation Element*). These environmental factors and the Township's policy of preserving agricultural uses support the concept that low density residential uses provide sufficient land equity for owners while meeting the goals of environmental protection of the existing ground water.

Research subsequent to the designation of the original environmental protection land use classification concluded that two different densities were warranted due to a distinction in geologic formations. The zoning district which implemented the original land use policy was then divided into two districts, the Environmental Protection 1 and 2 (EP-1, EP-2) zones at a density of between two and six acres per unit. Certain factors such as the availability of public sewer, community septic, or public water, however, would permit smaller minimum lot sizes ranging down to one-half acre.

The original concept of the environmental protection land use classification is to be refined with this Master Plan. The intent is to remove any uncertainty over the density allowed because of the present zoning district's reliance on

performance based factors and to provide a more focused approach to land preservation through transfer development credits.

Density in the Lockatong Argillite-dominated band running roughly parallel and northwest of Rt. 206 outside of Lawrenceville proper is proposed at a density of four acres to the single family detached unit. This is classified as Environmental Protection 1 on the land use plan. The areas designated EP-2 on the land use plan are underlain by the Stockton Sandstone Formation to the south of Rt. 206 and the Passaic Formation north of the Argillite band. The Stockton Sandstone Formation has better well yields than the Lockatong, while the Passaic Formation is varied. The Passaic Formation is thin and underlain by Argillite. Wells drilled in this vicinity usually penetrate the Passaic Formation to the Argillite, with correspondingly poor water yields. The density proposed for the Environmental Protection 2 land use classification is 3 acres per unit to account for the relatively better water yields in this area.

In addition to the density limitations proposed on a gross tract basis, it is recommended that a minimum usable lot area be established of at least one contiguous acre in which a residence, accessory building, well, and septic field may be located outside of environmentally sensitive land such as freshwater wetlands and flood plains. Wells and septic systems are required to be horizontally separated to prevent contamination of the water supply. A usable lot area of this size would permit the proper location of the required components and the future placement, if necessary, of a replacement septic field.

Parts of the EP category lands are within the franchise area of the Elizabethtown Water Company. Advances in community septic technology now provide better effluent treatment control and may be an acceptable alternative to individual septic systems or public sewer in the protection of the public health. Accordingly, clustering of development on smaller lots where both public water and community septic or public sewer is available will be retained.

#### TRANSFER OF DEVELOPMENT CREDITS

Transfer of development credits is a method of transferring density from areas that the Master Plan identifies for farmland preservation purposes to areas where infrastructure capacity and transportation access are better able to absorb growth. This concept was established with the prior master plan and codified in the land development ordinance. In general, the previous plan

permitted the transfer of units up to an additional two units per acre in the mixed use development and planned residential development classifications from land in the environmental protection area. The areas where this bonus development were to be transferred have been constructed or approved without the use of the credits. Apparently, there was not sufficient economic incentive to the developer to take the steps necessary to acquire the development rights to land in the environmental protection districts.

Though the technique has not yet been utilized in Lawrence, it should not be abandoned. Instead, adjustments in the sending areas and a shift from an increase in residential densities to non-residential floor area ratio is warranted.

As described in the discussion of rural character, the areas targeted for preservation have been ranked from first to third priorities for the approximately 1,500 acres identified as worthy of protection. The amount of acreage deed-restricted from further development and development credits transferred off-site should be related to the priority rankings. The land development ordinance should be structured to create incentives for preservation of first priority lands over second and third priority lands, and second over third, with the necessary mechanisms spelled out in detail.

The proposed change to non-residential development bonuses rather than residential density increases for receiving areas is based on several factors. The first is the higher land values associated with commercial and office development compared to residential development. More land may be permanently preserved through non-residential development transfers because of these higher values. Secondly, there is a lack of suitable sites where the effects from increased residential density would be acceptable. Thirdly, allowing greater residential development densities would put additional pressure on the school system in an era of rapidly rising enrollments and a lack of capacity to accommodate additional students (*see Community Facilities Element*). Lastly, the lack of developer interest in residential transfers suggests that the density bonus should either be higher or that non-residential transfers should be its focus. Since higher residential density is not recommended for the reasons outlined above, the goal may best be reached through non-residential transfers.

The land use proposed as a development credit receiving area is the regional commercial classification encompassing the Quakerbridge Mall and associated development. The Quakerbridge Mall area was determined to have sufficient infrastructure capacity to absorb the additional development that would be



permitted by a transfer of development credit. The current floor area ratio limit is .30 which is proposed to continue by right. By acquiring additional development credits, this floor area ratio would be able to be increased to .40, also on a sliding scale.

Since land is by definition an illiquid asset, the need for development credits by a developer and a landowner's willingness to sell these rights may not coincide. It is suggested that the Township establish a trust fund earmarked for the purchase of development rights in the farmland preservation area. In this fashion, a developer could pay the cost of development rights to the Township which could then pursue its purchase with a willing seller at some point in the future. As a last resort, the Township also has the ability to use its eminent domain powers to acquire property for preservation purposes -- an option not available to a developer.

The determination of value of the increase in floor area ratio may be modelled on the rules which permit developer fees to be levied on non-residential development to assist in the construction of affordable housing by the Council on Affordable Housing (see N.J.A.C. 5:93-8). As an alternative to the farmland preservation concept outlined above, ordinance provisions permitting additional floor area ratio upon payment of a developer fee for affordable housing could also be developed.

#### SENIOR CITIZEN HOUSING

Demographic characteristics continue to highlight a trend in the aging of the population, one that has particular consequences for New Jersey. The state has the thirteenth highest median age, with Florida and Pennsylvania the two highest. In Lawrence, the 62 years old and older population increased 45.1% between 1980 and 1990, compared to an increase of 30.7% in the Township's population as a whole. Development policies established in the 1960's when Lawrence was first experiencing growth pressure are no longer adequate to accommodate this demographic shift in the population.

Present land development policy provides for senior citizen housing in the Apartment/Townhouse (AT) and Senior Citizen Housing (SCH) zoning districts ranging from 6 to 14 units per acre. Housing types in both the AT and SCH districts are garden apartments and townhouses. These two districts require an affordable housing setaside of twenty percent (20%). The R-4 and R-5.5 districts permit similar housing as a conditional use without the affordable

housing requirements.

These present regulations allow only a relatively narrow range of housing options for senior citizens. The real estate industry, medical establishment, and non-profit/social sector organizations have developed a greater variety of housing accommodations for senior citizens. An increasing emphasis has been on allowing senior citizens to "age in place" so that the disruption of moving is avoided once the individual has entered the age-restricted market. While there is a steady trend for persons in New Jersey to retire to southern states, many people desire to stay in the community where they have spent their adult lives because of social and family ties.

Senior citizens have many individual reasons for moving from their primary residence as they grow older, but the two main factors are to reduce expenses and to receive better medical or assisted care. Increases in expenses may take the form of higher rents, periodic maintenance to the home, and increases in property taxes. The capital gain from selling one's residence may be put towards daily living expenses. Growing infirmity may also lead to the decision to seek alternative housing. The need for assistance may vary greatly, which suggests the need for the Township's land development policies on senior housing to permit a greater range of housing types. The types and locations of age-restricted housing proposed in this Master Plan are discussed below.

Senior citizen housing is generally constructed at higher densities than other types of housing. Typically, age-restricted detached housing units are smaller, requiring less land area per unit, than non-senior housing. In apartment settings, the need for proximity between apartments/rooms and common rooms or offices is important. Lastly, the reduced demand for governmental services permits densities that would not be acceptable in non-senior developments. Accordingly, the current 14 units per acre density of the SCH district should be continued. In many instances, senior citizen developments are counted on the basis of beds, as opposed to units. In this instance, each bed should be counted as half a unit.

Senior citizen developments may include single family detached units as part of the overall development plan. Designs for such developments have been specifically created for age-restricted purposes. Typically, the living space is on one floor and the short axis of the house parallels the street. Lot sizes range from 4,000 to 5,000 square feet.

Several different development types are proposed for the senior citizen land use classification. A menu approach is recommended for senior citizen housing where individual housing types may be combined on one site depending on the size of the tract. The different types are discussed below.

#### CONTINUING CARE RETIREMENT COMMUNITIES

Continuing care retirement communities (CCRC - sometimes called "lifecare facilities") provide a combination of housing types and medical assistance. The intention of CCRCs is to provide a continuum of care through the combination of previously separate types of housing and health care for senior citizens. Typically a contract is entered into by the individuals for the type of services and housing to be provided. Often there is a substantial entrance fee which guarantees shelter and access to health care services. The appeal is generally to middle and upper income groups.

CCRC developments are proposed to allow small single family detached or attached patio homes, congregate care apartments, assisted living facilities, residential health care, and convalescent or nursing homes. Because of the combination of facilities, a minimum tract size of 40 acres is recommended for CCRCs that include single family detached housing. For those CCRCs that do not include single family detached housing, a 20 acre minimum tract size is proposed.

Locations where CCRCs would be permitted as optional development districts are the remainder of the mixed use land use district on Lawrence Station Road, the former Heinemann Electric tract on Alternate Route 1, and the phases VI and VII of the Princeton South development north of Eagles Chase on Franklin Corner Road. In each of these circumstances the underlying land use classifications would continue; respectively, mixed use development, highway commercial, and research and development (*see* Land Use Plan). On one additional site this use would not be an option but would be the main land use classification - the 29± acre tract at the northeast corner of the I-95 and Lawrenceville Road interchange.

The current SCH district permits neighborhood shops uses up to .04 floor area ratio. This permits retail sales and services, medical and office uses. The intention of such is to provide services within convenient walking distance for senior citizen uses. The allowed development potential, however, is insufficient for the senior citizens to provide a population large enough to solely support these uses. Most senior citizen developments provide transportation for

shopping services rather than relying on adjacent uses as part of the development. Instead, it is recommended that the non-residential component be limited to professional office uses so that medical services primarily appealing to the senior citizens could potentially be developed.

#### ASSISTED LIVING, CONGREGATE APARTMENTS AND NURSING FACILITY SITES

Smaller sites than required for CCRCs are suitable for other types of age-restricted housing and medical care facilities. In addition to the townhouse and apartment housing types currently permitted in the senior citizen housing district, several other development forms are appropriate. Assisted living is a recently licensed form of age-restricted housing that combines congregate care living with various forms of assistance with dressing, medication, and social services. One step removed from this form of assistance is the congregate apartment where residents have more ability to handle daily living activities. Medical care is more limited in this case to screenings for health problems and most meals are prepared by the residents. Nursing homes and convalescent facilities provide 24 hours a day skilled nursing care. Medications are administered by medical staff and regular visitations by doctors are the norm.

Age-restricted developments of this type are appropriate on sites of 5 to 15 acres. In addition to the two existing senior citizen sites on Darrah and Allen Lanes, one other is proposed - a 9.8 acre tract located on the northeast corner of Denow Road and Federal City Road. It is located adjacent to the Evangelical Presbyterian Church and across the street from a day care center.

#### ECHO HOUSING

ECHO housing is an acronym that stands for Elder Cottage Housing Opportunity. An ECHO housing unit is a modular residence placed in a rear or side yard accessory to the primary use of the lot for a single family detached dwelling unit. The ECHO unit is intended for persons aged 62 years or older related to the occupants of the primary dwelling. The unit is hooked up to the water and sewer lines of the primary residence. ECHO units are typically 500 to 600 square feet in size, or about the size of a three car garage. Because of its size, a one-half acre minimum lot size is recommended along with adequate performance regulations for the siting and buffering of the ECHO unit. The person or persons who would occupy the unit would have to be registered with the Township at the time of application for certificate of occupancy. When the registered person no longer resides in the unit, it is removed from the premises

and the yard restored. ECHO units permit family members to oversee an elderly person or couple yet allows them to retain a measure of independence.

#### ALTERNATE ROUTE 1 CORRIDOR

Alternate Route 1 runs from the Brunswick Circle north to Carnegie Road where the Trenton Freeway ends. It dates from 1804 when it was constructed as the Straight Turnpike and intended for regional traffic between Trenton, New Brunswick and the New York metropolitan area. As development from Trenton expanded northward along the corridor in Lawrence the highway carried a growing volume of local traffic along with increasing regional through traffic.

By the 1970's the highway in Lawrence consisted of four lanes and shoulders in most places and either a median concrete barrier or a fifth left hand turn lane. However, the opening of the Trenton Freeway at that time has siphoned off most of the regional traffic and reduced the volume on Alternate Route 1 to a level comparable to Route 206, a much narrower roadway. This suggests that the roadway is over designed for its current function. The land use plan proposes that Alternate Route 1 be redesigned as a commercial boulevard instead of its present construction as a highway. A commercial boulevard in this sense would include two travel lanes with shoulders and a wide grassed median strip. The median strip could be planted with low shrubs and seasonal flowers. Cut outs (or stacking lanes) for left hand turning traffic at intersections could be installed as an alternative to jughandles.

The state Department of Transportation has instituted a process for reducing the classification of the roadway from a higher level of traffic and access to a lower level (*see Circulation Element*). Route 1 has been classified as access level 3 for its entire length, even though the portion between the Trenton boundary and Brunswick Circle is more appropriately an access level 6 and the section between the Circle and Colonial Lake is similar to access level 4. Once the access level is revised, then an access management plan based on the new access classification could be prepared.

The access management plan is a joint effort between NJDOT and the municipality (or a county) to create a detailed set of drawings that indicate proposed access from individual sites to the state highway network. The access plan may provide a method for the Township to design its own desirable typical section (DST), which is the name NJDOT gives to the different types

of cartway in the state highway network. If this were to occur, then the Township would be able to create a more pedestrian-oriented, aesthetically pleasing streetscape along the Alternate Route 1 corridor, an objective of the Master Plan.

An access management plan could be supplemented with an urban design plan to specify pedestrian connections, street landscaping requirements, signage limitations, and the relationship of buildings to the street. One method of implementing such improvements would be to develop a special improvement district or districts. Special improvement districts are perhaps better known for their association with downtown pedestrian malls but the state statute that authorizes their establishment does not make this distinction. A special improvement district allows an added assessment on property owners which is dedicated to implementing a plan. To be successful, special improvement districts must have the support of the affected business community.

A special improvement district would provide the most coordinated approach to improvements to the Alternate Route 1 corridor; however, in the alternative the Land Development Ordinance should include a set of design standards that would apply to properties proposed for redevelopment in this area.

## **GREENWAYS**

Greenways are a hybrid land use encompassing parts of the conservation, community facilities, and circulation elements. They include the preservation of environmentally sensitive lands, the interconnection of parks, passive recreation for walking and bird watching, and a trail system that in upland areas could support bicycle traffic.

Good land planning practice dictates that environmentally sensitive lands needed for flood control, aquifer recharge, the natural cleansing of pollutants, and wildlife habitats should be left in their natural state. Consequently, development in such areas must be minimized, if not avoided entirely. Stream corridors are locations where many of these factors converge. Greenways are also a method of preserving vital natural functions.

The Township's Greenway Network is intended to preserve stream corridors in a continuous band of open space. Typically greenways encompass streams and floodways but may also include adjacent upland areas. All of the larger park and open space tracts owned by Lawrence Township border or include

stream corridors. Greenways are an open space system which will allow hikers, and in some cases bicyclists to travel from one park to another without the necessity of traveling on the street network.

In certain places, the stream corridor will not support a walking trail because of its environmental sensitivity or from a lack of feasible connections to other open space parcels. In these circumstances, the adjacent street network must be used. In these circumstances, a cartway specifically designed for vehicles and bicyclists should be provided as streets are reconstructed.

#### LAND USE CLASSIFICATIONS

A number of factors have been taken into consideration in the development of the Land Use Plan. Foremost among these are the goals and objectives for development and redevelopment in Lawrence found in the Statement of Goals and Objectives, as well as in the various elements that make up this Master Plan. In particular, the land use classifications are intended to meet these goals specific to the Land Use Element:

- Improve the quality of life for Lawrence Township residents, those persons who work in the municipality and visitors.
- Preserve open space, maintain agricultural activities and the rural landscape in appropriate locations, and the visual enjoyment which open land provides.
- Discourage the introduction of incompatible land uses and ensure that new infill development, particularly in established neighborhoods, is compatible in intensity, scale and design with the prevailing pattern of development in adjacent areas.
- Direct and control the intensity of new development and redevelopment in relation to the transportation and environmental capacities of the land.
- Provide continuity with previous planning documents to the largest feasible extent.
- Encourage a balanced mixture of residential and non-residential uses through planned development.

- Reduce blighting influences through improved standards for development.

The Land Use Element includes the analysis of a number of issues that have arisen in the deliberations of the Planning Board. The Planning Board's determinations with respect to the analysis has also provided a set of guidelines for the application of the land use classifications. The classifications are:

#### OPEN SPACE

The open space land use classification is intended for governmentally-owned conservation areas and parkland, for both active and passive recreation. The one exception is the Shipetaukin Woods parcel owned by a non-profit land trust, the Lawrence Township Conservation Foundation. It includes all of the land on the Township's Green Acres Inventory<sup>1</sup>, Mercer County, and State open space lands. In addition to existing open space, the AT & T tract on Keefe and Cold Soil Roads has been included since the County has purchased the land and intends to develop it as part of a Northwest County Park, similar in size to Mercer County Park on the eastern border of the Township. Much of the area included in this land use classification is environmentally constrained (*see* Conservation Map). Development of the open space parcels is only intended on upland areas where it is necessary to establish active recreation facilities in appropriate locations and for a Greenways trail system.

#### ENVIRONMENTAL PROTECTION 1

The boundaries of the Environmental Protection 1 land use classification follow the existing zoning district of the same name. In general, the area occurs as a band parallel to the Route 206 on the north side. It encompasses the airport safety zone associated with the Twin Pines general aviation airport on Lawrenceville-Pennington Road. The environmental constraints to development for this land use category have been presented above. The main uses proposed are for agriculture and single family detached residential uses. Development of single family residential uses is proposed to be one unit per four acres. Under certain specific requirements for the provision of public water and public sewer or community septic, minimum lot sizes may be

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<sup>1</sup> - The Green Acres Inventory is a list of restricted open space parcels that are under the procedural jurisdiction of the Green Acres Program in the New Jersey Department of Environmental Protection.



reduced to one-half acre through clustering the development in one contiguous part of the tract and the preservation of the remaining land in agricultural, woodland, or meadow restricted from further development.

#### ENVIRONMENTAL PROTECTION 2

Environmental Protection 2 is a land use classification identical to the Environmental Protection 1 category with the exception that the maximum density is proposed to be three acres per unit. The Environmental Protection 2 classification closely follows the existing zoning district boundaries of the EP-2 zone with the exception of the Bunker Hill Road area where a change to Residential 1 is proposed. The change in land use classification of the Bunker Hill Road area is due to its inclusion in the existing 208 sanitary sewer service area. The EP-2 land use classification occupies a band to the north and south of the EP-1 category. Together, the two environmental protection classifications encompass nearly all of the Township's assessed farmland.

#### RESIDENTIAL 1

The Residential 1 classification is proposed for single family detached housing, agriculture, open space, and religious purposes, among other uses typically found in single family detached districts, at a density of one-half to one-and-a-half (.5 to 1.5) units per acre. Three general areas are proposed to be included in this category, the major undeveloped lands in the Bunker Hill Road area outside of the grounds of Rider University, the existing neighborhood behind the municipal building, and the Green Acres Country Club. All of these locations are in the public water and sanitary sewer service areas.

#### RESIDENTIAL 2

The uses proposed for the Residential 2 land use classification are single family detached housing, agriculture, and open space. Density for this category is proposed within a range of one-and-a-half to two-and-a-half (1.5 to 2.5) units per acre. The land areas proposed for this classification include the Village of Lawrenceville and almost all of the area west of the Village to Federal City Road and south of the Village to I-95. Additionally, the area around the intersection of Bunker Hill Road and Eggerts Crossing Road, the intersection of Route 206 and Eggerts Crossing Road north to Rider University, residential uses along Franklin Corner Road, and the area west of Route 206 south of the Eldridge Park School are proposed for Residential 2. Certain portions of the Residential 2 classification, such as the area north of I-95, are predominantly

developed and have little remaining vacant land. Land which is available for further housing development typically occurs on relatively small infill sites which are located in the midst of established neighborhoods. Any future residential subdivisions should be compatible with the character of adjacent development, particularly as to the actual area and width of pre-existing lots. Other relevant planning factors which should be reflected in the zoning standards include traffic, hydrology and, for the area served by the Lawrenceville Water Company, the extent to which water supply problems cited in the 1987 Master Plan have been satisfactorily addressed.

#### RESIDENTIAL 3

The Residential 3 land use classification would permit the same type of uses proposed for the Residential 1 and 2 categories. It is proposed to be applied to an area along Drift Avenue and surrounding Glenn Avenue, with two other areas south of the Green Acres Country Club. Lastly, this classification would be applied to the western end of Bunker Hill Road. Density is proposed to be two-and-a-half to four-and-a-half (2.5-4.5) units per acre.

#### RESIDENTIAL 4

Uses in the Residential 4 land use category are proposed to allow two-family residences in addition to the types of uses iterated in the Residential 1 through 3 classifications. The classification would be applied to a number of areas zoned for R-5.5 and R-4.0 in the land development ordinance. Residential 4 encompasses most of the older sections of the Township which were developed at higher densities. Proposed density in the R-4 is four-and-a-half to seven (4.5 to 7) units per acre.

#### RESIDENTIAL 5

The Residential 5 land use classification recommends the same uses as the Residential 4 category but at densities reflective of the existing development pattern. Densities in this classification are proposed at seven to ten (7 to 10) units per acre. The only area to which this land use classification is being applied is south of the Brunswick Circle between Princeton and Brunswick Avenues where a more urban character has been established. One additional use is proposed to allow single family attached housing because of the existing rowhouse development pattern found in this location.

#### APARTMENT AND TOWNHOUSE

The Apartment and Townhouse land use classification is intended for existing apartment and townhouse developments, with no new areas being designated. Steward's Crossing has been also placed in this land use classification since it meets the purpose of the district even though it was approved through the use variance process. The Tiffany Woods and Stonerise developments remain incomplete and represent the only potential areas of new development in this district. Density for the category is proposed to be between six and ten (6 to 10) units per acre.

#### SENIOR CITIZEN RESIDENTIAL

The Senior Citizen Residential land use classification has been the subject of considerable explanation in a previous section. This land use classification is proposed to be applied to the existing senior citizen housing at Lawrence Plaza and the Lawrenceville Nursing Home. Morris Hall is distinguished from these two by the combination of uses some of which are not related to senior citizen uses. Because it has a larger purpose than the more limited roles of the two other uses, it has been placed in the Education, Government, and Institutional (EGI) category discussed below.

In addition to these existing uses, the Senior Citizen Residential classification is proposed for the Diocese of Trenton site across from Morris Hall on Route 206 and a smaller ten acre site at the intersection of Denow and Federal City Roads. Two sites presently zoned for senior citizen housing would remain at Darrah Lane and Allen Lane, each approximately 15 acres in size. Additionally, overlay districts permitting senior citizen uses have been proposed for the Mixed Use Development category on Lawrence Station Road, behind Eagles Chase on Franklin Corner Road with an underlying land use classification of Research and Development, and on the Heinemann Electric site over Highway Commercial uses on Alternate Route 1.

The density for senior citizen uses is proposed to be 14 units per acre with a bed counting as half a unit. An expansion of uses is proposed as noted in the senior citizen section of this element. The combination of uses would be limited by the size of the site with more uses permitted as the parcel increased in acreage. In this fashion, residents would be able to age in place by obtaining greater levels of service if they became infirm.

#### PLANNED RESIDENTIAL DEVELOPMENT

The Planned Residential Development district is intended for places developed under the planned neighborhood development (PND), planned village development 1 and planned village development 2 zoning districts. These include such developments as the Manors at Lawrenceville and Lawrence Square Village, among others. While primarily residential in nature, certain options have allowed personal retail and service uses. The density of development is limited to a range of six to eight (6 to 8) units to the acre. A floor area ratio of .05 for non-residential uses is proposed where they are currently permitted by the land development ordinance. Only one site under this classification has not been developed, the Yorkshire Village tract between the Mercer Mall shopping center and the Delaware and Raritan Canal. Approvals have been granted to construct 485 housing units, of which 98 would be for low and moderate income senior citizens.

#### MIXED USE DEVELOPMENT

The Mixed Use Development land use classification is intended for more intensive uses in the area of the Quakerbridge Mall and combines residential and non-residential uses to a greater degree than allowed with any other land use classification. The Mixed Use Development classification would continue to be applied to the existing Town Run apartment development as well as the areas covered under the general development plan approval. This includes the area south of the PSE&G office and yard on Quakerbridge Road and along Lawrence Station Road. The Lawrence Station Road area is also proposed for an optional senior citizen overlay that would permit an alternative development plan. Proposed density is 6 to 10 units per acre with non-residential development limited to sixty percent of the total site. Floor area ratio for the net area devoted to non-residential uses would be .25, the same as the proposed Neighborhood Shops land use categories.

#### PROFESSIONAL OFFICE OPTION

The Professional Office Option is proposed for three locations along Franklin Corner Road where the underlying land use classification is Residential 2. In addition, an area between Lawrence Square Boulevard and the Amtrak main line is proposed to be an optional land use classification to the underlying Planned Residential Development category. The Professional Office Option land use classification is intended for medical, law, engineering, architecture, and other similar types of professions. The option would be

exercised through conditional use regulations in the land development ordinance. A minimum lot size of 20,000 square feet is recommended such that sufficient land is available for parking, buffering and building requirements. The floor area ratio of .20 is proposed to be continued which would permit a building of 4,000 square feet on a minimum-sized lot. While large, this is not out of scale with significant single family houses in Lawrence.

The present zoning of the tract adjacent to the Lawrence Square Village is Office Commercial. Office Commercial districts, aside from the one in question, have been constructed with significant office buildings in close proximity to the freeway system. The tract proposed for Professional Office Option may be distinguished from other Office Commercial areas on the basis of its lack of freeway access. Further, the previous master plan identified this area for a new railroad station on the main line. It was hoped that larger office uses would be able to take advantage of the rail station. Subsequently, a new station location has been identified in Hamilton Township at the Sloan Avenue exit of I-295, thereby eliminating this location from consideration. Accordingly, the ability to reduce the traffic impact of more intensive development through the use of mass transit no longer exists. These factors make identifying this location for a lesser intensity of use warranted.

#### OFFICE COMMERCIAL

The Office Commercial land use category is continued with this land use plan on the southern side of the I-95/Princeton Pike interchange, on Whitehead Road and encompassing the New Jersey Lottery building on Brunswick Circle. The category is proposed for larger scale office developments on lots of 3 acres in planned office parks and 5 acres for individual sites, continuing present practice. The bifurcation of lot size is intended to promote the integrated development of office buildings in a more uniform and planned fashion to lessen off-site impacts. The floor area ratio is proposed to be .20, however, if structured parking is provided, a floor area of up to .25 is recommended.

#### RESEARCH AND DEVELOPMENT

The Research and Development land use category is similar in the type of uses proposed as the Office Commercial classification, both are planned as larger scale office developments. The Research and Development land use classification also, as its name suggests, is proposed to allow engineering laboratories and other research facilities, hotels, and conference centers; the

latter two as conditional uses. This classification would be consistent with the present zoning. The floor area ratio would range from .20 to .25. A floor area ratio of .20 would apply to sites with surface parking lots and .25 for structured parking. No new Research and Development areas are proposed.

#### ENVIRONMENTAL PROTECTION RESEARCH AND DEVELOPMENT

This land use classification is a special version of the Research and Development category intended for large research facilities in campus settings in the general Environmental Protection 1 and 2 land use classifications. Two locations are proposed, the Educational Testing Service headquarters on Rosedale and Carter Roads, and the Bristol Myers-Squibb facility on Carter Road, Province Line Road, and Route 206. Agreements with both ETS and Bristol Myers-Squibb and the Township limit development on the sites to a floor area ratio of .10 and .12 respectively.

#### OFFICE INDUSTRIAL

The Township's limited industrial uses have been placed in this land use classification. In addition to light industrial purposes, this district is intended to include office uses, assembly, research, warehousing, and similar uses. A floor area ratio of .20 is recommended. The proposed application of this land use classification would be to existing industrial uses along the railroad track at the southern end of the Delaware and Raritan Canal, the Ewing-Lawrence Sewerage Authority plant on the Assunpink Creek; and, the PSE&G office and maintenance yard and Princeton Research Center on Quakerbridge Road.

#### ENVIRONMENTAL PROTECTION OFFICE INDUSTRIAL

A special low intensity version of the Office Industrial category is the Environmental Protection Office Industrial classification. The application of this land use classification is intended in areas with significant percentages of freshwater wetlands and hydric soils in the Bakers Basin area. This classification has also been applied to the Princeton South tract adjacent to the Delaware and Raritan Canal where wetland mapping indicates little or no developable area. The road network, in part a reflection of the difficulty in constructing roadways, is poorly developed in the Baker's Basin area. Accordingly, the floor area ratio is proposed as .10, continuing present policy.

## NEIGHBORHOOD SHOPS 1 AND 2

This land use plan includes the division of the Neighborhood Shops land use classification into two types based on lot size. Neighborhood Shops is intended for personal retail, personal service, and professional office uses yet would retain some residential uses. In general, these are older shopping districts that provide services to residents of adjacent and nearby neighborhoods, rather than to passing traffic. The Neighborhood Shops 1 is distinguished from 2 by the types of uses found in the districts, the smaller lot size, and the more cohesive identity of the shopping area. Neighborhood Shops 2 is more highway oriented, though still primarily for nearby residents. While the proposed uses are the same, the minimum lot size for the NS-1 classification is 5,000 square feet, the same as the existing Neighborhood Shops zoning, and 10,000 square feet for the NS-2 category. The NS-2 applied to Alternate Route 1 between the Brunswick Circle and Colonial Lake is intended to replace the highway commercial orientation that parts of this area contain. The larger lot size is intended to reduce the conversion of existing residences into retail uses on smaller lots that are unable to provide sufficient parking or buffering. The floor area ratio is proposed to be .25, the same as the existing zone.

## HIGHWAY COMMERCIAL

The purpose of the highway commercial land use classification is to provide areas for small and medium sized businesses for community shopping purposes. Aside from the Mercer Mall shopping center, all of the uses are in individual buildings or centers of 150,000 square feet or less. The uses depend more on the passing volume of traffic than land uses in the Neighborhood Shop and Regional Commercial classifications. Neighborhood Shops obtain their business from locally generated trips. Regional Commercial visitors make trips for shopping as an activity rather than as an adjunct to another activity.

The Highway Commercial designation is primarily along the Route 1 corridor. Other significant areas include Spruce Street adjacent to the Ewing Township border, the western part of the Brunswick Circle, and on Quakerbridge Road. A Senior Citizen Residential Overlay classification is proposed for the Heinemann Electric tract north of Colonial Lake on the eastern side of the highway as an alternative classification to Highway Commercial. The floor area ratio of .30 in the existing zoning district is proposed to continue in this land use plan.

#### REGIONAL COMMERCIAL

The Regional Commercial land use classification is a new category designed to identify the inter-municipal market for products sold at the Quakerbridge Mall. The Quakerbridge Mall is the only enclosed regional shopping center in Mercer County and as such draws shoppers from the entire county area. Secondary development surrounding the Mall and under construction in West Windsor Township will only increase the attractiveness of these retail opportunities.

The Regional Commercial land use classification is the second tract proposed as a receiving zone for the purchase of development credits in the farmland preservation district. The proposed base floor area ratio of .30 would be permitted to increase to .40 with the purchase of development credits.

#### EDUCATION, GOVERNMENT, AND INSTITUTIONAL

This land use classification is intended for educational facilities of the Lawrence Township Board of Education, Rider University, The Lawrenceville School, and significant parochial school property. In addition, the local, county, state, and federal facilities located in the Township are included in this category as well as volunteer fire companies and emergency service facilities. Lastly, significant institutional uses are also represented. In the latter sub-category are the Diocese of Trenton offices on Route 206 and Morris Hall also on Route 206 at Lawrenceville-Pennington Road. A floor area ratio of .20 is proposed.



#### SUMMARY OF RECOMMENDATIONS

- 1) A variety of techniques should be employed to retain rural character and preserve farmland.
  - Encourage and support enrollment in agricultural preservation programs.
  - Restrict sanitary sewer access to control intrusive development.
  - Restrict development to single family housing on large lots or in clusters.
  - Transfer of development credits should be encouraged to shift density to growth areas within the Township.
  - The ranking of important rural tracts should be used in the decision making process concerning acquisition or preservation of property.
  - Additional design techniques should be developed for rural area subdivisions.
- 2) Densities in the Environmental Protection land use classifications should be based on soils, underlying geology, and public infrastructure.
- 3) New infill development, particularly on small tracts in established residential neighborhoods, should be compatible with the character of adjacent pre-existing development. The small size or shape of such tracts can restrict the design flexibility to respond to conditions on adjacent properties. The zoning standards governing lot area and width in residential districts should reflect the special design challenges posed by infill development.
- 4) Transfer of development credits should continue to be promoted as a method of preserving agricultural uses.
  - The transfer development credit process should emphasize a shift in density to non-residential districts, rather than an increase in residential densities.

- Transfer incentives should be created to encourage the preservation of high priority rural tracts.
- 5) Additional types of housing for senior citizens should be allowed in the Township's land development ordinance.
- The combination of different types of housing on one site should be promoted to permit "aging in place" of the elderly.
  - A greater variety of housing types should be permitted as the size of the development tract increases.
  - ECHO housing should be permitted in designated single family detached residential districts subject to minimum lots sizes and appropriate performance standards.
- 6) Alternate Route 1 should be de-emphasized as a principal arterial highway and converted into a commercial boulevard.
- A reduction in the access classification from 3 to 4 or 6 should be sought from the New Jersey Department of Transportation.
  - An access management plan should be considered for implementation between the Township, Mercer County, and the State.
  - Streetscape standards and an urban design plan for Alternate Route 1 should be considered.
  - The creation of one or more special improvement districts should be explored as a means to implement the commercial boulevard concept.
- 7) The establishment of a Greenway Network to preserve stream corridors and provide connected open space is strongly recommended.

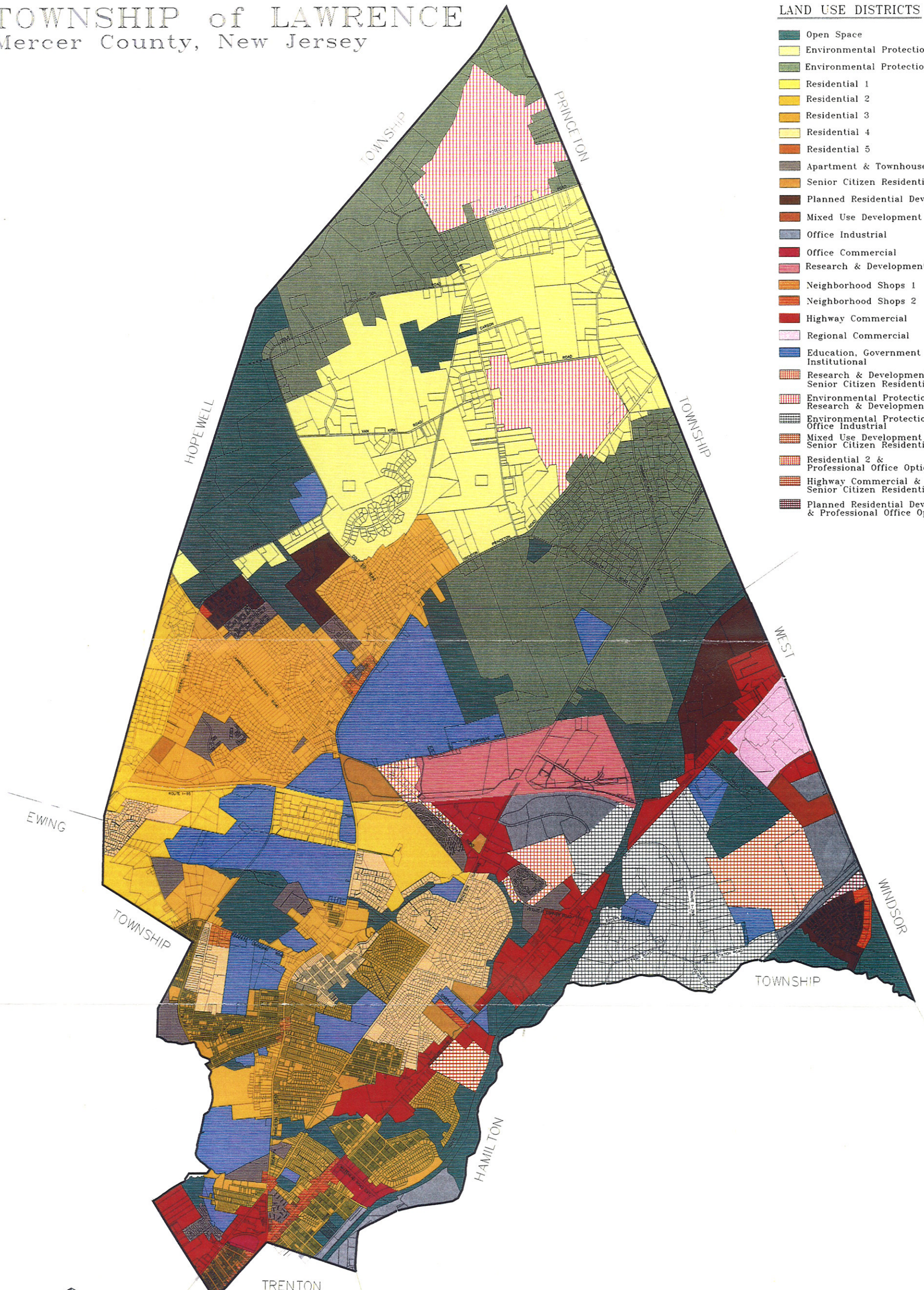


# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LAND USE DISTRICTS

-  Open Space
-  Environmental Protection 1
-  Environmental Protection 2
-  Residential 1
-  Residential 2
-  Residential 3
-  Residential 4
-  Residential 5
-  Apartment & Townhouse
-  Senior Citizen Residential
-  Planned Residential Development
-  Mixed Use Development
-  Office Industrial
-  Office Commercial
-  Research & Development
-  Neighborhood Shops 1
-  Neighborhood Shops 2
-  Highway Commercial
-  Regional Commercial
-  Education, Government & Institutional
-  Research & Development & Senior Citizen Residential
-  Environmental Protection & Research & Development
-  Environmental Protection & Office Industrial
-  Mixed Use Development & Senior Citizen Residential
-  Residential 2 & Professional Office Option
-  Highway Commercial & Senior Citizen Residential
-  Planned Residential Development & Professional Office Option





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# *Fiscal Impact Analysis*

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This Fiscal Impact analysis will examine the anticipated costs and revenues to the municipality and school district of the full development of Lawrence Township. In the analysis, the remaining vacant developable land in the Township is assumed to be developed at the full densities allowed under the Land Use Plan and its classifications. This is often called a "build-out" scenario.

The build-out analysis is a theoretical construct since as a practical matter the full development of Lawrence will take place over many years and will be subject to the changing land use dictates of future Master Plans. Even municipalities that are considered fully developed continue to have building activity through the redevelopment of obsolete or deteriorated buildings. The Fiscal Impact Analysis, however, is a useful exercise to determine the implications and trends for municipal and school district costs and revenues, since a portion of the Land Use Plan will be implemented before a reexamination of this Master Plan's policies.

This report will use the standard reference volume for fiscal analysis, *The Fiscal Impact Handbook*<sup>1</sup>, in calculating the anticipated costs of development. It should be noted that the fiscal impact methodology relies upon various assumptions concerning future costs and revenues which, while reasonable, cannot account for significant changes in such areas as inter-governmental funding relationships, real estate market forces and the like. Consequently, the figures presented in this section are estimates and projections only and should not be viewed as precise given the statistical tools available.

This part of the Master Plan should be viewed as a sub-element of the Land Use Element. The following comparison of employment and housing

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<sup>1</sup> - The full title is, *The Fiscal Impact Handbook, Estimating Local Costs and Revenues of Land Development*; 1978; Robert W. Burchell and David Listokin, et al.; Rutgers, The State University of New Jersey. A companion volume entitled, *The New Practitioner's Guide to Fiscal Impact Analysis*, 1985; Robert W. Burchell, David Listokin, and William R. Dolphin; Rutgers, The State University of New Jersey was also used in the preparation of this element.

characteristics among the municipalities in Mercer County in 1990 and a capacity analysis of the Land Use Plan will provide a background against which the fiscal analysis may be viewed.

**EMPLOYMENT COMPARISON**

In 1990 Lawrence Township had the second highest ratio of jobs to population or households among the thirteen municipalities in Mercer County. The following table provides a comparison:

**Table 46. Employment Comparison of Mercer County Municipalities, 1990.**

Municipality	1990 Covered Employment	1990 Population	Ratio of Employment to Population	1990 Households	Ratio of Employment to Households
<b>Lawrence Twp.</b>	<b>21,913</b>	<b>25,787</b>	<b>1 to 1.18</b>	<b>9,072</b>	<b>1 to 0.41</b>
East Windsor Twp.	8,516	22,353	1 to 2.62	8,591	1 to 1.01
Ewing Twp.	14,622	34,185	1 to 2.34	12,049	1 to 0.82
Hamilton Twp.	21,611	86,553	1 to 4.01	32,531	1 to 1.51
Hightstown Twp.	2,746	5,126	1 to 1.87	2,005	1 to 0.73
Hopewell Boro.	451	1,968	1 to 4.36	771	1 to 1.71
Hopewell Twp.	3,014	11,590	1 to 3.85	3,924	1 to 1.30
Pennington Boro.	1,105	2,537	1 to 2.30	918	1 to 0.83
Princeton Boro.	18,857	12,016	1 to 0.64	3,231	1 to 0.17
Princeton Twp.	4,417	13,198	1 to 2.99	5,194	1 to 1.18
Trenton City	23,225	88,675	1 to 3.82	30,673	1 to 1.32
Washington Twp.	1,961	5,815	1 to 2.97	2,413	1 to 1.23
West Windsor Twp.	11,114	16,021	1 to 1.44	5,405	1 to 0.43
<b>Total - Mercer Co.</b>	<b>133,552</b>	<b>325,824</b>	<b>1 to 2.44 av.</b>	<b>116,777</b>	<b>1 to 0.87 av.</b>

*Source: NJ Dept. of Labor, Division of Planning and Research, Office of Demographic and Economic Analysis, February 1994 and Mercer County Data Book, 1993; Mercer County Planning Division*

The employment data shows a healthy ratio of jobs in Lawrence to the population and the number of households, exceeded only by Princeton Borough in Mercer County. Furthermore, the Township hosts more than twice as many jobs as compared to the County-wide averages for its population and number of households.

#### DEVELOPMENT CAPACITY ANALYSIS

As a precursor to analyzing the anticipated costs and revenues from the theoretical build-out of the municipality, the land areas of the twenty-six land use classifications (including optional development categories) were examined for potential development based on the applicable densities and floor area ratios in each district and the extent of constrained land.

The analysis examined only the land identified as vacant in the Existing Land Use Plan and assumes the development of all presently farmed land that is not deed-restricted for agricultural uses. Naturally, actual future development patterns will vary, perhaps substantially, from these assumptions. However, they represent a standard approach which is useful for the relatively imprecise nature of build-out analysis. Table 47 on the following page presents this analysis.

Two land use classifications were not analyzed, the Open Space and Educational, Government, and Institutional categories. The Open Space category is expected to have essentially no building construction which would exert a fiscal impact on the Township. The Educational, Government, and Institutional categories were not analyzed because of their tax exempt status which makes the normal economic forces for development inappropriate and unpredictable. In any event, it is not anticipated that the development in this land use classification will be significant.

One additional land use classification is an optional development scenario. This is the Senior Citizen Residential Option in two locations. The first is on Lawrence Station Road as part of the Mixed Use Development category. The second is on the Heinemann Electric tract on Alternate Route 1 as part of the Highway Commercial land use classification. The development capacity under the optional use in this area has been projected in Table 47. However, since this is an alternative use to the underlying principal use classification, it has not been included in the totals.

**Table 47. Estimated Development Capacity of the Land Use Plan, Lawrence Township**

Land Use Classification	Undeveloped Acreage	Constrained Acreage	Developable Acreage	DU/Acre or F.A.R.	Approved But Unbuilt	Land Not Approved	Total DU or Sq.Ft.
Open Space	-	-	-	-	-	-	-
Environmental Protection 1	749.4	239.4	510.0	.16 to .30	60	87	147
Environmental Protection 2	1,162.8	336.9	825.9	.30 to .5	33	214	247
Residential 1	129.8	59.3	70.5	.5 to 1.5	0	59	59
Residential 2	134.7	55.1	79.6	1.5 to 2.5	117	70	187
Residential 3	33.1	20.8	12.3	2.5 to 4.5	0	39	39
Residential 4	25.3	2.6	22.7	4.5 to 7	0	106	106
Residential 5	0.0	0.0	0.0	7 to 10	0	0	0
Apartment and Townhouse	0.0	0.0	0.0	6 to 10	0	0	0
Senior Citizen Residential	69.5	6.2	63.3	6 to 14	100	645	745
Senior Citizen Residential Option	264.2	131.2	133.0	6 to 14	0	1,935*	1,935*
Planned Residential Development	168.0	81.2	86.8	6 to 8	387	0	387
Mixed Use Development (Residential)	199.9	102.0	97.9	6 to 8	210	1,002	1,212
Professional Office Option	7.2	3.8	3.4	0.20	0	65,000	65,000
Office Commercial	0.0	0.0	0.0	0.20	0	0	0
Research and Development	208.7	53.0	155.7	0.20	360,000	1,090,000	1,450,000
EP Research & Development	355.0	289.3	65.7	.10 to .12	377,000	445,000	822,000
Office Industrial	52.1	17.3	34.8	0.20	356,000	0	356,000
EP Office Industrial	333.7	270.7	63.0	0.10	0	270,300	270,300
Neighborhood Shops 1	0.0	0.0	0.0	0.25	0	0	0
Neighborhood Shops 2	4.3	0.0	4.3	0.25	0	47,350	47,350
Highway Commercial	45.1	6.0	39.1	0.30	0	484,400	484,400
Regional Commercial	109.7	0.0	109.7	0.40	0	400,000	400,000
Mixed Use Development (Commercial)	6.8	0.0	6.8	N/A	0	50,000	50,000
Education, Government & Institutional	-	-	-	0.20	-	-	-
<b>Total</b>	<b>3,795.1</b>	<b>1,543.6</b>	<b>2,251.5</b>				
<b>Total Township Acreage</b>	<b>14,169.6</b>			<b>Total Units</b>	<b>907</b>	<b>2,222</b>	<b>3,129</b>
<b>Percentage Undeveloped</b>	<b>26.78%</b>			<b>Total Square Footage</b>	<b>1,093,000</b>	<b>2,852,050</b>	<b>3,945,050</b>

\* Notes: The tract area and units permitted under the senior citizen option are not included in the totals since the totals already include the area, dwelling units and commercial floor area permitted in the underlying districts. Similarly, the tract area and floor area permitted under the R&D option are not included in the totals.

The undeveloped acreage in Lawrence is about 3,795 acres or 27% of the Township's total of 14,170± acres. Of the vacant area, about 1,544 acres or 41% is constrained by wetlands, flood plains, and steep slopes, leaving approximately 2,251 developable acres. The estimated number of housing units and the commercial and industrial floor area capacities were determined by the examination of each development parcel and associated environmentally sensitive lands in conjunction with the densities and floor area ratios of the respective land use classifications.

#### FISCAL IMPACT MULTIPLIERS

Several multipliers are used in the calculation of fiscal impact in order to estimate population, the number of school-aged children, the percentage of public school students, and the expected number of employees. The multipliers used in this analysis are shown in Table 48 on the next page.

#### POPULATION MULTIPLIERS

The multipliers for single family detached houses have been updated to reflect the most recent demographic trends based on 1990 Census data. These revisions have been prepared, although not yet published, by the Center for Urban Policy Research at Rutgers University (CUPR). Where no update has been issued from CUPR, the existing multipliers have been used, notably in the townhouse portion of the Planned Residential Development and garden apartments in the Mixed Use Development land use categories. For senior citizen developments, a multiplier of 1.2 persons per unit was used to reflect the smaller households found in age-restricted communities.

The household projections are predicated on several assumptions about housing type and number of bedrooms. Housing units in the Environmental Protection 1 and 2, and Residential 1 and 2 land use classifications are assumed to be four-bedroom single family detached units. Residential 3 and 4, and a portion of the Planned Residential Development (corresponding to part of the approved Yorkshire Village plan) are assumed to be three-bedroom single family detached units. The Senior Citizen Residential category is assumed to be either an apartment or townhouse. The remaining section of the Planned Residential Development classification is assumed to be townhouses (also part of the Yorkshire Village approved plan). Lastly, the Mixed Use Development residential component is assumed to be garden apartments.



**Table 48. Estimated Residents, Employees and School Children, Lawrence Township**

<b>Residential Land Use Classification</b>	<b>Total Dwellings</b>	<b>Household Multiplier</b>	<b>Number of Residents</b>	<b>School-Aged Multiplier</b>	<b>School-Aged Children</b>	<b>Public School Multiplier</b>	<b>Public School Students</b>
Environmental Protection 1	147	3.890	572	1.328	195	0.858	168
Environmental Protection 2	247	3.890	961	1.328	328	0.858	282
Residential 1	59	3.890	230	1.328	78	0.858	67
Residential 2	187	3.890	727	1.328	248	0.858	213
Residential 3	39	3.080	120	0.590	23	0.890	20
Residential 4	106	3.080	326	0.590	63	0.890	56
Senior Citizen Residential	745	1.200	894	0.000	0	0.000	0
Planned Residential Development (Town.)	135	2.808	379	0.532	72	0.874	63
Planned Residential Development (SFD)	252	3.080	776	0.590	149	0.890	132
Mixed Use Development (Residential)	1,212	1.904	2,308	0.186	225	0.906	204
<b>Total</b>	<b>3,129</b>		<b>7,293</b>		<b>1,381</b>		<b>1,205</b>

<b>Non-Residential Land Use Classification</b>	<b>Square Footage</b>	<b>Sq. Ft. Per Employee</b>	<b>Number of Employees</b>
Professional Office Option	65,000	250	260
Research and Development	1,450,000	250	5,800
EP Research & Development	822,000	500	1,644
Office Industrial*	356,000	250/800	641
EP Office Industrial**	270,300	250/2,000	277
Neighborhood Shops 2	47,350	500	95
Highway Commercial	484,400	500	969
Regional Commercial	400,000	500	800
Mixed Use Development (Commercial)	50,000	500	100

\* - 20% Office and 80% manufacturing  
 \*\* - 15% Office and 85% warehousing

**Total** **3,945,050** **10,585**

Notes: Land use classifications for which no development is anticipated are not included in Table 48. Also, the development permitted under the Senior Citizen Residential Option is not included in Table 48 since the impact of development from the underlying district is already included.

The projections yield a build-out population 7,293 persons higher than the present estimate of 27,236 for a future Township population of 34,529. Population projections prepared by other agencies (see Table 15 in the Housing Plan Element) range from 30,178 to 34,635 persons by the year 2010.

If the higher population projection proves to be accurate, under the Land Use Plan in this document the Township would essentially approach its residential build-out capacity within the next 15 years. However, due to the cycle of market forces, constraints on infrastructure and community facilities, among other factors, the ultimate build-out will likely extend well beyond 2010.

The number of additional school-aged children expected to reside in the Township at build-out is 1,381. A certain percentage of students are expected to attend non-public schools, based in part on the type of housing unit occupied and the number of bedrooms. These ratios, when applied to the projected number of school-aged children yield a net result of 1,205 additional public school students from a fully developed municipality.

#### EMPLOYEE MULTIPLIERS

Table 48 includes an estimate of the number of employees that may be expected from the non-residential floor area to be developed and listed in Table 47. Standards regarding the amount of square footage per employee for different land uses are based on case studies produced by the Urban Land Institute and several prominent planning and architectural references. Office uses are assumed to provide 250 square feet per employee; research and development uses, 500 square feet per employee; manufacturing, 800 square feet per employee; warehousing, 2,000 square feet per employee; and retail, 500 square feet per employee. Based on these standards, the number of additional employees from full development would be 10,585. When combined with the 1990 Covered Employment total of 21,913, the total covered employment within Lawrence Township at build-out is projected at 32,498.

#### ADDITIONAL REVENUES ANTICIPATED FROM FULL DEVELOPMENT

The amount of property tax revenue anticipated from full development of the municipality under the Land Use Plan policies is shown in Table 49 (p. 226).

The 3,129 dwelling units are estimated to have a market value of \$501.4 million, with an equalized assessed valuation (at 99.79%) of \$500.1 million in 1995 dollars. A conservative approach has been taken in establishing average housing values in the different land use districts. Based on an estimated 1995 tax rate of \$.43 per \$100 and \$1.24 per \$100 of assessed valuation for the municipality and school district, respectively, the taxes raised would equal \$8,351,463. Of that amount \$2,150,377 would be for municipal purposes and \$6,201,086 would be for school purposes.

Estimated market values for different types of non-residential space range from \$40 (warehouse) to \$150 (regional commercial) per square foot. The estimated market value for 3,945,050 square feet is \$456.8 million, with an equalized assessed valuation of \$455.8 million. The estimated municipal taxes would be \$1,960,150 and the school district would raise \$5,652,527, for a total of \$7,612,667. Combined, the additional local purpose taxes raised from both residential and non-residential development at build-out would equal \$15,964,140 in 1995 dollars. For purposes of comparison, the total amount to be raised from local property taxes in 1995 is \$9,772,639 for municipal purposes and \$25,909,713 for school purposes for a total of \$35,682,352.

#### ADDITIONAL LOCAL COSTS ANTICIPATED

The fiscal impact calculations are based on several methods. The municipal impact has been divided into residential and non-residential impacts. Residential impact is determined by multiplying the projected additional population by the current per capita cost to provide governmental services. This approach, which assumes a static relationship between municipal costs and population, yields reasonable estimates of future costs in relatively mature suburban communities such as Lawrence. The employment anticipation method is used for determining the fiscal impact of non-residential development.

The school district impact is based on a straightforward multiplication of the projected public school student population by the current cost per student educated in the Lawrence Township school district.

**Table 49. Estimated Equalized Value of Development Capacity in the Land Use Plan, Lawrence Township**

<b>Residential Land Use Classification</b>	<b>Total Dwellings</b>	<b>Estimated Value Per Unit</b>	<b>Estimated Market Value</b>	<b>Equalized* Value</b>	<b>Municipal^ Est. Taxes</b>	<b>School^^ Est. Taxes</b>
Environmental Protection 1	147	\$400,000	\$58,800,000	\$58,676,520	\$252,309	\$727,589
Environmental Protection 2	247	\$350,000	\$86,450,000	\$86,268,455	\$370,954	\$1,069,729
Residential 1	59	\$300,000	\$17,700,000	\$17,662,830	\$75,950	\$219,019
Residential 2	187	\$275,000	\$51,425,000	\$51,317,007	\$220,663	\$636,331
Residential 3	39	\$200,000	\$7,800,000	\$7,783,620	\$33,470	\$96,517
Residential 4	106	\$140,000	\$14,840,000	\$14,808,836	\$63,678	\$183,629
Senior Citizen Residential	745	\$110,000	\$81,950,000	\$81,777,905	\$351,645	\$1,014,046
Planned Residential Development (Town.)	135	\$125,000	\$16,875,000	\$16,839,563	\$72,410	\$208,810
Planned Residential Development (SFD)	252	\$175,000	\$44,100,000	\$44,007,390	\$189,232	\$545,692
Mixed Use Development (Residential)	1,212	\$100,000	\$121,200,000	\$120,945,480	\$520,066	\$1,499,724

**Total** **3,129** **\$501,140,000** **\$500,087,606** **\$2,150,377** **\$6,201,086**

<b>Non-Residential Land Use Classification</b>	<b>Square Footage</b>	<b>Estimated Sq.Ft. Value</b>	<b>Estimated Market Value</b>	<b>Equalized Value</b>	<b>Municipal Est. Taxes</b>	<b>School Est. Taxes</b>
Professional Office Option	65,000	\$90	\$5,850,000	\$5,837,715	\$25,102	\$72,388
Research and Development	1,450,000	\$120	\$174,000,000	\$173,634,600	\$746,629	\$2,153,069
EP Research & Development	822,000	\$150	\$123,300,000	\$123,041,070	\$529,077	\$1,525,709
Office Industrial***	356,000	\$90/\$40	\$17,800,000	\$17,762,620	\$76,379	\$220,256
EP Office Industrial**	270,300	\$90/\$40	\$12,839,250	\$12,812,287	\$55,093	\$158,872
Neighborhood Shops 2	47,350	\$100	\$4,735,000	\$4,725,057	\$20,318	\$58,591
Highway Commercial	484,400	\$110	\$53,284,000	\$53,172,104	\$228,640	\$659,334
Regional Commercial	400,000	\$150	\$60,000,000	\$59,874,000	\$257,458	\$742,438
Mixed Use Development (Commercial)	50,000	\$100	\$5,000,000	\$4,989,500	\$21,455	\$61,870

**Subtotal** **3,945,050** **\$456,808,250** **\$455,848,953** **\$1,960,150** **\$5,652,527**

**Total** **\$957,948,250** **\$955,936,559** **\$4,110,527** **\$11,853,613**

\* - Based on a Township 1995 equalization ratio of 99.79%

\*\* - 20% Office and 80% manufacturing

\*\*\* - 15% Office and 85% warehousing

^ - 1995 estimated rate of \$.43/\$100 of assessed valuation

^^ - 1995 estimated rate of \$1.24/\$100 of assessed valuation

Note: Square foot values provided by Tax Assessor

MUNICIPAL: RESIDENTIAL

Per capita municipal costs are figured by dividing the total appropriated 1995 budget of \$24,756,726 by the estimated 1995 population. The population of Lawrence was 25,787 in April, 1990. The U.S. Census Bureau in coordination with the State Data Center issued a population estimate of 26,225 people in July, 1992 (the latest figures available). By straight line projection, the rate of increase established between these two time periods establishes an estimated population of 27,236 persons in April, 1995. Thus the per capita cost of the 1995 municipal budget is \$909 ( $\$24,756,726/27,236$ ).

Multiplying the per capita cost times the projected additional population at build-out of 7,293 results in a municipal residential cost of \$6,629,337. Estimated municipal purpose tax revenues from the residential development are \$2,150,377 (see Table 49). However, the municipal budget contains significant revenues from sources other than property taxes. The amount to be raised in 1995 from property taxes, \$9,772,639, is only 39.5% of the total appropriation of \$24,756,726 for the 1995 budget. Many of the other revenues from intergovernmental transfers are population sensitive so that an increase in the number of persons residing in the municipality would lead to an increase in revenues. Assuming that the ratio of property taxes to total appropriation continues to full build-out, the amount of revenue to be generated from the additional residential development would be \$5,443,992 - still a deficit of \$1,185,345 over additional costs.

MUNICIPAL: NON-RESIDENTIAL

The employment anticipation model requires the municipal budget to be disaggregated into General Government, Public Safety, Public Works, Health and Welfare, Recreation and Culture, Statutory and Unclassified, and Debt Service categories. This approach uses incremental multipliers which have been determined through case study to be typical of New Jersey municipalities with a population between 25,000 and 50,000 persons. The multipliers project the incremental municipal service cost for each employee added to the employment base through new development.

Different multipliers apply to commercial development as opposed to industrial development. From Table 48, the number of additional employees involved in a build-out of commercial development is 10,229 and from industrial development, 356. The additional costs from commercial and industrial development are represented below:

**Table 50. Municipal Cost at Build-Out from Commercial and Industrial Development.**

<b>Service Category</b>	<b>Additional Cost Commercial</b>	<b>Additional Cost Industrial</b>
General Government	\$122,505	\$158
Public Safety	273,462	18,525
Public Works	369,101	494
Health and Welfare	8,749	304
Recreation and Culture	149,128	3,970
Statutory and Unclassified	1,313,924	23,539
Debt Service	<u>1,142,960</u>	<u>12,912</u>
Subtotals	\$3,379,828	\$59,902
		<u>+\$3,379,828</u>
<b>Total Non-Residential Cost</b>		<b>\$3,439,730</b>

Estimated municipal purpose tax revenues from non-residential development at build-out are \$1,960,150 (see Table 49). In similar fashion to the projection of residential revenues, the non-residential local tax revenues are assumed to represent only 39.5% of total additional municipal revenues attributable to the non-residential development at build-out. Holding that ratio constant yields revenues from additional non-residential development of \$4,962,405 - a surplus of \$1,522,675 over additional costs.

#### SCHOOL DISTRICT COSTS

The additional school district costs resulting from full build-out can be estimated by multiplying the projected additional public school students - 1,205 (see Table 48) - by the average cost per student. In 1995, the total budget for the Lawrence Township Board of Education is \$31,182,824. Based on a reported 1995 enrollment of 3,559, the education costs amount to an average of \$8,762 per student.

Thus the additional school district costs attributable to the residential development at full build-out are estimated to be \$10,558,210 (1,205 students

x \$8,762 per student). There are no educational costs generated by non-residential development.

Estimated school district tax revenues from the additional development at build-out are set forth in Table 49. Residential development revenues are projected at \$6,201,086 and non-residential development revenues at \$5,652,527 for a combined total of \$11,853,613.

However, like the municipal budget, the school district receives significant revenues from sources other than property taxes. Of the entire appropriation for school purposes of \$31,182,824 only \$25,909,713 or 83.1% is to be raised from local property taxes. Assuming that this ratio holds constant through build-out, the total amount of revenue to be generated from additional development is projected to be \$14,264,276. This is comprised of \$11,853,613 from local property taxes and \$2,401,663 from other sources. This revenue projection yields an annual surplus of \$3,706,066 over anticipated costs.

#### SUMMARY

Based on the foregoing analysis, the fiscal impact of full build-out of Lawrence Township according to the Land Use Plan is well balanced and will yield an annual surplus of revenues over public service costs.

With regard to the municipal budget, residential development is projected to generate additional revenues of \$5,443,992 and costs of \$6,629,337 for an annual deficit of \$1,185,345. Non-residential development is projected to generate additional revenues of \$4,962,405 and costs of \$3,439,730 for an annual surplus of \$1,522,675. Taken together the combined fiscal impact on municipal services of all development is projected to be an annual surplus of \$337,330.

With regard to the school budget, residential development is projected to generate additional annual costs of \$10,558,210 to educate an estimated 1,205 public school students. These costs will be offset by additional revenues of \$14,264,276 from both residential and non-residential development, yielding an annual surplus of \$3,706,066.

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# *Consistency with Other Planning Documents*

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## INTRODUCTION

The Master Plan of Lawrence is designed to specifically address land use policies within the Township, but it must also be reviewed in light of the land development policies of surrounding municipalities, Mercer County, the State Development and Redevelopment Plan, and the district's solid waste management plan. This statement will relate the Land Use Element and Plan, and the municipality's goals and objectives to the land development policies contained in the foregoing documents.

## LAND USE POLICY IN SURROUNDING MUNICIPALITIES

### PRINCETON TOWNSHIP

Most of the adjacent areas of Princeton Township are zoned R-1. The R-1 district permits single family houses on 2 acre lots at a density of 0.5 units/acre. The R-1 zone also allows a cluster option. The cluster option permits single-family, two-family, multi-family and townhouse structures provided that the maximum number of units permitted under the conventional R-1 zoning is not exceeded.

Small portions of Princeton's R-1/AH district also border Lawrence Township. The R-1/AH permits the same uses as the R-1 district but provides for an increase in the base density in exchange for either conveyance of land for affordable housing or development of affordable housing in designated areas.

The Lawrence Master Plan designates most of the areas bordering on Princeton Township as EP-1 and EP-2. The EP-1 district proposes development of single family homes on four acre lots. The EP-2 district proposes development of single family homes on three acres. These single family residential districts are generally compatible with Princeton's R-1 district, albeit at a lower density. The areas of Princeton designated as R-1/AH



*Statement of Consistency with Other Planning Documents*  
*Lawrence Township · Mercer County*

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- where higher densities are permitted - either have already or are expected to be developed with sufficient open space areas to provide a transitional buffer between developments.

WEST WINDSOR TOWNSHIP

Most of the adjacent areas of West Windsor are zoned either ROM-1 or ROM-4. In addition, certain limited portions are zoned R-2.

The ROM-1 district permits research, office and limited manufacturing uses. It requires a minimum lot size of 7 acres and a maximum floor area ratio (FAR) ranging from .22 to .30. The district also permits mixed use planned development which includes incentives to provide affordable housing. Similarly, the ROM-4 district permits research, office and limited manufacturing uses. The minimum lot area is 5 acres and the maximum FAR ranges from .22 to .30.

The R-2 district permits single family detached units on 1 acre lots ( or 3/4 acre lots with public water or public sewer).

The land use classifications in the Lawrence Township Master Plan for boundary areas are compatible with West Windsor's zoning. The Master Plan designations primarily fall into office or commercial categories (including Highway Commercial, Regional Commercial, Office Industrial, Mixed Use Development, and Professional Office Option). The type and intensity of development permitted by these designations is consistent with West Windsor's zoning. The only minor discrepancy relates to the Lawrence Master Plan's designations for Planned Residential Developments and West Windsor's ROM-1 and ROM-4 districts. These discrepancies can be mitigated at the site plan application stage. As an example, the approved subdivision for the PRD in Lawrence (Yorkshire Village) includes substantial landscape buffers.

HAMILTON TOWNSHIP

Adjacent land use in Hamilton Township is designated for conservation purposes. The conservation district permits single family detached development with a minimum 5 acre lot size. The portion of Hamilton near the Lawrence and Trenton borders is zoned I (Industrial) and a portion of Hamilton, south of the Lawrence and West Windsor borders is zoned MFG (Manufacturing). The I and MFG districts permit a full spectrum of industrially related uses, including warehouses. The minimum lot area is 2 acres and the maximum

*Statement of Consistency with Other Planning Documents*  
*Lawrence Township · Mercer County*

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FAR is .25 for both districts.

In addition, small portions of Hamilton's R-15 district abut Lawrence along the Delaware and Raritan Canal in the Baker's Basin area. The R-15 district is intended for single family detached residences on minimum lot sizes of 15,000 square feet.

The Master Plan of Lawrence is largely consistent with the existing zoning of Hamilton Township.

TRENTON CITY

The portions of Trenton adjacent to Lawrence are zoned BB (Business), RB (Residence), RB-1 (Residence), IA (Industrial) and IB (Industrial).

The BB district permits retail and personal service shopping and is primarily designed for neighborhood shopping and business convenience. It also permits residential uses including single-family detached, semi-detached, two-family, row-house and multi-family structures. Minimum lot size requirements range from 2,000 to 4,000 square feet. The RB and RB-1 districts permit single family detached, semi-detached and row house structures. Minimum lot size requirements range from 2,000 to 4,000 square feet. The I-A district permits heavy industrial uses.

The areas on the borders of Trenton and Lawrence are largely built-out, with few remaining vacant parcels. In this area, the Master Plan designates Highway Commercial, Residential 5, and Office Industrial land uses. The Master Plan's designations are compatible with Trenton's zoning.

EWING TOWNSHIP

The portion of Ewing near the border of Lawrence and Hopewell Townships is zoned R-2. The R-2 district permits single family houses on minimum lot sizes ranging from 10,000 (interior lots) to 12,100 square feet (corner lots) at a density of about 4 units per acre. South of the R-2 districts are two industrial park districts, IP-1 and IP-3. These zones permit manufacturing and office uses. The IP-1 district requires a minimum lot size of 3 acres with a maximum floor area ratio of .13. The IP-3 district requires a minimum lot size of 4,000 square feet and a maximum floor area ratio of .25. The B-H district is located near the border of Lawrence and Trenton. The B-H (Highway Business) district requires a minimum lot size of 20,000 square feet and permits a

*Statement of Consistency with Other Planning Documents*  
*Lawrence Township · Mercer County*

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maximum lot coverage of 75%.

The Lawrence Master Plan is generally compatible with Ewing's zoning. There are, however, two discrepancies. First, Ewing's IP-1 and IP-3 industrial districts conflict with residential areas in Lawrence. The Shabakunk Creek functions as a buffer along the border and helps to mitigate this conflict. Lawrence has established neighborhoods in this area where it would be impractical to propose non-residential development. The land in Ewing, however, is largely undeveloped and should be reviewed and amended to more compatible uses through that Township's master plan process.

Secondly, Ewing's R-2 zoning (at 4 units per acre) allows four times the density of development permitted in Lawrence's R-1 district. This area, however, is characterized by substantial environmentally sensitive lands on which development is unlikely under present wetlands regulations. This provides a natural buffer between the densities proposed in this Master Plan and those in Ewing's R-2 district.

HOPEWELL TOWNSHIP

The portion of Hopewell Township bordering on Lawrence from the Princeton Township line in the north to Lawrenceville-Pennington Road is zoned R-200, R-250 and R-100. These districts permit only single family detached dwellings. The minimum lot size in the R-250 district is 3 acres. The minimum lot size in the R-200 district is 80,000 square feet (or 40,000 square feet under a cluster design option). The minimum lot size in the R-100 district is 20,000 square feet (with sewers) or 40,000 square feet (with on-lot wells or septic systems).

The remaining abutting lands in Hopewell south of Lawrenceville-Pennington Road are zoned R-5, R-100 and R-100-G. The R-5 district and R-100-G districts both require participation in the production of affordable housing. Projects with more than 50 units are required to set aside a minimum of 20% of their total number of units for affordable housing. Developments with fewer total units have the option of contributing money to a housing trust fund in lieu of construction.

The R-5 district permits atrium, patio, townhouse, duplex, quadraplex, garden apartment, and single family detached dwellings. The maximum density in the R-5 district is 5 units per acre.

*Statement of Consistency with Other Planning Documents*  
*Lawrence Township · Mercer County*

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The R-100-G district permits single family detached units and townhouses if sanitary sewer and water distribution systems are available. The maximum density for single family detached development is 2.0 units per acre and the maximum density for townhouses is 2.5 units per acre. If sewer and water are not available, only single family development at 1.0 unit per acre is permitted.

In both the R-5 and R-100-G districts, government financed affordable housing projects are permitted at densities of up to 15 units per acre for senior citizen projects and 10 units per acre for non-age restricted projects, provided sewer and water are available.

Lawrence's Master Plan is generally compatible with Hopewell Township's zoning. The only substantive discrepancy involves Hopewell's R-5 and the R-100-G districts. Government-financed affordable housing projects of up to 10 and 15 units per acre are permitted in both districts and the R-5 district permits 5 units per acre for other affordable housing projects. Development of this intensity would be substantially more intense than permitted in Lawrence's R-2 designation. However, little vacant land exists in Lawrence in this area. Future development in these districts in Hopewell should be monitored to minimize land use conflicts.

Lawrence's Master Plan is generally compatible with the zoning of all surrounding municipalities. Careful site plan or subdivision review will be able to mitigate minor zoning discrepancies or inconsistencies.

#### COMPATIBILITY WITH REGIONAL AND STATE PLANNING DOCUMENTS

The consistency of the Master Plan with regional and state plans is examined in this section. The documents compared include Mercer County plans and the State Development and Redevelopment Plan (SDRP), the district solid waste management plan, and airport safety requirements.

#### MERCER COUNTY PLANS

Analysis of the Lawrence Master Plan's compatibility with county plans included a review of Volumes 1 and 2 of the Mercer County Growth Management Plan (January 1986), the Mercer County Growth Management Plan: Open Space and Recreation Plan (October 1992 and September 14, 1993

*Statement of Consistency with Other Planning Documents*  
*Lawrence Township · Mercer County*

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amendments), and the Mercer County Highway and Facilities Map<sup>1</sup> (1985).

The Mercer County Growth Management Plan represents the county's master plan for development. It was prepared in 1986 under the New Jersey County Planning Act as a guide for land development. The Growth Management Plan divides Lawrence into four classifications: urban growth area, regional growth area, suburban growth area, and limited growth/agricultural area.

The recommended intensity of development for both the Urban and Regional Growth Areas is a residential density of 5 or more units per acre and non-residential development of more than 32,000 square feet per acre. The Urban Growth Area is depicted from Slackwood Avenue south to Trenton. The Regional Growth Area comprises the Route 1 corridor north from its interchange with Interstate 95/295. Its width is essentially from the Delaware and Raritan Canal to Lawrence Station Road.

The Growth Management Plan recommends that the intensity of development in Suburban Growth Areas range within the following densities: 0.5 to 4 dwelling units per acre for residential development and 8,000 to 32,000 square feet per acre for non-residential development. Most of Lawrence falls within this category. It includes the Main Street (Route 206) Lawrenceville business district, which the plan designates as a "village center".

The Plan recommends that the intensity of development in Limited Growth/Agricultural Areas should not exceed 0.5 dwelling units per acre for residential and 8,000 square feet per acre for non-residential development. This includes the central portion of the Township outside of The Lawrenceville School and the area generally west of Carter Road to Hopewell Township.

The Lawrence Master Plan is substantially consistent with the County Growth Management Plan. It should be noted that the County Growth Management Plan standards are much broader than those in the Lawrence Master Plan. This difference reflects the County Master Plan's conception as a broad-based policy document as contrasted with the Lawrence Master Plan's purpose as a local, detailed planning tool which serves as the foundation for a site specific land development ordinance.

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<sup>1</sup> - The Mercer County Cross Acceptance Report (June 16, 1989) was also reviewed. This document deals with SDRP designations discussed in the next section.

*Statement of Consistency with Other Planning Documents*  
*Lawrence Township · Mercer County*

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Minor discrepancies include the following:

- 1) The area immediately north of Federal City Road, by the intersection of Pennington-Lawrenceville Road, is shown as "suburban growth" on the Mercer County Plan. The Lawrence Master Plan classifies this area as EP-1 due to its location in an airport hazard zone.
- 2) The area lying on the easterly side of Princeton Pike, around Fackler Road, is shown on the Mercer County Growth Management Plan as "suburban growth". The Lawrence Master Plan recommends the equivalent of "limited growth", due to wetlands and related environmental limitations, lack of infrastructure and traffic congestion.
- 3) A few inconsistencies exist between the Growth Management Plan and the County's agricultural preservation plan. The Township's proposed land use plan is consistent with the County's agricultural designations.

These discrepancies do not constitute incompatibilities between these two planning instruments. In fact, the Lawrence Master Plan is compatible with the County Growth Management Plan and with all other County Plans and instruments reviewed.

#### MERCER COUNTY DISTRICT SOLID WASTE MANAGEMENT PLAN

Mercer County has adopted a Solid Waste Management Plan in accordance with state law. The Solid Waste Management Act established a comprehensive system for the regulation of solid waste collection, recycling and disposal. The Act authorizes counties to develop and implement comprehensive solid waste management plans which meet the needs of municipalities within the County.

The Mercer County Solid Waste Management Plan includes a recycling element adopted to implement the requirements of the State Mandatory Source Separation and Recycling Act. The County has entered into intra-district agreements with each of the thirteen municipalities in Mercer County, including Lawrence.

The Lawrence Township plan, including recycling, is consistent with the District Solid Waste Management Plan and complies with all applicable state laws.

#### AIR SAFETY AND HAZARDOUS ZONING ACT

The "runway subzone" hazard area of the Twin Pines Airport, located in Hopewell Township near Lawrenceville-Pennington Road and Federal City Road, lies within Lawrence. Runway subzone hazard areas are delineated by the Air Safety and Zoning Act of 1983 N.J.S.A. 6:1-80 et seq.

The Air Safety and Hazardous Zoning Act was enacted to prevent "the creation or establishment of airport hazards that tend to destroy or impair the utility of the airport and the public benefits therein". The Act establishes "airport safety zones". Municipalities in which airport safety zones are located must adopt an ordinance incorporating the standards promulgated by New Jersey Department of Transportation (NJDOT). The Act also defines certain areas as "clear zones" and "runway subzones". Restrictions apply to development in both areas.

Permitted land uses within the runway subzone include industrial, commercial, open space, agriculture and transportation facilities. These uses must follow specified height and related standards to minimize obstruction to flight patterns. Specifically prohibited uses include (but are not limited to) housing, hospitals and schools. Existing structures in the subzone are either non-conforming uses, or if determined by the municipality, conditional uses.

The Lawrence Master Plan designates most of the land within the runway subzone as Environmental Protection (EP-1) or Open Space (OS). The open space classification is clearly consistent with the Act. The EP-1 classification with a relatively low density of 3 to 4 acres per unit, generally conforms with the spirit of the Act, provided the actual siting of housing can be clustered outside the Airport Safety Zone. The runway subzone also includes portions of the Planned Residential Development (PRD) district at the Manors. However, this area has already been developed and predates the legislation.

#### STATE DEVELOPMENT AND REDEVELOPMENT PLAN

The New Jersey State Development and Redevelopment Plan (SDRP) was formulated to facilitate coordinated planning among state agencies and to efficiently allocate scarce state resources. The SDRP was adopted on June 12, 1992. The SDRP is a policy guide for state, regional and local governments and agencies, functioning in a comparable fashion to the County's Plan but on a state-wide scale.

*Statement of Consistency with Other Planning Documents*  
*Lawrence Township · Mercer County*

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The SDRP established a Resource Planning and Management Structure (RPMS) complete with state-wide mapping of growth management areas and concentrations of existing and proposed development, called Planning Areas and Centers (*see* SDRP Planning Areas Map). The SDRP delineates policy objectives for each Planning Area and Center to guide growth in appropriate places and contexts.

The State Development and Redevelopment Plan designates the following Planning Areas in Lawrence:

Planning Area 1 - Metropolitan Planning Area

The land use policy objective in this area is to guide new development and redevelopment to ensure efficient and beneficial utilization of scarce land while capitalizing on the inherent public facility and service efficiencies of existing concentrated development patterns.

Planning Area 2 - Suburban Planning Area

The land use intent in this area is to guide development into compact centers. This would also include retrofitting former single-use developments into mixed-use developments with local services and cultural amenities.

Planning Area 3 - Fringe Planning Area

The purpose of Planning Area 3 is to phase development in concert with the construction of infrastructure in existing or new centers to accommodate modest population growth that might otherwise contribute to urban sprawl.

Planning Area 4 - Rural Planning Area

Enhancing agricultural viability and rural character by guiding development and redevelopment into existing or proposed centers is the objective for Planning Area 4.

Planning Area 5 - Environmentally Sensitive Lands

The land use policy objective in this area is to protect environmentally sensitive features by guiding development into centers. Centers would be established through the delineation of community development boundaries. Greenbelts would be created around the community development boundaries

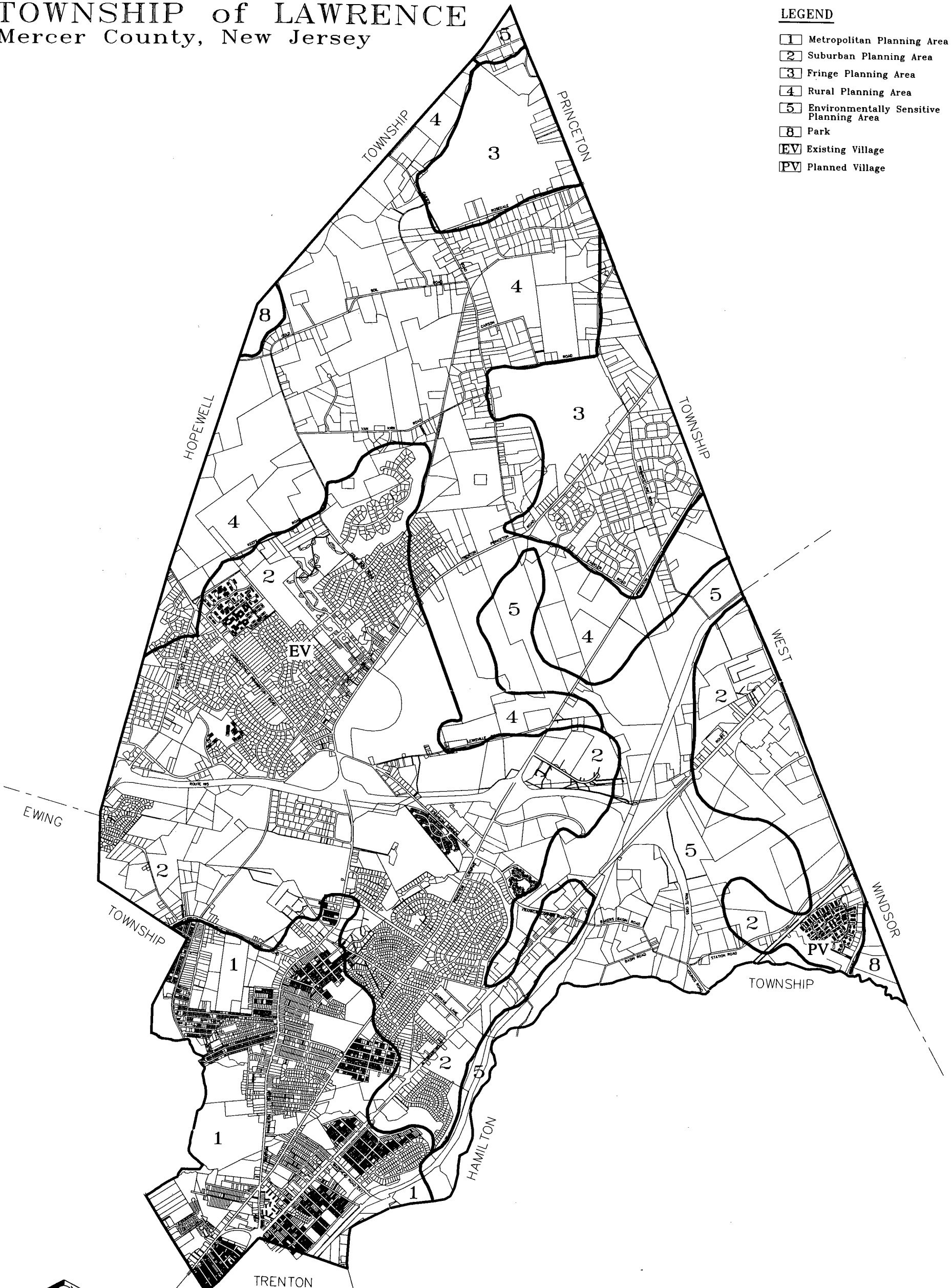


# TOWNSHIP of LAWRENCE

Mercer County, New Jersey

## LEGEND

- Metropolitan Planning Area
- Suburban Planning Area
- Fringe Planning Area
- Rural Planning Area
- Environmentally Sensitive Planning Area
- Park
- Existing Village
- Planned Village



*Statement of Consistency with Other Planning Documents*  
*Lawrence Township · Mercer County*

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to provide a transition area to environmentally sensitive lands.

The southern portion of Lawrence bordering on Trenton, Hamilton and Ewing falls within Planning Area 1. Directly north of Planning Area 1 is a Planning Area 2 district. Consistent with SDRP guidelines, the boundary of the Planning Area 2 area roughly corresponds with the 208 Sanitary Sewer Service Area. Environmentally sensitive land in the Shipetaukin stream corridor in the vicinity of the D&R Canal, but within the sewer service area, is designated Planning Area 5. The Planning Area 2 designation includes Lawrenceville which has been classified as an Existing Village. Lawrence Square Village, also in Planning Area 2, is designated as a Planned Village. At the time of cross-acceptance, Lawrence Square Village was still under construction. In the next cross-acceptance process, Lawrence Square Village should be designated an Existing Village.

The SDRP designates land in the northern portion of Lawrence which falls within the sewer service area (an area roughly bounded by Pretty Brook Road, the Stony Brook and Rosedale Road) as Planning Area 3. Another Planning Area 3 designation includes a section north of Fackler Road which does not fall within the sewer service area, but is largely built-out.

The remainder of Lawrence is designated Planning Area 4, except for the very northern tip of Lawrence above the Stony Brook which is designated Planning Area 5. Both of these areas fall outside the sewer service area.

The Land Use Element and Map of the Lawrence Master Plan is generally consistent and compatible with the SDRP Planning Area designations and their policy guidelines.

#### SUMMARY

The policy goals and objectives for the Lawrence Township Master Plan have been shown to be substantially consistent with local plans and ordinances, County growth management and solid waste plans, airport safety requirements, and the State Development and Redevelopment Plan. In certain minor instances, mainly with the land use policies in adjacent municipalities, inconsistencies occur. These inconsistencies, however, do not alter the substantial compatibility of this document with other relevant planning instruments.