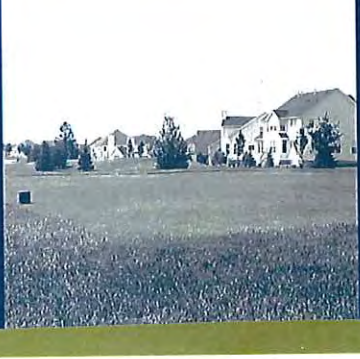
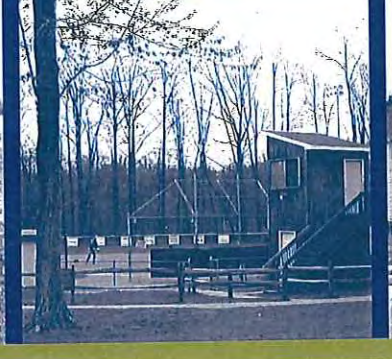
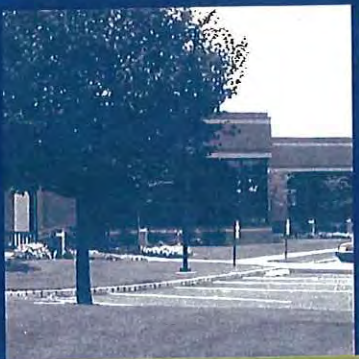




MONROE *Township*



Master Plan
July 2003
*Prepared by
Heyer, Gruel + Associates*

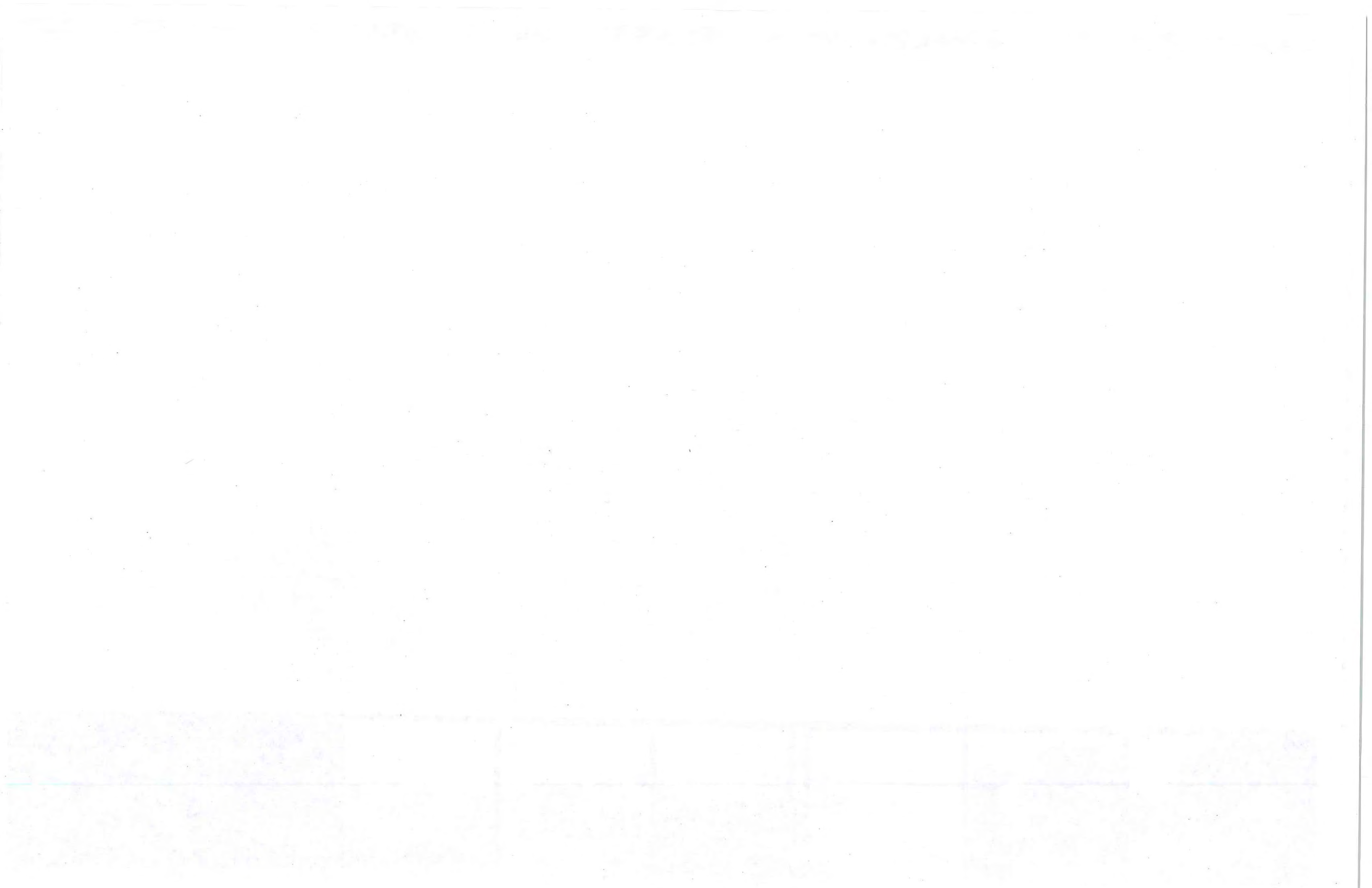
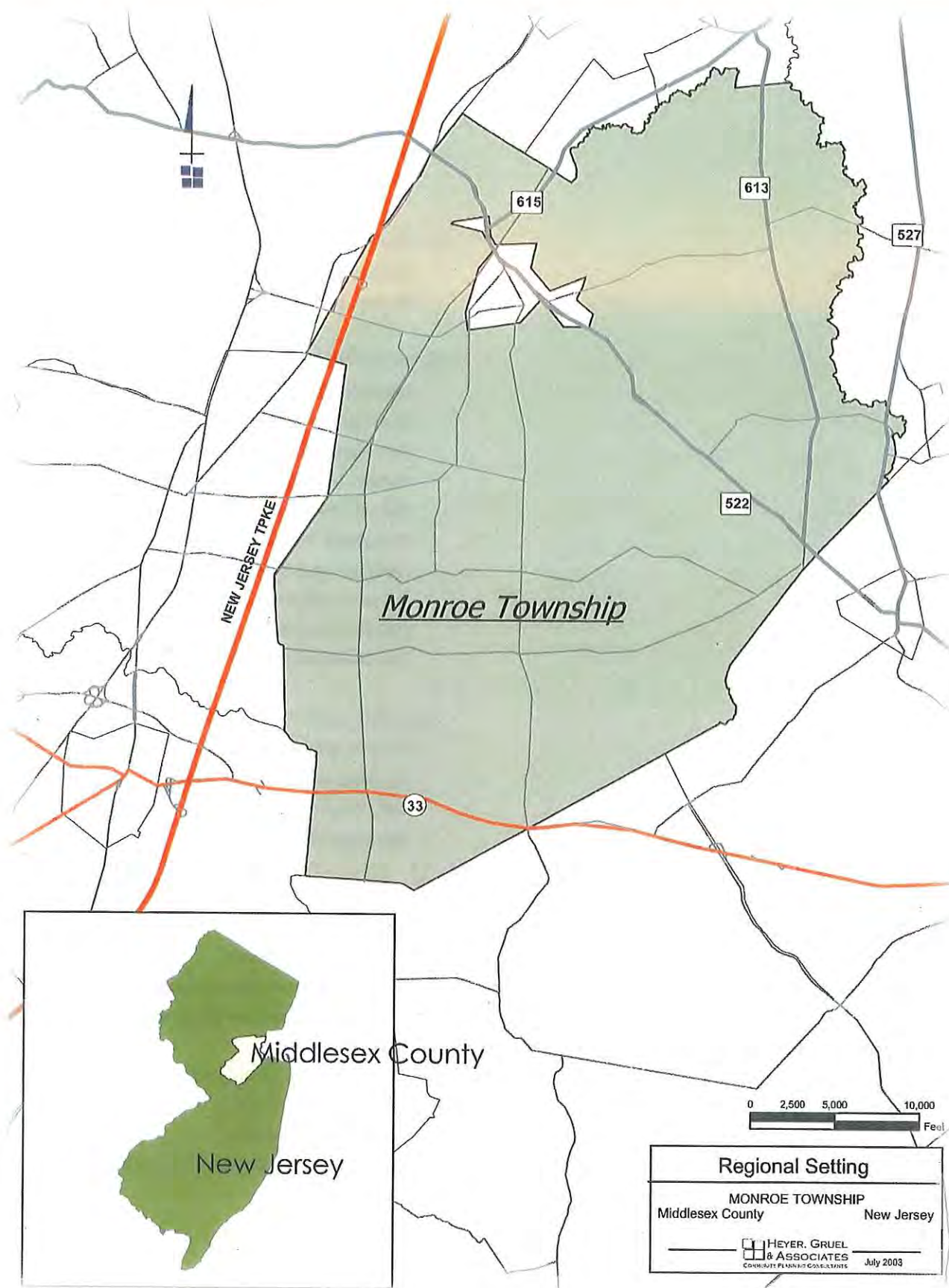


TABLE OF CONTENTS

<p>I. MASTER PLAN PROCESS</p> <ul style="list-style-type: none"> Requirements for Planning Preparation and Adoption Content Enforcement and Implementation Previous Master Plan Objectives Existing Land Use <p>II. GOALS AND OBJECTIVES</p> <ul style="list-style-type: none"> Land Use Housing Plan Circulation Plan Community Facilities Utilities Plan Economic Plan Conservation Plan Parks, Recreation and Open Space Historic Plan <p>III. LAND USE PLAN ELEMENT</p> <ul style="list-style-type: none"> Introduction Residential Districts Office Professional Commercial Industrial Development Airport Hazard Zone Mine Reclamation Program <p>IV. DEMOGRAPHIC CHARACTERISTICS</p> <ul style="list-style-type: none"> Introduction Population Trends Population Density Population Age Distribution Race and Gender Existing Household Characteristics Housing Data Population Projection 	<p>V. SUMMARY OF HOUSING PLAN ELEMENT</p> <ul style="list-style-type: none"> Historic Perspective COAH Round I COAH Round II <p>VI. CIRCULATION PLAN ELEMENT</p> <ul style="list-style-type: none"> Implementation of the Prior Master Plan New Traffic Signals Functional Classification Roadway Standards Circulation Master Plan <p>VII. UTILITY PLAN ELEMENT</p> <ul style="list-style-type: none"> Water Service- Potable Water Service- Nonpotable Sanitary Sewer Service <p>VIII. COMMUNITY FACILITIES PLAN ELEMENT</p> <ul style="list-style-type: none"> Introduction Municipal Complex Library School Facilities Emergency Medical Services Fire Protection Services <p>IX. PARKS, OPEN SPACE AND RECREATION PLAN ELEMENT</p> <ul style="list-style-type: none"> Introduction Inventory of Parks and Recreation Facilities Board of Education Recreation Facilities Community Center Recreational Facilities in Adult Communities Recreational Needs Assessment Middlesex County Open Space and Recreation Plan <p>X. CONSERVATION PLAN ELEMENT</p> <ul style="list-style-type: none"> Introduction Inventory and Analysis Watershed Management Areas Aquifer Recharge Areas Wellhead Protection Areas Wetlands 	<ul style="list-style-type: none"> 100-year Flood Boundaries Known Contaminated Sites Woodland Environmental Features <p>XI. ECONOMIC PLAN ELEMENT</p> <ul style="list-style-type: none"> Middlesex County Economic Trends Monroe Township Economic Trends <p>XII. HISTORIC PRESERVATION PLAN ELEMENT</p> <ul style="list-style-type: none"> Introduction Brief History of Middlesex County Brief History of Monroe Township Benefits of Historic Preservation Historic Preservation Efforts in Monroe Township Historically Significant Districts and Places Certified Local Government Status Recommendations Detailed Inventory The Crossroad of the Revolution <p>XIII. RECYCLING PLAN ELEMENT</p> <ul style="list-style-type: none"> Solid Waste and Recycling Recycling in Monroe Township Solid Waste Recommendations <p>XIV. FARMLAND PRESERVATION ELEMENT</p> <ul style="list-style-type: none"> Introduction Preservation Program Agricultural Development Area Status of Monroe Township Farmland Preservation Program <p>XV. COMPARISON WITH OTHER PLANNING DOCUMENTS</p> <ul style="list-style-type: none"> Adjacent Municipalities Middlesex County Plan New Jersey State Development and Redevelopment Plan (SDRP)
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MASTER PLAN PROCESS

A Master Plan provides a comprehensive guide for the future development and preservation of key areas of a community. The key element in defining the difference between a Master Plan and other planning studies is the Master Plan's comprehensive approach to planning issues. The Master Plan considers many factors having an impact on community life, with the focus on its physical, social, economic and aesthetic needs. Each of these many aspects are considered with respect to the entire community, and in forming final proposals, all planning considerations are adjusted to each other.

REQUIREMENTS FOR PLANNING

The New Jersey Land Use Law (c.291, N.J. 1975) specifically 40:55D-28 establishes the legal criteria for a Master Plan and each community must be certain that its plan complies with the legal requirements of the law. The following is a summary of these requirements:

PREPARATION AND ADOPTION

The responsibility for the preparation of a Master Plan rests with the local Planning Board. A Plan may be adopted (or amended) only by the Planning Board and only after a public hearing. The Plan must be reviewed at least once every six years.

CONTENT

The Master Plan must include a statement of objectives upon which the Plan is based. It must include a land use plan indicating: (1) natural conditions; (2) extent and intensity of land to be used for varying types of future development; (3) the location of existing or proposed airports and airport hazard areas; and (4) statement of recommended population density and development intensity. A specific policy statement indicating the relationship of Plan proposals to the Plans of neighboring communities, the County, and other appropriate jurisdictions must also be included. A housing plan element to the Master Plan is also required under section N.J.S.A. 40:55D-62 if the Township zoning is to be held valid. It should be noted that the Planning Board adopted a Housing Plan in 1995.

A Master Plan may also include the following elements: circulation plan; utility service plan; recreation plan; conservation plan; economic plan; historic plan; preservation plan; and recycling plan. The Municipal Land Use Law does not limit the number of plan elements in a Master Plan and a community is free to develop additional subplan elements to meet its particular needs.

MASTER PLAN

July 2003

Monroe Township
Middlesex County, New Jersey



Historic Plan Element
Reference study by
Richard Grubb and Associates

Transportation Element
By
Harvey Yesowitz, P.E.
Harlyn Associates

Utilities Element
by
Michael Rogers, Executive Director
MTMUA

Heyer, Gruel & Associates, PA
Community Planning Consultants
63 Church Street, 2nd Floor
New Brunswick, NJ 08901
732-828-2200

The original of this report was signed and sealed in accordance with N.J.S.A. 45:14A-12

Evren Ulker-Kacar, Associate Planner

Sachiyo Takata, Associate Planner



List of Officials

Mayor and Township Council
Richard Pucci, Mayor
Irwin Nalitt, Council President
Joanne M. Connolly, Council Vice President
Henry L. Miller, Councilman
John L. Riggs, Councilman
Gerald Tamburro, Councilman

Planning Board
David DeMarco, Chairman
Jay Brown, Vice-Chairman
Richard Pucci, Mayor
John L. Riggs, Councilman
Dr. Lloyd Kalugin
Peter J. Lumia
Joseph Montanti
David Rothman
Anthony Wilcenski
Ann Montanti, Alt #1
Morris Glass, Alt #2
Jerome J. Convery, Attorney
Ernest W. Feist, PE, Township Engineer
Peter M. Tolischus, PP
Robert Tucker, Planning Administrator
Laura Zalewski, Planning Board Secretary.

Township Officials
Sharon Doerfler, Township Clerk
Wayne Hamilton, Administrator
Joel L. Shain, Township Attorney
Ernest W. Feist, P.E. Township Engineer

Master Plan Subcommittee
Henry Miller, Councilman
Irwin Nalitt, Council President
David DeMarco, Planning Board Chairman
Alan Plans, Board of Adjustment Chairman
Leonora Farber
Ernest W. Feist, P.E., Township Engineer
Mark Rasimowicz, P.E., Board of Adjustment Engineer
Jerome Convery, Esq., Planning Board Attorney
Robert Tucker, Planning Administrator
Peter M. Tolischus, P.P., Planning Board Planner

TOWNSHIP OF MONROE PLANNING BOARD

RESOLUTION

ADOPTION OF MASTER PLAN

BE IT RESOLVED, by the Planning Board of the Township of Monroe, County of Middlesex, New Jersey, that:

WHEREAS, the Planning Board of the Township of Monroe deems it appropriate to reconsider the Master Plan of the Township of Monroe in accordance with the Municipal Land Use Law; and

WHEREAS, public hearings to consider proposed revisions as submitted by the Monroe Township Planning Consultant, Peter Tolischus, P.P., of Heyer, Gruel & Associates, PA, were held on May 19, 2003 and June 23, 2003, upon proper notice in compliance with the requirements of the Municipal Land Use Law, N.J.S.A. 40:55D-13; and

WHEREAS, the Planning Board finds that the proposed Master Plan prepared by Peter Tolischus, P.P., of Heyer, Gruel & Associates, PA dated May, 2003 and revised through June 13, 2003, reflects the goals and objectives of the Township of Monroe for the next several years, and will guide the use of lands within the municipality in a manner which protects public health and safety and promotes the general welfare.

NOW, THEREFORE, BE IT RESOLVED, that the Planning Board of the Township of Monroe, Middlesex County, New Jersey, hereby adopts the Master Plan prepared by Peter Tolischus, P.P. of Heyer Gruel & Associates, PA dated May, 2003 and revised through June 13, 2003 for the reasons set forth in said Master Plan and also stated on the record, for the comprehensive development of the Township of Monroe and in compliance with the requirements of the Municipal Land Use Law, N.J.S.A. 40:55D-28.

CERTIFICATION

I certify that the foregoing is a true copy of a Resolution adopted by the Monroe Township Planning Board on June 23, 2003.


Laura Zalewski
Board Secretary

ENFORCEMENT AND IMPLEMENTATION

The Master Plan, after adoption by the Planning Board, gives the community the legal basis for control over future development. The major means of implementation are as follows:

- All of the provisions of a zoning ordinance, or any amendment or revision thereto shall either be substantially consistent with the Land Use Element of the Master Plan or designed to effectuate such Plan element (N.J.S.A. 40:55D-62).
- The location and design of new streets created through the process of land subdivision or site plan approval may be required to conform to the provisions of the circulation plan element of the Master Plan (N.J.S.A. 40:55D-38b(2)).
- Where the Master Plan provides for the reservation of designated streets, public drainageways, flood control basins or public areas, the Planning Board may require that such facilities be shown and reserved in subdivisions and site plans in locations and sizes suitable for their intended use. The municipality must compensate the owner for such actions (N.J.S.A. 40:55D-44).
- Whenever the governing body or other public agency proposes to spend public funds, incidental to the location, character or extent of a capital project, such proposal must be referred to the Planning Board for review and recommendation. No action shall be taken without such recommendation or until 45 days have elapsed (N.J.S.A. 40:55D-31).
- The establishment of Historic District and preservation of specific historic sites must be based on a Historic Plan Element (N.J.S.A. 40:55D-28(10)). Subsequent to this, a community may establish a Historic Preservation Commission 40:55D-107.

PREVIOUS MASTER PLAN OBJECTIVES

Monroe Township has utilized previous Master Plans in order to achieve balance and coordinated land use patterns, manage growth and protect environmentally sensitive areas and provide for open space. The 1988 Master Plan eliminated the “carte blanche” development of PRC’s. Prior to this plan, PRC’s were permitted in all residential zones provided a minimum of 400 acres were obtained. Two additional large scale PRC’s had been proposed. This Plan recognized the existing PRC’s and stated that future PRC’s should be permitted on a more limited scale and be considered on a case-by-case basis. Most of the Agricultural Development Area was also zoned Light Industrial (LI). Since the area lacked all utilities, this plan eliminated the LI zone in area and zoned the land Rural-Residential (R-3A).

The 1998 Master Plan emphasized the acquisition of open space and initiated the acquisition process of an 800 acre tract in the center of the community on the eastern side of Perrineville Road that had been considered for residential development. This Master Plan also contained a Transportation Element prepared by a professional traffic engineer, which contained numerous improvements that have been implemented and are discussed in the Transportation Element.



The 1998 Plan also eliminated the PDO (Planned Development Option) zone which was an overlay zone for the Forsgate Tract. This zone permitted 4 story office buildings and a large shopping center. The rezoning consisted of the PRGC (Planned Residential Golf Community) which preserved the golf courses and permitted limited clustered housing. Most of the residential housing has been constructed.

In concert with the transportation plan, the Master Plan recommended the closing of the surface mining areas on a case-by-case basis in the Township and thereby reduced the truck traffic flowing through the community. This has been accomplished through sound redevelopment planning as discussed in greater detail in the Land Use Plan.

EXISTING LAND USE

Utilizing the new GIS base map and Township assessment records, an existing land use analysis was prepared. The results of this analysis are presented in Table I-1 and on the Existing Land Use Map II-1. As indicated in the table, the largest land use category is farmland and vacant land consisting of 13,656 acres or 51.0 percent of the total Township land area of 26,752 acres. The next largest category consists of residential development, which accounts for 6,426 acres or 24.0 percent. The private golf courses in the community are the next largest land use category consisting of 854

acres or 3.2 percent. Industrial development accounts for 639 acres or 2.4 percent, while commercial development consists of 468 acres or 1.7 percent. This category also includes some commercial agricultural activities such as nurseries or farmlands.

The development land area at this time constitutes 9,757 acres or 36.4 percent of the community. However, it should be pointed out that most subdivisions in the last 6 years utilized the cluster option. Therefore, in many cases, 1/3 of the land area of the subdivision is in open space or woodland, which reduced the amount of land that is actually developed.

Property Class	Acreage	Percentage
Residential	6,426	24.0%
Commercial	468	1.7%
Industrial	639	2.4%
Public Property	3,255	12.2%
Church/Cemetery	41	0.2%
Others	83	0.3%
Private Golf Courses	854	3.2%
Farmland and Vacant	13,656	51.0%
Roads	1,329	5.0%
Total	26,752	100.0%

Most of the development since 1997 consisted of single-family residential subdivisions and the continued buildout of the PRC’s (Planned Retirement Communities). The planned golf course community has also developed over the last six years. Limited industrial development occurred on the few remaining vacant lots within the industrial parks. One exception is the large warehouse distribution center that was constructed on the east side of Possum Hollow Road. Major State and County open space land acquisition also occurred since 1998 including all the lands south of the High School along Perrineville Road and extending beyond Union Valley Road. There were also several Township acquisitions through land purchases or as the result of land dedication resulting from cluster subdivision.

GOALS AND OBJECTIVES

LAND USE

Residential

Protect and enhance the residential character of the Township. Avoid conflicting land uses and create buffers between residential and non-residential uses. Continue and augment land use policies that reduce residential densities in appropriate areas and preserve open space farmland and critical environmental features. Future residential and nonresidential growth should be planned to preserve environmentally sensitive areas, create open space and preserve the rural suburban amenities of the community.

1. Preserve and protect existing viable residential neighborhoods by promoting infill development within the framework of existing zoning densities. Maintain a sound balance between planned retirement communities and non-age restricted residential development.
2. Continue the use of practical and flexible zoning controls, and planned residential development in order to: gain open space; conserve the natural landscape, especially mature woodland; protect sensitive ecological areas of the community and provide for development on a coordinated and comprehensive basis. Encourage non-contiguous cluster development in order to gain open space and preserve farmland and maintain the Township's rural - suburban character.
3. Continue to review the cluster development policy with the objective to avoid potential gains in density yields and insure a greater percentage of open space in addition to preserving environmentally sensitive areas, especially woodlands and stream corridors.
4. Establish a density transfer method at the sole direction of the Planning Board that would encourage planned retirement communities in residentially zoned areas, but in order to obtain higher densities, it would require an open space benefit in other residentially zoned areas.
5. Continue the trend in open space acquisition, environmentally sensitive area preservation, and farmland preservation through various planning techniques and State or County funding resources as indicated in the previous Master Plan. The objective is to retain 50% of the Township in a combination of the above land categories.

6. Residential densities should be reduced in areas not within the 208 Water Plan, areas designated as a Agricultural Development Area (ADA) or designed as Rural Planning Area in the State Development and Redevelopment Plan or other non-sewered areas.
7. Approved or proposed residential growth may in the future be subject to limitation of Township water supply and well draw down limits. Residential zoned areas (not presently sewerred) should be reviewed for possible rezoning.
8. Continue to eliminate incompatible land uses that have existed in residential or rural areas, especially the successful closing of the surface mining operations through planned development or other land use options.
9. Enforce the new buffering and screening requirements between residential and non-residential uses with particular attention to screening noise and lighting from adjacent residential areas or other major non-residential land use.
10. Residential uses should be separated from roads that carry primarily non-residential traffic loads, i.e. Route 33.
11. In wooded areas, residential uses should be clustered in order to preserve woodlands and enhance residential development.
12. Encourage additional farmland preservation through property owner participation in the Middlesex County Agricultural Retention Program, especially in the presently established 5,400 acre agricultural development areas (ADA).



13. Develop non-potable water resources by requiring retention basins in all new development.

Commercial

Encourage appropriate commercial development in areas of population concentration and in areas so zoned and especially in the Route 33 corridor.

1. Channel future commercial uses to the Route 33 corridor Highway Development (H-D) zone and discourage small lot non-residential development on Route 33.
2. Prohibit strip commercial development along major collector, arterial roads and the intersections formed by these roads. Where appropriate, commercial development at intersections can be reviewed on a case by case basis.
3. Encourage neighborhood and community commercial centers to be designed in a village style and integrated with surrounding architectural motifs and land uses. Such centers should be located in appropriately zoned areas.

Industrial

Promote industrial development in the following areas:

1. Encourage future industrial office and research development within the Route 33 Highway Development corridor. Such development should be encouraged in corporate or industrial parks.
2. Encourage industrial development within the industrial zone north of the Conrail line along the new industrial road from Possum Hollow Road to Cranbury South River Road.
3. Encourage infill industrial development with the industrial park southwest of the 8A Turnpike interchange.
4. Promote sewer and water utilities to the Route 33 corridor to encourage industrial and commercial development in this location.

HOUSING PLAN

Continue to implement Low and Moderate Income Housing Plan (Fair Share Plan) through:

1. Development of the Township's affordable housing sites as designated in the adopted housing plan and Master Plan.
2. Redevelop the housing stock through community development funds and the Township's Affordable Housing Developers Fee Ordinance.
3. Continue to implement the Regional Contribution Agreement (RCA) with funds generated from two COAH housing sites.
4. Implement the percentage of low and moderate housing for senior citizens within the designated housing sites.
5. Continue the improvement and maintenance of the existing housing stock in the Township, as per the Property Maintenance Code and Affordable Housing Rehabilitation Program.

CIRCULATION PLAN

Encourage the development of a safe, practical and efficient circulation system, discourage through traffic and install traffic calming devices through the following goals:

1. Propose roadway improvements and road alignments in order to form a coordinated and comprehensive circulation system.
2. Develop road design standards that will permit safe and convenient access to all portions of the Township.
3. Continue the implementation of signalized intersections as per the Circulation Plan.
4. Develop a functional classification system to meet the traffic generation demands of future development.
5. Upgrade existing roads to meet their functional classification.
6. Coordinate the Township's circulation element with the County Master Plan and New Jersey's Residential Site Improvement Standards.

7. Encourage the use of public transportation by establishing appropriate locations for additional commuter parking.
8. Oppose the construction of a commuter rail line through Monroe Township because of the impact on existing residential areas.
9. Plan for a parallel access road at the rear of the properties fronting on Route 33 as development occurs along this highway.

COMMUNITY FACILITIES PLAN

Plan for future community facilities in order to accommodate anticipated population growth and to serve the residents of the Township.

1. Maintain appropriate emergency, fire and first aid services for Township residents.
2. Reserve Township property for a future First Aid Station which would service future needs in southern area of Monroe Township.
3. Provide for three new fire stations within the Township as indicated on the Community Facilities Map. Provide for the expansion of the Schoolhouse Road Fire Station and the Applegarth Road Fire Station on an as needed basis.
4. Plan for future school sites or expansion of current facilities based on current and projected population growth and in areas convenient to current and future residential growth.
5. Develop a small athletic stadium at the high school (with a potential seating capacity for 2,500) which would serve the new high school on Schoolhouse Road and is appropriate for a community of Monroe's size and population.
6. Utilize the new Construction Office complex on Gravel Hill Road for future municipal needs.

UTILITY SERVICE

Coordinate the improvement and expansion of the Township's utilities infrastructure to ensure adequate service for present and future development in accordance with the Master Plan land use policy and the Water Management Plan.

1. Achieve coordination between the extension of utilities with the growth policies of the land use plan.
2. Continue to ensure an adequate and safe water supply by adopting a zero loss recharge standard within aquifer recharge outcrop areas.
3. Expand the capacity of the sewer utility system by implementing the Phase VIII Expansion Plan, however, future limits in sewer capacity may delay residential development.
4. Develop additional water supply to support future planned growth, however, future lack of water supply and limits on well draw down may limit or delay planned development.
5. Water conservation and retention policies should be established for all future developments.

ECONOMIC PLAN

Maintain the economic vitality of the community by encouraging continued light industrial and commercial development in appropriate areas as designed on the Land Use Plan.

1. Encourage light industrial, research and office development in the Route 33 corridor Highway Development (H-D) zone.
2. Channel future large scale commercial uses to the Route 33 corridor Highway Development (H-D) zone and discourage small lot non-residential development on Route 33.
3. Promote sewer and water utilities to the Route 33 corridor to encourage industrial and commercial development in this location.
4. Provide for office development on the south side of Prospect Plains Road adjacent to Cranbury Township industrial zone.
5. Provide for additional industrial and corporate center growth along Cranbury - South River Road.

CONSERVATION PLAN

Preserve and protect environmentally sensitive lands and natural resources through the Conservation Plan by the following methods:

1. Utilize the Township's Natural Resources Inventory and the new GIS Base Map to identify flood plains, wetlands, aquifer recharge areas and woodland and ensure their protection through State and local land use controls.
2. Develop additional land use policies to preserve, and protect natural resources especially aquifer recharge areas and mature woodland in the Township, which would constitute part of the 50 percent goal of green space in the Township.
3. Restrict development in critical environmental areas, such as flood plains and wetlands and minimize the impacts of development on environmentally sensitive areas including wetlands, stream corridors woodland and aquifer recharge areas through flexible zoning techniques.
4. Recommend changes to the Township's Land Use Ordinance, and propose new Township ordinances to implement these initiatives.
5. Preserve the quality of both groundwater sources and surface water bodies through flexible design techniques.
6. Provide a continuous network of open spaces along streams, scenic areas and critical environmental areas through cluster subdivision techniques.
7. Encourage lot averaging, planned development cluster development and other techniques in order to preserve natural amenities, woodlands, scenic views and open space and aquifer recharge areas and farmland.
8. Restore and preserve existing bodies of water for scenic and water conservation purposes.
9. Encourage energy conservation through subdivision and site plan techniques.
10. Protect unique agricultural resources by preserving prime agricultural lands through the Farmland Preservation Program and through the transfer of development rights.

PARKS, RECREATION AND OPEN SPACE

Provide for adequate parks, open space and recreational facilities for present and future population, and protect wildlife and biodiversity through a comprehensive recreation and open plan that includes the following:

1. Obtain land from the N.J. Training School for Boys for additional active and passive recreational facilities and open space.
2. Acquire and improve future recreation sites through the State Green Acres Acquisition Program.
3. Establish additional recreational facilities as needed in James Monroe Park which presently still has 140 undeveloped acres.
4. Continue the acquisition of open space and recreational lands through flexible development techniques, such as cluster zoning, lot averaging, conservation easements and other techniques.
5. Require that developments of more than 50 housing units provide usable land for recreational purposes. This could be achieved through cluster zoning or lot averaging techniques.
6. Encourage a network of pedestrian greenways along stream corridors and bicycle paths which link residential neighborhoods with open space, community facilities and commercial areas.
7. Encourage the acquisition of additional recreation lands as outlined in the Recreation and Open Space Plan within this Master Plan.



8. Provide for an additional 2,000 acres of natural open space which would protect natural resources and environmentally sensitive areas while providing compatible limited recreational facilities through acquisition, clustering, lot averaging and transfer of development rights. The goal is to preserve 50 percent of the Township's land in open space, wetlands, farmlands and State and County lands.
9. Recommend the strategic acquisition of property for preservation, park development, and environmental factors. The Department of Recreation and the Recreation Advisory Board is charged with the task of reviewing properties and making official recommendations to the Mayor and Council. Property acquired shall remain consistent with the Master Plan of the Township.
10. Continue to promote Farmland Preservation as a viable way to preserve property. The Monroe Township Council approved an Agricultural Development Area (ADA) in 2000. This was submitted to the County Agriculture Board and was officially designated a ADA in August 2001.
11. Support both the State and County in continuing their pursuit in acquiring conservation lands for resource protection and passive recreational uses. The Township will continue to make every effort to work with the Department of Environmental Protection (Green Acres Office) and Middlesex County on cooperative initiatives that will ultimately benefit the public.
12. Continue cooperating with the Board of Education and the many other departments and boards within the Township to ensure a successful open space and recreation program.
13. Make every effort to link parks with schools and with residential areas, through stream corridors and biking paths.
14. Continue to enforce a sense of pride in the park and recreational facilities within the community through youth sports groups, clubs, and organizations and adopt a park programs. Educating the public on the importance of treating the environment with respect and care is critical.
15. Review developments to insure through cluster option that adequate recreation facilities are constructed, a reasonable land is obtained and bikeways throughout developments are planned.

16. Develop linear parks along stream corridors and flood plains, on abandoned rail lines and along utility easements for the creation of hiking paths and bikeways.
17. Ensure that all parks and facilities meet the Americans with Disabilities Act to provide access for the disabled of the community.
18. Implement the approved 2002 County Bikeways Master Plan.
19. Continue the process of developing an additional community center that services the southern part of the community.
20. Coordinate with the Recreation Advisory Board on programs and facility developments to meet the changing needs of this growing community.

HISTORIC PRESERVATION PLAN

Preserve and protect the historical sites and villages within the Township.

1. Preserve significant historical sites as listed in the Monroe Township Historical Society.
2. Nominate historically significant structures to the State and Federal historic register as recommended in the Historic Resource Inventory.
3. Adopt a historic preservation ordinance.
4. Establish an area for a Historical Village on the Dey Farm on Old Church Road.



5. Establish a Historic Hamlet Designation for Cranbury Station and Prospect Plains and request such designation as part of the State Plan as identified in the Historical Survey.
6. Ensure review of all proposed demolitions taking into account the Historical Resource Survey.

State of New Jersey

An Act to sever from the township of South Amboy, in the county of Middlesex, a new township to be called the township of Monroe.

Section I. Be it enacted by the Council and General Assembly of this state, and it is hereby enacted by the authority of the same, that all that part of the township of South Amboy, in the county of Middlesex, that lies west of the Matchaponix, and South rivers, shall be, and at the same hereby is established a separate township to be called the township of Monroe.

Section II. And be it enacted, that the inhabitants of that part of the township of South Amboy that lies west of the Matchaponix and South rivers, be, and they and their successors are hereby constituted a body politic and corporate, by the name of the inhabitants of the township of Monroe in the county of Middlesex; and that the

First page of the Act

the present township of South Amboy at the time when this act goes into operation, shall be received or paid by the respective townships hereby created, in the proportions herein before stated.

Section III. And be it enacted, that this act shall take effect on, and after the second Monday in April next, and not before.

<i>House of Assembly</i>	<i>In Council</i>
<i>February 22^d 1838</i>	<i>February 23^d 1838</i>
<i>This Bill having been three times read and compared in the House of Assembly</i>	<i>This Bill having been three times read and compared in Council</i>
<i>Resolved</i>	<i>Resolved</i>
<i>that the same do pass</i>	<i>that the same do pass</i>
<i>By order of the House of Assembly</i>	<i>By order of Council</i>
<i>John Conrad Speaker</i>	<i>J. Hanson</i>
	<i>Vice President</i>

Last page of the Act



LAND USE PLAN

INTRODUCTION

The Land Use Plan Element guides the future development of Monroe Township consistent with the goals and objectives of the Master Plan, and the Land Use Plan's relationship to other elements of the Master Plan. The Land Use Plan recognizes the existing land use categories, establishes one new category and proposes land use adjustments as more specifically discussed under each land use. The Land Use Plan is based upon both type and intensity of use and establishes a development pattern for the Township considering such factors as environmental characteristics, the availability and capacity of infrastructure, the existing land use pattern, compatibility with the planning efforts of adjacent municipalities, and the current and future land use needs of the Township and the State Development and Redevelopment Plan are also considered. The Land Use Plan is also structured to preserve 50 percent of the Township in open space whether State, County or Township lands, wetlands or through benefits of flexible zoning techniques. The Land Use Plan provides a logical framework for future land use decisions related to projected community needs for housing, commercial and industrial development, schools, parks and other community facilities, open space and infrastructure.

The Land Use Plan Element, as illustrated on the Land Use Plan (Map 111-1), divides Monroe Township into five major land use categories: residential, commercial, office professional, industrial, and public lands. Each major land use category is further divided into various sub categories, which outline the intensity of development and the overall land use objectives of each category.

RESIDENTIAL DISTRICTS

There are presently eight residential zoning districts in the Township and they are retained in this Master Plan with some recommended modifications as discussed under each zoning category. A new Rural Residential/Farmland Preservation District is proposed.

Rural Residential/Farmland Preservation RR/FP

This zone coincides with the previously designated ADA (Agricultural Development Area) and encompasses 5,400 acres in the southern part of Monroe Township along both sides of Federal Road and extending from the Cranbury Township border to Manalapan Township. The recommended lot size is 6 acres, which corresponds to the fact that the area has no sewer or water and the farmland assessment criteria require a 5-acre minimum lot and one (1) acre for a residence. The RR/FP is outlined on the Land Use Plan Map No. III-2.

The density is based on these major factors: (1) much of the southern and southeastern sections of Monroe Township does not have public sewer or water and contain areas of very sensitive environmental lands including aquifer recharge outcrops, wetlands and flood plains; (2) the current land use pattern consists of farms, open land areas and scattered homes on individual lots fronting on rural roads; (3) the area contains prime agricultural farmland, and farms eligible for preservation under the Farmland Preservation Program; (4) extensive sections of this district also contain the Englishtown aquifer recharge area and low density, zoning furthers the objective of protecting this water source and preserving the rural character of the area; and (5) the 6 acre land use designation for this area is in conformance with the objectives of the State Development and Redevelopment Plan (SPRD) which places this area in the Planning Area 4 (Rural Planning Area). This intent of the PA-4 is to encourage the preservation of farmland and the rural characteristics of the area by encouraging the retention of the agricultural base.



Monroe Township has a long history of farming and agricultural activity. Agricultural uses still comprise approximately 1/4 of the Township's total land area located in the southern and southeastern section of the community. Preservation of the Township's farmland has a full support from the Governing Body and the Planning Board. Monroe Township is participating in the Middlesex County Farmland Preservation Program (FPP) and to date 834.4 acres have been purchased which includes the designation of the lands of the N.J. State Training School for Boys agricultural retention. With the completion of the 2003 purchases, Monroe Township will have a total of 958.7 acre as purchased farmland. The preserved farms are indicated on the Land Use Plan Map III-2.

Rural Residential

This land use category calls for a density of one unit per three acres and consists of the existing R-3A zone in the Land Use Plan. This zone lacks sewer and water utilities and the 3 acre zone complements the rural densities of Monroe Township. A few areas of R-3A remain in the eastern section.

An overlay zone is also proposed for this land use whereby densities could be transferred to a site by securing open space in the higher density section of the community, providing utilities can be brought to the site. Conversely, density could be transferred from this zone to other residential areas and thereby retaining that parcel as open space or for Township use.

Low Density Residential

Single-family homes on 60,000 square foot or 1-1/2 acre lots constitute the prevailing and proposed development pattern in the R-60 zoned area. The land exhibits a rural undeveloped character with single-family homes fronting on rural, collector or county arterial roads. Most of the R-60 zone also lacks sewer and water utilities. Some of the R-60 has developed at that lot size. However, in recent years new development used the cluster zoning and non-contiguous cluster zoning option where utilities were accessible, which preserved open space, woodland or provided open space lots in more medium density residential zones.

Medium Density Residential

The land areas currently zoned R-30 (30,000 square foot lot) and R-20 (20,000 square foot lot) represent the medium density residential categories. As shown on the land use map, most of the medium density land area is located in the central and northeastern quadrant of the community. The R-30 zone was established with the 1978 Master Plan and subsequent zone changes. Over the years, this has been the area of major subdivision activity, especially along Schoolhouse Road, Jamesburg-Englishtown Road and Spotswood-Englishtown Road. Given the availability of utilities and the desirability of this density to homebuyers, additional major subdivision activity has occurred in recent years. The cluster option was successfully applied within this zone with the result that many subdivisions retained open space and preserved woodland. The resulting development pattern therefore will be interspersed within open land or forested areas that have been dedicated to the Township. Much of the developable land in the R-30 zone has been subdivided, many of the remaining tracts have wetland limitations which means a lower yield in residential units.

The area on Matchaponix Avenue west of Spotswood-Englishtown Road contains a number of lots with a lot depth of over 500 feet. It is recommended that for this area the front yard setback be increased to a minimum of 100 feet in order to allow for road widening and greater privacy for the homes.



It is also recommended that the land on both sides of Buckelew Avenue between Grace Hill Road and the Barclay Brook School be rezoned to R-3A residential. The lots which are developed with single-family residential homes within this area range from 3 to 4.5 acres with several at 2 acres. The lots have 100 to 200 feet of frontage along Buckelew Avenue and extend to the back for a distance of 600 to 1,000 feet. On the west side the lots back up to Thompson Park and the recent extension of the park on the southwest. On the eastern side the lots extend to the flood plains along Barclay Brook. The objective of the 3 acre zone is to preserve the unique low density character that is created by these long narrow lots that have developed over time. The low density character is also compatible with Thompson Park and the flood plain of Barclay Brook.

High Density Residential

Three residential zoning densities are characterized as high density within this land use plan; the R-10 consisting of 10,000 square foot lots, the R-7.5 consisting of 7,500 square foot lots and the R-5 consisting of 5,000 square foot lots.



The R-10 zone is located primarily along the northeastern boundary of the Township and contain recent 10,000 square foot lot subdivision activity and "premature subdivisions" created in the 1920's and 1930's. The premature subdivisions were designed with lots of 25 by 100 feet or 2,500 square feet and 50 by 100 feet or 5,000 square foot lots. The term "premature subdivision" refers to the fact that the subdivision predates the Municipal Land Use Ordinance. No improvements were ever installed since the only requirement was a survey map with metes and bounds which outlined the lots and streets. This map was then filed with the County Clerk. The subdivision pattern was a rectangular or "grid iron" pattern with a block depth of 200 feet and a length of 600 feet. The design was superimposed on the land irrespective of topography or environmental constraints. The current R-10 zoning requires the consolidation of four contiguous 25 by 100 foot lots into one 100 by 100 foot or 10,000 square foot lot. The area is served by sewer and water, although extensions are required as subdivision activity continues.

The three areas, although zoned R-10, exhibit varied development patterns. The lands south of Spotswood along Spotswood-Englishtown Road and extending south past 11th Street and proceeding east to the municipal boundary contains current subdivisions with curvilinear streets and, in the older sections, consolidated lots of various sizes along the grid iron street pattern.

The objective of the zone is to preserve the unique low density character of the area, especially in view of the adjacent Thompson Park and the Barclay Brook Flood Plain.

The second area, known as the "Outcalt", is located west of Spotswood-Englishtown Road and along the northern boundary of Monroe Township. Due to a random settlement pattern of the area, improvements were installed by the Municipality in order to ensure health standards. In recent years, lots have been assembled by individuals who have then filed for major subdivision approval and as part of the subdivisions process have installed all improvements including utilities and sidewalks. The infill process of 1 to 4 lot subdivision is continuing.

The third area is located north of Jamesburg along Jamesburg-Helmetta Road and consists of a recent 10,000 square foot subdivision and an old grid iron pattern street pattern with varying lot sizes. Given the original block and lot sizes, the R-10 zoning is the "best fit" for these three areas.

R-7.5 Residential

The subdivisions that were developed in the Mill Lake Manor area on the eastern side of Spotswood-Englishtown Road also contained sections that developed on 7,500 square

foot lots. Homeowners within these subdivisions require variances for any home improvements since the R-10 zoning or 10,000 square foot lot standards are currently imposed on these lots. The area was rezoned to R-7.5 based on the recommendation of the 1998 Master Plan. This area is fully developed.

R-5 Residential

New Street Redevelopment Plan

The area at the southern end of Jamesburg along New Street and State Street was rezoned to R-5 or 5,000 square foot lots. The area contained sparsely improved streets and a number of deteriorated housing units. In order to revitalize this area, a redevelopment plan was promulgated and improvements were installed by Monroe Township and the existing streets were improved. As a result of the improvements and higher density zoning, the lots have been cleared of dilapidated structures and new homes have been constructed. The area has undergone a very successful "turnaround".



There are two areas north of the Borough of Jamesburg between Mott Avenue and Jamesburg Helmetta Road and Franklin Street. The area has experienced sporadic development on small lots. Much of the area lacks improved public streets and public utilities. It is recommended that a study of this area be conducted in order to assess the improvement requirements needed to create a viable residential environment. The 5,000 square foot lot size is recommended for this area in order to encourage the redevelopment of the area including the installation of new streets and utilities.

Potential Redevelopment Areas

There are several other areas that consist of "premature subdivisions". A small section exists along Monroe Boulevard east of Gravel Hill Road. However, an extensive area of previously subdivided land exists on both sides of Old Forge Road and Gravel Hill Road north of Matchaponix Avenue. The lots today are in diverse ownership although

the Township has acquired various sections through tax foreclosure proceedings. It is recommended that the remaining lots or entire blocks be acquired by the Township under the Local Redevelopment and Housing Law of 1992. As set forth in 40A:12A-6 the Township Council can authorize the Planning Board to undertake a preliminary investigation in order to determine if the "premature subdivision" areas meet the redevelopment criteria and to delineate the boundary for each redevelopment area. Although more detail is involved, in short, if the areas qualify and they should, the Township can then assemble the land, vacate the streets and sell the "packaged" land area. In recent years, private development has assembled some of the areas and then subdivided the land in accordance with the R-30 or R-60 zoning and modern subdivision practices.

Low and Moderate Income Housing Zones

The Township has established three special zoning districts, the PD-AH/NC (Planned Development-Affordable Housing/Neighborhood Commercial), the PRD-AH (Planned Residential Development-Affordable Housing District) and the PD/SH (Planned Senior Housing Development Zone). The three land use districts were established by Monroe Township in order to satisfy its low and moderate income housing obligations for the two 6-year cycles from 1987 to 1993 and 1993 to 1999 as set forth by the Council of Affordable Housing (COAH), an agency created by the State legislature and charged with the task of establishing municipal low and moderate income quotas. COAH also certifies the Housing Plan that sets forth the zoning and financial methods a community has established to meet in its housing obligation.

The PD-AH/NC zone is located south of Route 33 along the east side of Butcher Road consisting of 690 units consisting of townhouses, apartments and single-family homes. Known as Monroe Manor, this project will provide 127 affordable housing units which represents 20 percent of the 690 housing units to be constructed on this site. Subdivision approval for the site has been granted by the Planning Board and construction will commence upon the extension of sewer utilities to the site. This should occur in the next several years.

For the 1993 – 1999 cycle, a 390 acre site was rezoned to PRD-AH along the western side of Applegarth Road and extending southerly from Union Valley Road across Halsey Road. This site will also contain single-family homes, townhouses, flats or apartments and 147 senior citizen housing units on 243 acres. This development known as Stratford at Monroe will provide for 889 housing units of which 204 will be set aside for low and moderate income residents of which 109 will be age restricted. The construction of the single-family houses and the senior citizen housing will start this year.

In addition, 291 acres were rezoned to PD/SH along Jamesburg Englishtown Road (Route 522.) This housing will provide funds for a Regional Contribution Agreement (RCA) in order to transfer 115 low and moderate income units from Monroe to the City of New Brunswick, the receiving community. The Housing Element and Fair Share Plans for the six year cycles were adopted by the Planning Board in 1998 and received substantive certification for COAH on May 6, 1998 which carries through 2004. The next cycle will be for the period of 2004, although no new housing requirements have been published to date.

Planned Retirement Communities

Monroe Township permitted the first Planned Retirement Community (PRC) in New Jersey. It was called Rossmoor and is located on Rossmoor Drive near Interchange 8A of the New Jersey Turnpike. The PRC's were permitted as an option in all zones with a minimum land area requirement of 400 acres and various other zoning and amenity requirements. The 1988 Master Plan eliminated future large scale PRC's in Monroe Township and two were in fact proposed. The 1988 Plan recommended that future PRC's be permitted on a smaller scale and more limited basis. To date, four major PRC's were approved prior to 1982. In recent years several smaller PRC's ranging in size from 50 to 100 acres have been approved. The PRC's are located within the central section of the community and several



PRC's are contiguous. The Master Plan encourages future PRC's in Monroe Township but at a more moderate scale with the objective of maintaining a balanced population composition. This objective has been achieved as shown in the Population Element. A fifth major PRC was approved in 1998, which eliminated a surface mining operation and contributed towards the Township's Fair Share Housing obligation.

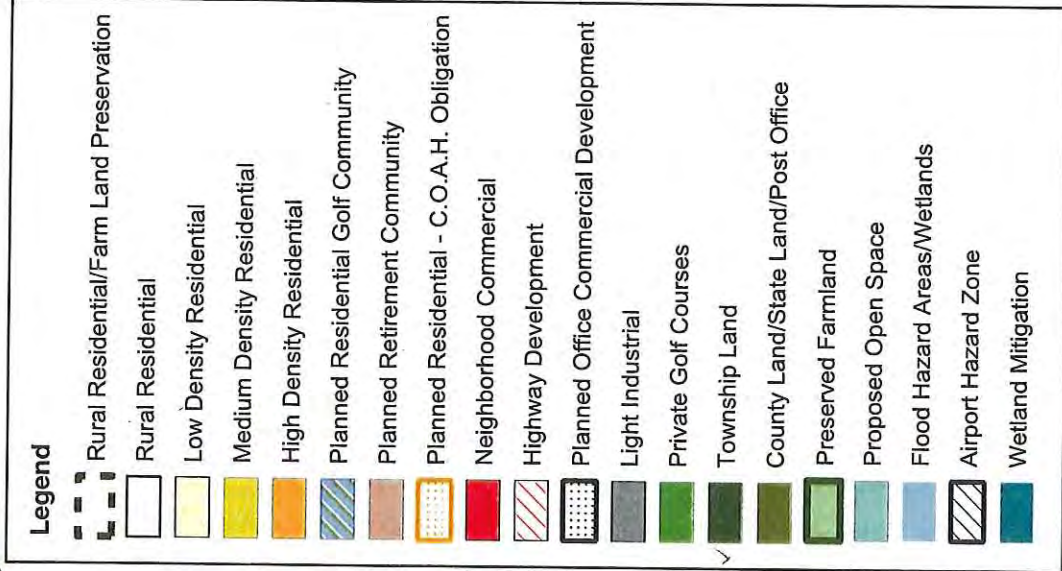
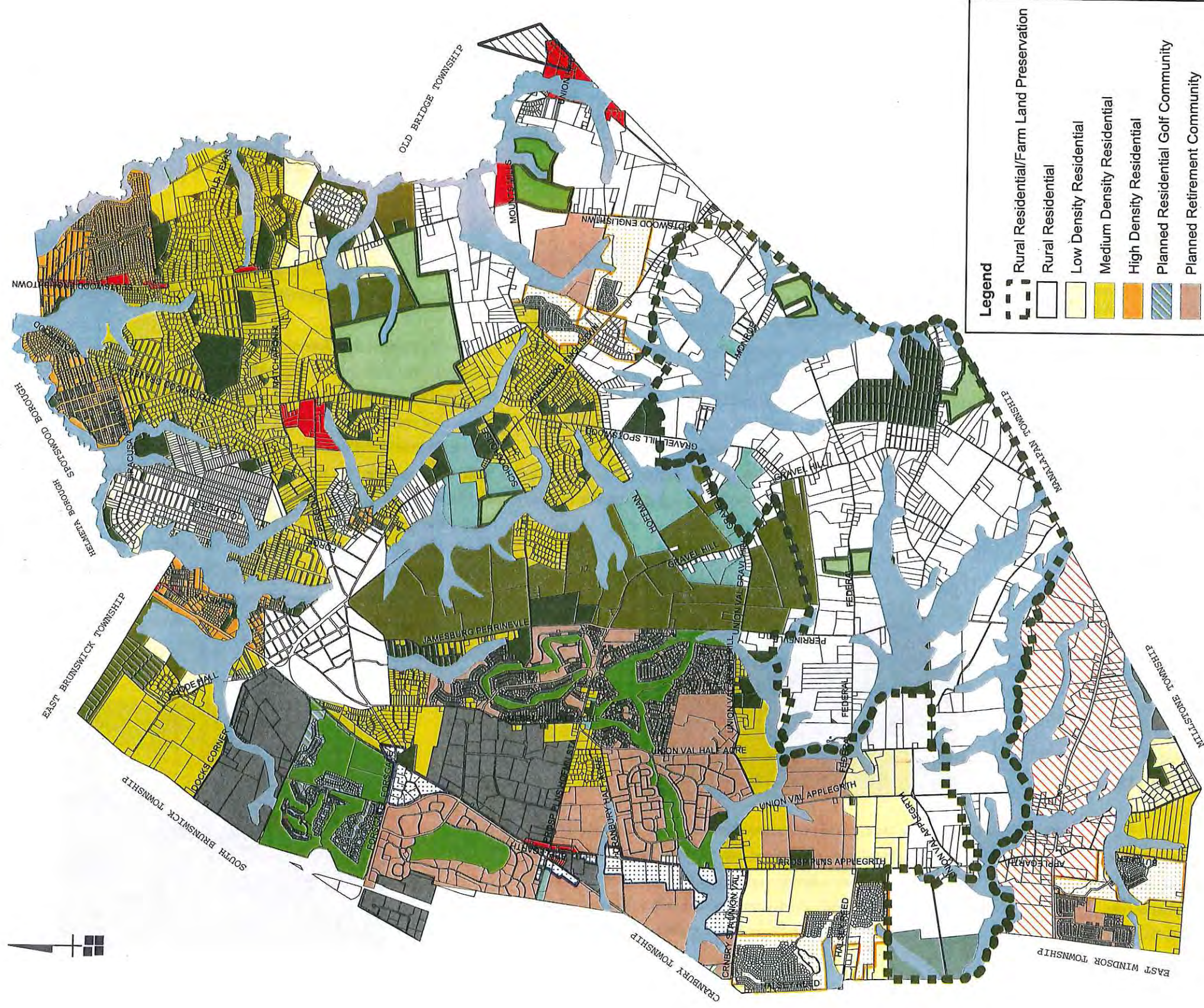
One smaller PRC's is proposed. It is proposed south of Prospect Plains Road adjacent to Cranbury Township extending from Prospect Plains Road south across Cranbury Union Valley Road. This area is currently zoned Office Professional and a lower density land use is warranted in view of the Prospect Plains Road traffic problems. The PRC zoning would also compliment the Rossmoor RPC on the northern side of Prospect Plains Road and the new PRC north of Cranbury Station Road.

Future PRC would be permitted through a overlay zone on residentially zoned land. The request for a PRC and the required increase in density would be permitted at the sole discretion of the Planning Board and would require that the additional density be obtained by creating open space in other residentially zoned areas.

Planned Residential Golf Community

Located on the north side of Forsgate Drive and bisected by Possum Hollow Road is the Forsgate Country Club and two associated golf courses. In order to preserve the golf courses but permit limited residential development, the entire site area was rezoned as a Planned Residential Golf Community (PRGC). As recommended in the 1998 Master Plan, this zone permitted the construction of planned residential cluster development and eliminated a Planned Development Option (PDO) zone which permitted a four story office building and extensive commercial development. To date, four clustered residential projects have been developed. No further development of any golf course areas would be permitted. The residential density for the PRGC has been set by the previous zoning and was incorporated into the planned residential golf community zone. The zoning designation is also much more compatible with the adjacent Rossmoor PRC.





III-1

Proposed Land Use	
MONROE TOWNSHIP Middlesex County New Jersey	
 HEVER, GRUEL & ASSOCIATES COMMUNITY PLANNING CONSULTANTS	July 2003

OFFICE PROFESSIONAL

The land use plan retains the existing Planned Office/Commercial Development (PO/CD) category which provided for the successful development of the office park at the southeast intersection of Applegarth Road and Forsgate Drive. The PO/CD has been reduced and limited to the currently zoned area on Applegarth Road between Cranbury Half Acre Road and Cranbury Station Road. The Land Use Plan recommends that a office professional zone at the intersection of Applegarth and Prospect Plains Road and along Forsgate Drive just east of the railroad tracks be retained. This zone caters to neighborhood office uses on smaller lots.



COMMERCIAL

The two commercial categories that are shown on the Land Use Plan are Neighborhood Commercial (NC) and Highway Development (HD).

Neighborhood Commercial

The Neighborhood Commercial land use permits retail establishment of sufficient scale to provide for the daily needs of a neighborhood and adjacent rural-suburban area. The minimum lot size for a retail facility is 40,000 square feet. Four areas are designated for Neighborhood Commercial within the Land Use Plan. The first and the most developed is the NC district along both sides of Spotswood-Englishtown Road extending from the Spotswood boundary to Cornell Avenue. As presently delineated, the zone represents a classic strip commercial zone and it is recommended that the NC zone be substantially reduced, especially in areas where the predominant land use is residential. A more closely defined NC zone along Spotswood-Englishtown Road is recommended as delineated on the land use plan which precludes future conflicting land uses and place existing residences in a proper R-10 residential zone.

The second NC zone is located at the intersection of Applegarth Road and Prospect Plains Road. This zone is completely developed and consists of two Neighborhood Commercial centers. The NC zone on the western side of Applegarth Road was changed to office professional since that is the predominant land use, as per the recommendation of the 1998 Master Plan.

The third NC zone exists on Jamesburg-Helmetta Road and Bordentown Road and contains mixed commercial uses. It is recommended that the NC zone along Jamesburg-Helmetta Road be reduced and changed to R-10 in conformance with recent residential subdivision activity.

The fourth NC zone is located on the south side of Matchaponix Avenue at the intersection with Gravel Hill Road and extends southerly across Lower Road to Matchaponix. The zone contains limited commercial uses consisting of a restaurant, a nursery and several service uses. The zone is surrounded by residential uses which in part have used a major portion of the Gravel Hill Road frontage. The zone was reduced in size in the 1998 Plan. It is recommended that this zone be examined for further reduction in size. The intent is to reduce this NC zone to a scale for neighborhood shopping facilities.

A new NC zone is proposed at the intersection of Mount Mills Road and Spotswood-Englishtown Road. The northeast corner of this intersection can serve as a neighborhood shopping area for the current and future residential development on Buckelew Avenue. Providing neighborhood commercial facilities in the area would preclude residential cross town traffic movement either to Spotswood or the Concordia Shopping Center. The neighborhood commercial area should be designed as a village type planned development rather than a strip shopping area. Additional zoning standards will have to be added to the NC zone.

Highway Development District

The Highway Development District (HD) zone is located on the entire length of both sides of State Highway Route 33. The HD zone permits a spectrum of intense commercial, professional, fiduciary and regional service uses, including planned industrial parks and shopping centers as a conditional use. The area is served by a four-lane dualized highway with two traffic light controlled interchanges, capable of serving large scale commercial uses. The district has an extensive depth of over 2,000 feet, especially on the southern side of Route 33 and this depth permits the development of corporate office parks, regional commercial centers and other large scale commercial



professional office uses. The extension of utilities to Route 33 is presently in the planning stage with an anticipated construction in the next several years. Ample vacant land remains within the zone and the zone will have access to utilities in the next several years. Due to the depth of properties, a parallel access road to the rear of the properties is also recommended as this area starts to develop.

It is also recommended that major commercial development be limited to the Applegarth Road intersection as recommended in the Circulation Plan Element.

INDUSTRIAL DEVELOPMENT

The industrial development to date has occurred in the zoned industrial park on the northeast side of Applegarth and Prospect Plains Road and the industrial area along the western boundary of Monroe Township just south of Turnpike exit 8A. These areas are zoned (L-I) Light Industrial which permits assembly and finishing of materials, wholesale distribution, business, professional offices, research labs and computer centers. Both industrial parks are fully developed. Further industrial expansion in Monroe Township is encouraged in the Highway Development H-D zone on Route 33. Due to extensive traffic requirements of industrial parks, and the potential incompatibility of this traffic with residential uses, much of the previous remaining



industrial zones along Applegarth Road were rezoned to PO/CD. The industrial zone on the south side of Prospect Plains Road and east of Applegarth Road was rezoned to a Planned Adult Community (PRC) which is much more compatible to the recent subdivisions on the eastern side and the retirement communities on the south side of Cranbury Half Acre Road. As recommended in the 1998 plan, the buffer standards of the industrial zone were reviewed and increased to 100 feet, wherever a industrial zone abuts a residential zone.

A light industrial zone is also located north of the railroad along the east side of Possum Hollow Road. The zone was developed as a distribution center and due to traffic concerns and the development of residential uses on Possum Hollow Road and Rhode Hall Road, a new industrial access road was constructed connecting Cranbury South River Road to Possum Hollow Road. The new road has been constructed and will also serve future industrial development of this area.

PUBLIC LAND

There are a number of significant public land parcels within the Township consisting of County land, State land and Township land. The two State parcels consist of the New Jersey Training Institute consisting of 868 acres of which 581 acres have been placed in the Farmland Preservation Program. The second parcel consists of 288 acres and is located south of Union Valley Road. This property is part of the recent State and County acquisition which extends Thompson Park along Perrineville Road and south of Schoolhouse Road.

The County also has two significant parcels within Monroe Township. Forming the northern border of Monroe east of Cranbury-South River Road is Jamesburg Park consisting of 130 acres. In the center of the community is Thompson Park and the recent acquisition extending south of the park which now totals 1,363 acres. It is recommended that the extensive areas of public land be designated as a Public Land on the zoning and map. It is misleading to show a 1,200 acre park area as R-30 single-family residential zone.

The Township also owns a total of 823 acres consisting of parkland and open space. The largest site in the James Monroe Park located in the southeastern section of the community.

The total public land in the Township at the present time consists of 3,720 acres as shown in Table III-1. It is the objective of the Master Plan and also as delineated in the Middlesex County Open Space Plan, to acquire in conjunction with the State and

County additional land that will be retained in open space, recreational land or left as a natural conservation area.

MINE RECLAMATION PROGRAM

There were a total of 8 active sand and gravel mines located in various areas of Monroe Township. The 1998 Master Plan stated the Township's desires to close the mines in order to reduce major truck traffic throughout the Township, further reduce degradation of the un-mined areas and reclaim the fallow and unsightly land area. In order to encourage the cessation of the mining operations and the reclamation of the land, the Township offered residential density incentives in order to encourage sound development of the sites. Given the extreme topography and other site characteristics of the mined areas, flexible zoning techniques were a prerequisite in order to properly develop the mined areas. The zoning and density program for each mining use was determined on a case-by-case basis and depended on the unique characteristics of each site, and the availability of utilities. Two sites were also used by the Township in order to meet its Housing Fair Share Plan obligation as discussed under the Housing Plan Element.

The eight formerly active mines are listed below and the method of closure is indicated.

1. Esch – The site is being developed as PRC and as part of the Fair Share Plan.
2. Toto – This site is also part of the Esch PRC.
3. Herbert – The area was developed for a major warehouse distribution center in accordance with the existing Light Industrial zoning.
4. Bradford – This site was located within a residential area on the east side of Half-Acre Road and developed for single-family housing according to the R-20 zone.
5. Pine Hill (Buck) – A second section of a PRC that adjoins and shares amenities with the Esch site is presently in the planning stages.
6. Stevola - Although still ongoing for one or two years, the site was recently subdivided for industrial sites in accordance with the L-I zone.

The Master Plan recommends the continuation of this successful policy and the following land uses may be appropriate for the last two surface mines.

7. The Cardell site should be considered for residential development since the site has good road and utility access.
8. The Warren site is being considered by the MUA (Municipal Utility Authority) as a potential surface water source since the site already contains two ponds.

AIRPORT HAZARD ZONE

The State of New Jersey Department of Transportation required under N.J.A.C. 16:62 – The Air Safety and Hazardous Zoning Act of 1983 as amended that all municipalities adopt ordinances to provide for safe land use and vertical development control for the area immediately surrounding a State of New Jersey recognized airport, whether within or adjacent to the community.

Although Monroe Township does not contain an airport, the western boundary in the vicinity of Old Bridge-Englishtown Road and Union Hill Road is adjacent to an airport located in Manalapan Township. In compliance with the Air Safety and Hazardous Zoning Act, the "runway hazard zone" has been delineated on the Land Use Plan. The affected zoning in Monroe Township is NC (Neighborhood Commercial). Based on data provided by Manalapan Township, the clear zone extends into Monroe Township for a distance of 2,400 feet and a width ranging from 400 to 1,000 feet. The land within the hazard zone can be developed for commercial purposes which is permitted land use. However, certain height restrictions must be complied with based on the distance of a proposed use from the end of the runway. The current building height limitation of 35 feet in the NC zone is sufficient to meet the Airport Hazard Zone requirements. The zone is incorporated in the Zoning Ordinance.

	Acres
State Land	575
County Land	1,363
Township Land	678
Board of Education	144.94
Preserved Farmland	958.7
Total	3,719.64

DEMOGRAPHIC CHARACTERISTICS

INTRODUCTION

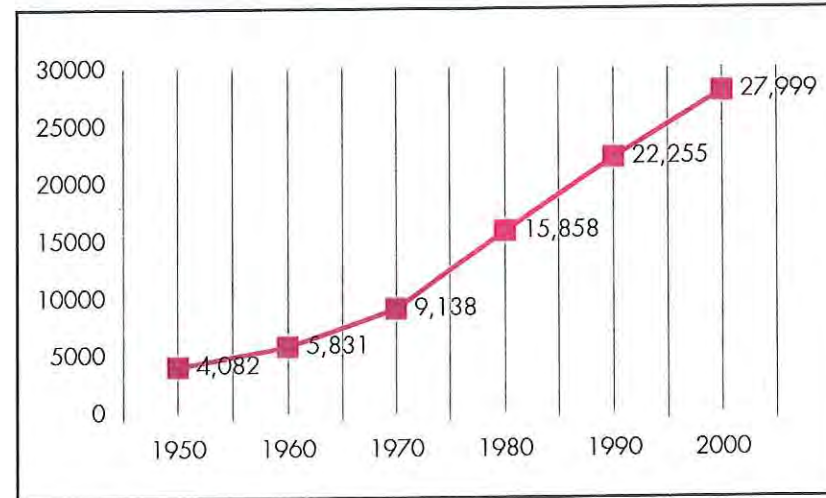
This element presents general demographic characteristics for Monroe Township. The information influences the present and future development of the Township. It is important to understand demographic conditions and population trends in an effort to comprehensively plan for the Township. The demographic element analyzes the changes that have taken place over time in population characteristics. The source for the population data herein is the U.S. Census 2000 and earlier years.

POPULATION TRENDS

Monroe Township's population increased by 5,744 individuals, or 25.8 percent from 1990 to 2000. Major population growth started in the 1970's, which experienced a population increase of 3,307 persons over that decade. This growth continued in 1980, 1990, and 2000 as shown in Table IV-1 and graph IV-1.

Middlesex County, in turn, experienced an overall population increase of 78,382 individuals or 11.7 percent from 1990 to 2000. The County experienced its largest increase in the 1950s and 1960 when population increased by 169,014 and 63.8 percents, respectively.

Graph IV-1 Population Trends, 1950 to 2000



POPULATION DENSITY

Table IV-2 indicates the 2000 population density of Monroe Township and the surrounding municipalities. As the table indicates the population density for Monroe Township is 622.3 person per square mile. In comparison to neighboring and other communities, Monroe clearly has the lowest population density after Cranbury Township. This is consistent with the rural, suburban character of the Township.

Table IV-2 Population Density	
COMPARISON WITH ADJACENT MUNICIPALITIES	
	Person Per Square Mile
Monroe Township	622.3
East Brunswick Township	2,130.10
South Brunswick Township	923.5
Manalapan Township	1,084.50
Old Bridge Township	1,587.20
North Brunswick Township	3,018.90
Edison Township	3,243.30
Plainsboro Township	1,707.30
Cranbury Township	240.60
Princeton Township	978.4

Source: New Jersey Municipal Data Book, 2002

POPULATION AGE DISTRIBUTION

Monroe Township population age distribution has remained relatively constant over the last 10 years. The largest age cohort in the Township consists of the 55 years and over, which comprised 53.9 percent of the Township's population in 2000 and 48.5 percent in 1990 as shown in IV-3. Although, this represents a 5.4 percent increase in the 55 and over age group the balance between the age group and the rest of the population has remained near 50 percent. Between 1990 and 2000, this cohort increased by 148.6 percent, or 4,326 people. The 15 to 24 years cohort and the 25 - 34 years cohort experienced a 9.8 percent loss and a 4.2 percent loss respectively over the same period.

The County also experienced population decreases in the 15-24 and 25-34 year old cohorts. The overall decrease of both cohorts was 17,928 or 14.4 percent.

Table IV-1
Populations Trends, 1950 to 2000

Year	Monroe Township			Middlesex County		
	Population	Change		Population	Change	
		Number	Percent		Number	Percent
1950	4,082	-	-	264,842	-	-
1960	5,831	1,749	42.8%	433,856	169,014	63.8%
1970	9,138	3,307	56.7%	583,813	149,957	34.6%
1980	15,858	6,720	73.5%	595,893	12,080	2.1%
1990	22,255	6,397	40.3%	671,780	75,887	12.7%
2000	27,999	5,744	25.8%	750,162	78,382	11.7%

Source: U.S. Census of Housing and Population, 1950-1850, U.S. Census Bureau, 1990 and 2000

Graph IV-2

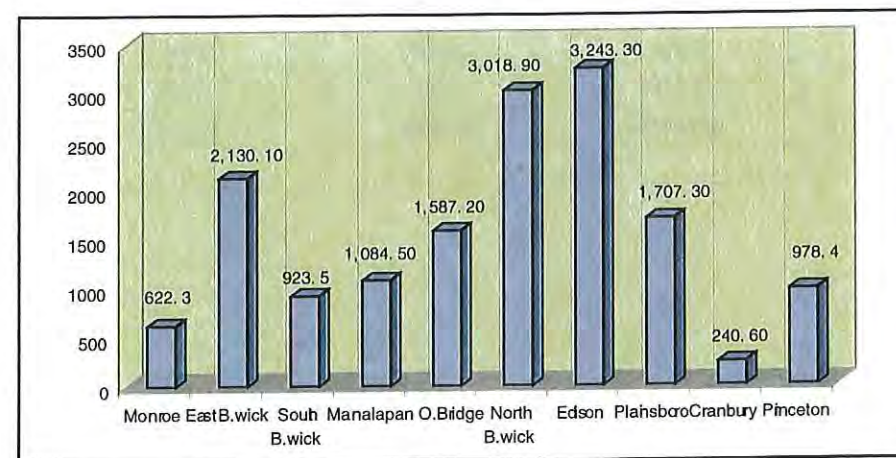


Table IV-3
Population by Age and Sex, 1990 and 2000, Monroe Township

Population	1990		2000		Change, 1990 to 2000	
	Number	Percent	Number	Percent	Number	Percent
Under 5	888	4.0%	1,109	4.0%	221	-
5 to 14	2,045	9.2%	2,408	8.6%	363	32.7%
15 to 24	2,372	10.7%	2,136	7.6%	-236	-9.8%
25 to 34	1,840	8.3%	1,751	6.3%	-89	-4.2%
35 to 44	2,539	11.4%	2,805	10.0%	266	15.2%
45 to 54	1,792	8.1%	2,685	9.6%	893	31.8%
55 to 64	2,755	12.4%	2,920	10.4%	165	6.1%
65 and over	8,024	36.1%	12,185	43.5%	4,161	142.5%
Total	22,255	100.0%	27,999	100.0%	5,744	47.1%

Source: 1990 and 2000 U.S. Census Data

Table IV-4
Population by Age and Sex, 1990 and 2000, Middlesex County

Population	1990		2000		Change, 1990 to 2000	
	Number	Percent	Number	Percent	Number	Percent
Under 5	44,684	6.7%	49,390	6.6%	4,706	10.5%
5 to 14	76,535	11.4%	100,140	13.3%	23,605	30.8%
15 to 24	102,882	15.3%	99,392	13.2%	-3,490	-3.4%
25 to 34	131,543	19.6%	117,105	15.6%	-14,438	-11.0%
35 to 44	104,475	15.6%	128,839	17.2%	24,364	23.3%
45 to 54	71,535	10.6%	100,323	13.4%	28,788	40.2%
55 to 64	61,285	9.1%	62,383	8.3%	1,098	1.8%
65 and over	78,841	11.7%	92,590	12.3%	13,749	17.4%
Total	671,780	100.0%	750,162	100.0%	78,382	11.7%

Source: 1990 and 2000 U.S. Census Data

RACE AND GENDER

Minorities constituted 6.7 percent of the Township's population. The Township's minority populations decreased as a percentage by 1.6 percent from 1990 to 2000.

Overall, the Township has higher percentage of females (8.1 percent than male) in 2000. Female population increased by 3,392 persons or 1.3 percent from 1990 to 2000. This gap between female and male was larger than that of the County, which has almost an even male to female distribution. The distribution results from the longer survivor rate of the female gender residing in the PRC communities.

Table IV-5
Population by Race and Gender, 1990 and 2000

	1990			
	Monroe Township		Middlesex County	
	Number	Percent	Number	Percent
One race				
White	21,122	94.9	550,006	81.9
Black or African American	700	3.1	53,629	8.0
American Indian and Alaska Native	12	0.1	1,066	0.2
Asian or Pacific Islander	384	1.7	44,869	6.7
Some other race	37	0.2	22,210	3.3
Two or more races	N/A	N/A	N/A	N/A
Total Population	22,255	100.0	671,780	100.0
Gender				
Male	10,493	47.1	330,482	49.2
Female	11,762	52.9	341,298	50.8
Total Population	22,255	100.0	671,780	100.0
	2000			
	Monroe Township		Middlesex County	
	Number	Percent	Number	Percent
One race				
White	26,127	93.3	513,298	68.4
Black or African American	820	2.9	68,467	9.1
American Indian and Alaska Native	16	0.1	1,521	0.2
Asian or Pacific Islander	679	2.4	104,512	13.9
Some other race	189	0.7	42,867	5.7
Two or more races	168	0.6	19,497	2.6
Total Population	27,999	100.0	750,162	100.0
Gender				
Male	12,845	45.9	368,260	49.1
Female	15,154	54.1	381,902	50.9
Total Population	27,999	100.0	750,162	100.0

Source: 1990 and 2000 U.S. Census Data

EXISTING HOUSEHOLD CHARACTERISTICS

HOUSEHOLD SIZE

Household size decreased in Monroe Township from an average of 2.63 persons per household in 1980, to an average of 2.15 persons per household in 2000 shown in Table IV-5. The County also decreased its household size from 2.93 persons per household in 1980 to 2.71 persons per household in 1990, however, household size has risen to 2.74 persons in 2000. The largest percentage of households in the Township in 2000 is two-person households (44.7%). Included one-person household, it is approximately 76 percent of total households (one-person household, 31.9%). Similarly, the largest percentage of households in the County in 2000 is two-person households (30.2 percent).

Household Size	Monroe Township		Middlesex County	
	Number	Percent	Number	Percent
1-person	4,002	31.9%	59,592	22.4%
2-person	5,602	44.7%	80,179	30.2%
3-person	1,069	8.5%	48,955	18.4%
4-person	1,093	8.7%	44,982	16.9%
5-person	533	4.3%	20,323	7.6%
6-person	163	1.3%	7,485	2.8%
7-or-more-person	74	0.6%	4,299	1.6%
Total	12,536	100.0%	265,815	100.0%

Persons per Household	Monroe Township	Middlesex County
	Number	Number
1980	2.63	2.93
1990	2.31	2.71
2000	2.15	2.74

Source: 1980-2000 U.S. Census Data

HOUSEHOLD INCOME

The Township has a smaller median household income than both Middlesex County and the State of New Jersey. Monroe's 1999 median household income was \$ 53,306, as seen in Table IV-7. This was approximately \$8,000 less than the 1999 median income for the County and \$2,000 less than the State of New Jersey's 1999 income level.

	Current Dollars
New Jersey State	\$55,146
Middlesex County	\$61,446
Monroe Township	\$53,306

Source: 2000 U.S. Census Data

HOUSING DATA

HOUSING UNITS

The 2000 Census indicated that over 90 percent of the housing stock in Monroe Township consists of owner occupied housing units. As shown in Table IV-8, the Township has 13,259 housing units of which 94.5 percent, or 12,536, are occupied year round units. Middlesex County has the similar tendency as the Township (97 percent for year-round occupied housing units). Approximately 723, or 5.5 percent, of the Township's total housing units are vacant. 1.2 percent of which are homeowner vacancy and 3.4 percent of which are rental vacancy.

Housing Occupancy Unit Type	Monroe Township		Middlesex County	
	Number	Percent	Number	Percent
Total housing units	13,259	100	273,637	100
Occupied housing units	12,536	94.5	265,815	97.1
Vacant housing units	723	5.5	7,822	2.9
For seasonal, recreational, or occasional use	370	2.8	905	0.3
Vacancy Type				
Homeowner vacancy rate (percent)	(X)	1.2	(X)	0.8
Rental vacancy rate (percent)	(X)	3.4	(X)	2.7
Housing Tenure				
Occupied housing units	12,536	100	265,815	100
Owner-occupied housing units	11,883	94.8	177,381	66.7
Renter-occupied housing units	653	5.2	88,434	33.3

Source: 2000 U.S. Census Data

The County has less vacancy rate of total housing units than the Township's vacancy rate, which is 2.9 percent of total housing units for the County and 5.5percent for the Township.

2000 HOUSING STOCK

In 2000, the Township's 13,259 housing units comprised approximately 5percent of Middlesex County's 273,637 housing units. As shown in Table IV-8, 60 percent of the Township's housing stock was constructed after 1980. In turn, less than 40 percent of the County's housing stock was constructed during that same time period. Over one half of the County's housing stock was constructed before 1980.

Of the owner occupied housing units in the Township, 47.3 percent were detached housing units and 38.9 percent were attached housing units. In contrast, the County had only 9.6 percent of one-unit attached housing. Over 50 percent of the Township's housing stock contained five or six rooms as shown in Table IV-9.

Year Structure Built	Monroe Township		Middlesex County	
	Number	Percent	Number	Percent
1999 to March 2000	493	3.7	4,225	1.7
1995 to 1998	1,946	14.7	26,189	10.5
1990 to 1994	1,294	9.8	25,014	10.0
1980 to 1989	4,111	31	34,812	13.9
1970 to 1979	2,869	21.6	53,014	21.2
1960 to 1969	1,580	11.9	51,243	20.5
1940 to 1959	729	5.5	18,916	7.6
1939 or earlier	237	1.8	36,761	14.7
Units in Structure (Owner Occupied)				
1 unit, detached	6,273	47.3	134,648	53.8
1 unit, attached	5,161	38.9	23,976	9.6
2 or more units	1818	13.6	86,306	34.5
Mobile home and other	7	0.1	5,244	2.1
Total housing units	13,259	100	250,174	100

Number of Rooms				
1 room	115	0.9	2,164	0.9
2 room	45	0.3	5,400	2.2
3 room	547	4.1	25,956	10.4
4 room	1,349	10.2	43,013	17.2
5 room	3,665	27.6	47,886	19.1
6 room	3,943	29.7	44,948	18.0
7 room	1,287	9.7	34,370	13.7
8 room	1,157	8.7	27,869	11.1
9 or more rooms	1,151	8.7	18,568	7.4

Source: 2000 U.S. Census Data

HOUSING VALUE

As of the 2002 Census, which reflects the survey year of 1999, over 60 percent of the Township's owner occupied housing stock is valued at less than \$200,000. Less than 0.5 percent of the housing stock is valued \$500,000 or more. The 2000 median value for homes in the Township was \$174,100, which is slightly higher than the County's 2000 median housing value of \$168,500.

Rent prices of 40 percent of total renter occupied housing are in the range from \$750 to \$1,499 in the Township. The median contract rent in the Township was \$877. This is \$32 more than Middlesex County's median contract rent of \$845. The price of housing has increased considerably in Monroe Township since 1999, with current housing sales into the \$300 - \$400 thousand dollar average.

HOUSING CONSTRUCTION

The certificates of occupancy issued and demolitions performed between 1990 and 2002 are indicated in Table IV-11. The table shows that since 1995, the housing stock in Monroe Township has been increasing by an annual average of 471 units. Although initially more age restricted units were constructed during this period in the last several years, single-family construction has exceeded age restricted housing. The greater number of single-family units constructed is reflective of the "boom" economy of the 1990's and the recent very favorable interest rates. The downturn in the economy which effects new job formation will not doubt dampen the single-family market.

Owner Occupied Housing	Monroe Township		Middlesex County	
	Number	Percent	Number	Percent
Value Range				
Less than \$50,000	90	0.9	1,153	0.7
\$50,000 to \$99,999	1,154	11.6	8,787	5.6
\$100,000 to \$149,999	2,099	21.1	45,535	29.2
\$150,000 to \$199,999	2,740	27.6	51,844	33.2
\$200,000 to \$299,999	2,770	27.9	35,450	22.7
\$300,000 to \$499,999	1,041	10.5	11,739	7.5
\$500,000 to \$999,999	35	0.4	1,396	0.9
\$1,000,000 or more	7	0.1	126	0.1
Total	9,936	100	156,030	100
Median Value (dollars)	\$174,100	(X)	168,500	(X)

Renter Occupied Housing	Monroe Township		Middlesex County	
	Number	Percent	Number	Percent
Gross Rent				
Less than \$200	30	4.7	2,665	3
\$200 to \$299	31	4.8	1,979	2.2
\$300 to \$499	85	13.2	3,476	3.9
\$500 to \$749	67	10.4	19,691	22.3
\$750 to \$999	102	15.9	34,733	39.3
\$1,000 to \$1,499	154	24	20,463	23.2
\$1,500 or more	52	8.1	3,338	3.8
No cash rent	121	18.8	1,982	2.2
Total	642	100	88,327	100
Median Value (dollars)	877	(X)	845	(X)

Source: 2000 U.S. Census Data

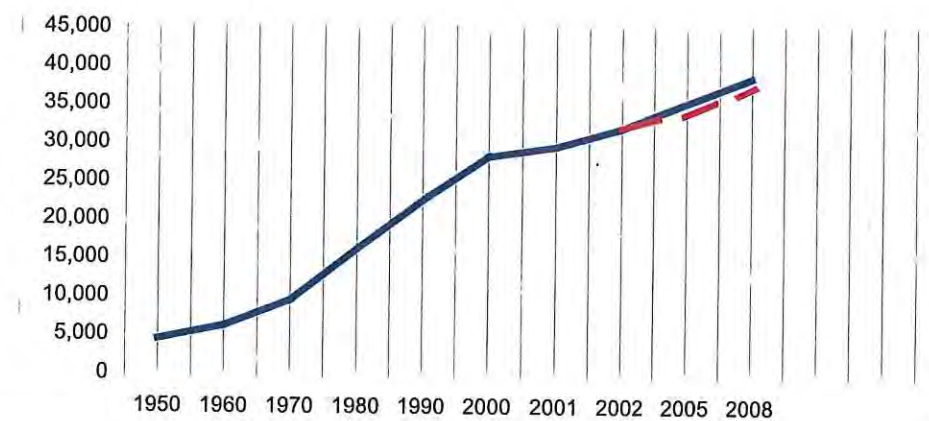
POPULATION PROJECTION

According to the U.S. Census the 2000 Monroe Township population was 27,999. Based on the certificates of occupancy issued, the population for 2002 is projected to 31,742. Graph No. IV-3 indicates the projected population assuming a continuation of current building rates. For the year 2005 the population is projected to 34,142 and for the year 2008 the population is projected to 37,742. However, if housing construction rates decline due to a weaker economy and a decline in the job market the 2005 population is projected to 33,742 and for 2008, it is projected to 36,742.

Year	Total	Single-Family	Age-Restricted	Demolitions
2002	519	298	221	
2001	471	301	170	1
2000	435	224	211	0
1999	497	164	333	3
1998	432	144	288	1
1997	523	123	400	0
1996	454	101	353	32
1995	438	122	316	4
1994	250	117	133	4
1993	311	145	166	10
1992	229	114	115	1
1991	136	61	75	1
1990	180	88	92	0
Total	2,521	871	1,650	52

Source: Monroe Township Department of Construction

Graph IV-3



SUMMARY OF HOUSING PLAN ELEMENT

HISTORIC PERSPECTIVE

The Monroe Township Affordable Housing efforts trace their origins to a landmark 1975 N.J. Supreme Court case identified as Southern Burlington County NAACP v. Township of Mt. Laurel, commonly known as the "Mt. Laurel I" case. This decision determined that exclusionary New Jersey municipal zoning violated the N.J. Constitution by "foreclosing poor and moderate income people from the opportunity to obtain adequate housing." It directed N.J. municipal zoning to end exclusionary (large lot) zoning practices.

"Mt. Laurel I" was followed in 1983 by "Mt. Laurel II" decision. This second N.J. Supreme Court decision, Southern Burlington County NAACP v. Township of MR. Laurel, found that no progress had been made in fair housing since the 1975 decision. Therefore, it created, among other incentives, the basis for "builders remedy" litigation, wherein if a lower court found a municipal zoning ordinance to be economically or racially exclusionary, it empowered the lower court to award a settlement in favor of the developer, resulting in four (4) market rate units for each affordable unit developed, regardless of the local zoning criteria.

In response to Mt. Laurel II, the New Jersey Legislature created the Fair Housing Act on August 4, 1986, as an alternative to "Builders Remedy" litigation. The keystone of the 1986 Fair Housing Act was the creation of the New Jersey Council on Affordable Housing (COAH) with its mandate to accomplish a reasonable opportunity to provide affordable housing within each of the 567 municipalities in New Jersey. The rules and procedures created by COAH enabled that agency to calculate an affordable housing obligation for each municipality in the State.

COAH ROUND I

Pursuant to its legislative mandate, COAH promulgated an affordable housing obligation calculation for each municipality. The Monroe Township first round obligation was a total of 178 affordable housing units, including 127 "Prospective Need" (new construction) units and 51 "Indigenous Need" (rehabilitation) units. Further, COAH set forth a March 1987 deadline for the submission by each municipality of an Affordable Housing Plan, which had to identify, in specifics, how each municipality planned to meet its COAH affordable housing obligation.

Monroe Township submitted its first round Affordable Housing Plan to COAH in 1987 and received six year Substantive Certification in 1988.

The Monroe first round Affordable Housing Plan addressed the 178 units obligation by proposing a two-part solution.

The 127 unit "Prospective Need" obligation was planned to be met by an inclusionary rezoning development known as Monroe Manor. This 690-unit development, is situated on lands south of Route 33, and includes 127 affordable units consisting of 102 owner occupied affordable housing units and 25 rental townhouse affordable housing units.

The 51 units "indigenous need" obligation was accomplished via the creation of an aggressive Township Redevelopment Program administered for the Township by the Affordable Housing Board, utilizing a \$150,000 affordable housing contribution from the Monroe Manor developer together with the Township's annual share of HUD Community Development Block Grant funding administered by Middlesex County Housing and Community Development (County HCD) consortium.

COAH ROUND II

The completion of the first round six years Substantive Certification in 1994 coincided with the publication of the 1990 Census findings. A second round affordable housing obligation was calculated for COAH by Rutgers University utilizing the 1990 census information. The COAH second round affordable housing obligation for Monroe Township was 634 units. All New Jersey municipalities were again required to submit a second round Affordable Housing Plan by March 1995. Monroe Township submitted its second Affordable Housing Plan on March 5, 1995. The COAH staff responded to the Township submission with a review letter dated March 12, 1997.

The second Monroe Township Housing Plan addressed the 634 unit second round obligation by first establishing 204 credits for affordable housing opportunities accomplished in the Township. These credits included:

1. Eleven credits for Association for Retarded Citizens (ARC) "alternative living arrangement" (congregate living) units existing and proposed within the Township.
2. One hundred fifty-two (152) credits for the Monroe Manor inclusionary project, consisting of 127 affordable housing unit credits plus 25 bonus credits for the 25 proposed affordable rental units included in the project.
3. At least 41 credits for at least 41 documented rehabilitated affordable housing units accomplished between 1988 and 1995. That number had increased to 50 rehabilitated affordable housing units by 1998.

The unmet affordable housing obligation was therefore established at 430 affordable housing units, including 39 "indigenous" (rehab) units and 391 "prospective" (new construction) units.

The 39-unit "indigenous" need obligation was addressed in the second affordable housing plan via continuation of the affordable housing rehabilitation program administered by the Monroe Township Affordable Housing Board. By spring 1998 that obligation has been reduced to a net of thirty (30) units left to be rehabilitated.

The 391 unit "prospective need" obligation was addressed in the second Affordable Housing Plan through two separate affordable housing initiatives: (1) A Regional Contribution Agreement, and (2) An exclusionary project.

(1) A Regional Contribution Agreement (RCA) has been planned and created, pursuant to COAH procedural rules, between the Township of Monroe and the City of New Brunswick, at a cost of \$20,000 per unit, for a total RCA contribution of \$2.3 million from Monroe to New Brunswick for development of new and/or rehabilitated affordable housing units within the City of New Brunswick. Funding sources to cover the Monroe RCA obligation have been planned to be secured from two sources:

- a. Fifteen (15) units of the RCA shall be funded by utilizing \$300,000.00 (15 units x \$20,000/unit = \$300,000.00) of the developer fees collected by the COAH approved Monroe Township Affordable Housing Developers Fee Ordinance.
- b. The remaining 100 affordable housing units of the RCA shall be funded by a \$2,000,000.00 (100 units x \$20,000.00/unit = \$2,000,000.00) payment in lieu of development of affordable housing units by the Toll Brothers Inc. development corporation. Concomitantly, Block 35, Lots 4 and 5 (-+145 acre Etsch Tract); Block 35, Lots 18.01, 25.01, 31.07, and 32 (-+ 95 acre Toto I Tract); and Block 33, Lot 4(-+ 51 acre were rezoned Toto II Tract). These three parcels total approximately 291 acres and are situated in the Route 522, Mounts Mills Road and Hoffman Road area of the Township. The rezoning shall permit Toll Brothers to develop a total of 857 age restricted marketed rate detached single-family units on 5,500 square foot lots for owner occupancy in a new Planned Development Senior Housing Zone (PD/SH Zone on the --- + 240 acre Etsch and Toto I sites. The rezoning shall permit Toll Brothers to develop 46 market rate single-family detached units on 30,000 square foot lots conforming to the R-30 Zone on the --- + acre Toto II Tract over a ten (10) year build-out.

The rezoning created concomitant with the in-lieu affordable housing payment affirmatively addresses three significant Township planning goals: (a) the elimination of two major mining operations at the Etsch site; (b) the elimination of a future landfill at the Etsch site; (c) the development of predominantly age restricted new dwelling units with the resultant advantageous cost-benefit impact upon the Township fiscal condition.

(2) An Inclusionary Development was zoned on a +/- 390-acre tract on Halsey Reed Road between Wyckoff Mills Road and Apple Garth Road. The inclusionary rezoning development, known as Stratford-at-Monroe, includes Block 13, Lots 4.03, 8.01, and 8.02 together with Block 14, Lots 1, 2, 8, and 14. This development, with a twenty (20) year projected build-out, shall result in a total of 889 dwelling units at a modest density of 2.28 units per acres, including 685 market rate units together with 204 affordable housing units. The mix of affordable housing units shall include 109 age restricted rental units, 45 family rental units, 38 townhouse owner occupied units, and 12 handicapped rental units. The mix of market rate units shall include 590 detached single-family dwellings on 10,000 square foot lots and 95 townhouse units. An intrinsic element of this exclusionary development component of the second Affordable Housing Plan is the dedication of a twenty (20) acre buffer area along Halsey Reed Road at its intersection with Apple Garth Road for the exclusive future use of the Township of Monroe.

Utilizing COAH rules and regulations to the fullest extent possible, the Monroe second Affordable Housing plan met its 391 unit "Prospective Need" thru a maximization of all eligible bonus credit methodologies contained within the COAH guidelines. Thus, the Township 391 unit new construction obligation was met by the planned physical creation of 319 new affordable housing units (115 RCA units + 204 exclusionary zoning units at Stratford-at-Monroe), while capitalizing upon 72 bonus credit units through the methodologies permitted in the COAH regulations.

The Monroe Township Affordable Housing Office stated that the Monroe Township Housing Plan and Fair Share Plan, which has been summarized above remains certified by COAH and is not due to be revised until 2004.

CIRCULATION PLAN ELEMENT

IMPLEMENTATION OF THE PRIOR MASTER PLAN

Based on recommendations presented in the prior Master Plan a number of improvements have been implemented with regard to traffic circulation and safety. Applegarth Road and Perrineville Road still function as the primary north-south corridors through Monroe Township and are impacted by a large percentage of traffic passing through Monroe to other destinations. This condition has intensified as development has occurred in Manalapan and Freehold Townships to the east. In addition Prospect Plains-Hoffman Station Road and Forsgate Drive/Pergola Avenue must accommodate an increasing demand for travel in an east-west direction between the Route 9 corridor and the New Jersey Turnpike and points west. Following is a list of improvements implemented since adoption of the prior Master Plan and their associated benefits:

1. The intersection of Perrineville Road and Prospect Plains Road has been improved by realigning the east leg of Prospect Plains Road creating a typical four-way intersection. By eliminating the offset intersection and installing a traffic signal safety has been greatly enhanced particularly for motorists turning from Prospect Plains Road. In addition, by constructing multiple turn lanes and a modern multi-phase traffic signal capacity has been increased and overall delay reduced.
2. As part of the planning for residential development east of Spotswood-Englishtown Road, Matchaponix Road has been extended to the east to a new intersection with Texas Road. This will reduce delays for left turns from both Matchaponix and Texas Road to Spotswood-Englishtown Road. This new alignment creates a single four-way intersection, which has been signalized to ensure adequate capacity on all approaches. It is recommended that the extension of Matchaponix Road east of Spotswood-Englishtown Road become part of the County road system.
3. Spotswood-Englishtown Road has been realigned and widened north and south of Mounts Mills Road to improve safety along that roadway.
4. Old Forge Road has been connected to Spotswood-Gravel Hill Road through the improvement of Avenue "K".
5. A major industrial boulevard was constructed to connect Possum Hollow Road to Cranbury-South River Road north of the existing rail line. This provides access to the newly developed industrial zone without impact to the existing residential neighborhoods located both north and south along Possum Hollow Road.

The new boulevard permitted the termination of Possum Hollow Road as a cul-de-sac at the northern end of the railroad overpass. By eliminating Possum Hollow Road as a through road under the narrow, one-lane railroad underpass, a major safety problem was eliminated. The existing truck traffic on Possum Hollow Road to and from Forsgate Drive was also eliminated.

6. Through rezoning efforts there has been a reduction in heavy vehicle traffic throughout the Township by encouraging redevelopment of mining areas, which previously generated significant truck traffic.

NEW TRAFFIC SIGNALS

The following is a list of traffic signals that have been installed since the preparation of the prior Master Plan greatly enhancing safety for the residents of Monroe Township.

- Forsgate Drive and Rossmoor Access
- Spotswood-Englishtown Rd. & Matchaponix Avenue
- Jamesburg-Englishtown Road & Schoolhouse Road
- Prospect Plains Road and Perrineville Road
- Prospect Plains Road & Access to Rhodia and the Rockefeller Group Free Trade Zone (This signal also provides access to a relocated entrance/exit for Rossmoor)



EXISTING TRANSPORTATION SYSTEM

Monroe Township is served by a diverse network of roadways and public transportation. Nearby highways such as Route 33, Route 130 and the New Jersey Turnpike provide access to population and employment centers throughout the region. A network of County and Township roadways serve to move people and goods to and from nearby Counties and municipalities. Park-and-ride facilities on Route 130 provide express bus service connections to New York City. The recently completed four-lane widening

of Route 522 through South Brunswick also improves east-west travel between Cranbury-South River Road and the Route 1 corridor. Through cooperation between Monroe Township, neighboring towns and the New Jersey Turnpike Authority major improvements will be implemented involving access to Turnpike Interchange 8A. A two phase process will reduce overall delay and improve safety for motorists traveling to and from the Turnpike as well as those individuals traveling on Forsgate Drive. The improvements will consist of among other design changes, direct access to Cranbury South River Road from the Turnpike exit.

FUNCTIONAL CLASSIFICATION

As part of the Master Plan process this section provides a classification of all significant roadways within Monroe Township according to their intended function. Recognizing that both traffic volumes and the pace of development are constantly changing these revised street classifications more clearly define current conditions and allow for greater flexibility in the future. Streets have been classified on the basis of two factors:

- Function of the roadway
- Physical roadway characteristics

Development along many streets has existed for years while the character and function of these roadways may have changed. In some cases, the desirable roadway geometry, degree of driveway access, and/or type of adjacent land use may no longer be consistent with the definition of a particular roadway class. The roadway hierarchy, which follows attempts to recognize existing conditions while at the same time defining function. The definition of each roadway classification is outlined in Table VI-1 while Table VI-2 provides a summary of all roadways categorized as rural collector or above. Map VI-1 illustrates the functional classification for all of the roadways detailed in Table VI-2.

For roadways under Middlesex County jurisdiction the classifications are recommended for adoption by the County as part of their Master Plan Update.

Of particular interest is the designation of certain roadways as "Rural Collectors". This category is intended to address the relatively undeveloped areas east of Perrineville Road. The intention is to generate future improvements, which are compatible with the surrounding land use while still providing a safe and efficient road network. The scenic rural character of portions of Monroe Township is reflective of the evolving natural and cultural landscape and is highly valued.

Rural roadways in the Township have acquired a unique scenic character, which relates to the width and alignment of the roadway and the variety of roadside features. The preservation of these roadside features and alignments are key elements in maintaining the visual character of the Township's countryside.

The design standard for "rural collector" reflects two 12-foot wide travel lanes with fully paved shoulders three feet in width. The total pavement section would be 30 feet wide with no curbing or sidewalks. Drainage would generally be handled through swales, however a final determination should be made by the Township Engineer to ensure that runoff is accommodated in an acceptable manner.

During the development review process, the Planning Board has an opportunity to apply these principles to the private lands proposed for development. However, the roadway and roadside character within public rights-of-way can only be protected by coordinating the efforts of Middlesex County and Monroe Township so that alterations to these roadways respect the scenic features while also providing for safe vehicular travel.

Table VI-1
DEFINITION OF FUNCTIONAL CLASSIFICATIONS

Major Arterial

An inter-regional road that conveys traffic between counties with maximum mobility and minimum interference. Should be excluded from residential areas.

Minor Arterial

Conducts and distributes traffic between lower order residential streets and arterials and expressways. Designed to promote the free-flow of traffic. Minor arterials have the primary function of facilitating intra-county through movements, although at lower levels of travel mobility than major arterials.

Major Collector

Provides access between the local road system and the arterial road system. Often provides frontage for access to lots and carries traffic to or from adjoining residential streets. Major collectors typically provide two travel lanes.

Minor Collector

Similar to a major collector but typically having lower traffic volumes because they tend to serve less developed areas. Primarily provides access to abutting properties and local road network.

Rural Collector

While performing the same function as a minor collector these roads are located in areas zoned for less than two dwelling units per acre and tend to be rural in character.

Table VI-2 provides a summary of roadways and their corresponding functional classification for each category described above.

Table VI-2
FUNCTIONAL CLASSIFICATIONS

<u>Roadway Segment</u>	<u>Jurisdiction</u>
<u>Major Arterial</u>	
Route 33	State
<u>Minor Arterial</u>	
Cranbury – South River Road	County
Applegarth Road from Forsgate Drive to Clearbrook Entrance	County
Forsgate Drive from Applegarth Road to South Brunswick Border	County
Perrineville Road between Union Valley Road & Prospect Plains Road	County
<u>Major Collector</u>	
Applegarth Road (Route 33 to Clearbrook Entrance)	County
Butcher Road	County
Perrineville Road between Route 33 and Union Valley Road	County
Perrineville Road between Prospect Plains Road & Jamesburg Municipal line	County
Prospect Plains Road	County
Hoffman Station Road (Prospect Plains Road to Jamesburg-Englishtown Road)	County
Forsgate Drive (Applegarth Road to Jamesburg border)	County
Jamesburg-Englishtown Road	County
Englishtown Road	County
Rhode Hall Road (between South Brunswick and Jamesburg borders)	County
Helmetta Road	County
Spotswood-Englishtown Road	County

Matchaponix Road and Pergola Avenue	County
Union Valley – Half Acre Road	County
Union Valley Road (Perrineville Road to Union Valley – Half Acre Road)	Monroe
Union Hill Road	County
Half Acre Road	County
Perrineville Road (between Jamesburg border and Union Valley Road)	Monroe
Cranbury- Half Acre Road (between Applegarth Rd. and Union Valley-Half Acre Rd.)	Monroe
Industrial Boulevard between Possum Hollow Road & Cranbury-South River Road	Monroe

Table VI-2 (Cont'd)

FUNCTIONAL CLASSIFICATIONS

<u>Roadway Segment</u>	<u>Jurisdiction</u>
<u>Minor Collector</u>	
Union Valley Road from Perrineville Road to Hoffman Station Road	Monroe
Union Valley Road from Applegarth Road to Union Valley – Half Acre Road	County
Hoffman Station Road from Prospect Plains Road to Union Valley Road	County
Cranbury Station Road from Applegarth Road to Cranbury border	County
Halsey Reed Road	Monroe
Gravel Hill – Spotswood Road	Monroe
Mounts Mills Road	Monroe
Rue Road	Monroe
School House Road	Monroe
Old Forge Road	Monroe
Possum Hollow Road	Monroe
Docks Corner Road	Monroe
Cranbury – Half Acre Road between Applegarth Road and Cranbury border	Monroe
Texas Road	Monroe
<u>Rural Collector</u>	
Federal Road	Monroe
Day Grove Road	Monroe
Gravel Hill Road	Monroe
Old Church Road	Monroe
Wyckoffs Mills – Applegarth Road	Monroe
North Bergen Mills Road	Monroe
Monroe Boulevard	Monroe

ROADWAY STANDARDS

The following standards have been devised for all roadways within Monroe Township based on their functional classification. Minor and major arterials may contain four travel lanes and all roadways may be further widened in the vicinity of major intersections and where traffic conditions warrant. Also it should be recognized that the recommended pavement widths reflect conditions where parking is prohibited. Pavement width adjustments may be appropriate in areas where parking will be permitted.

Table VI-3

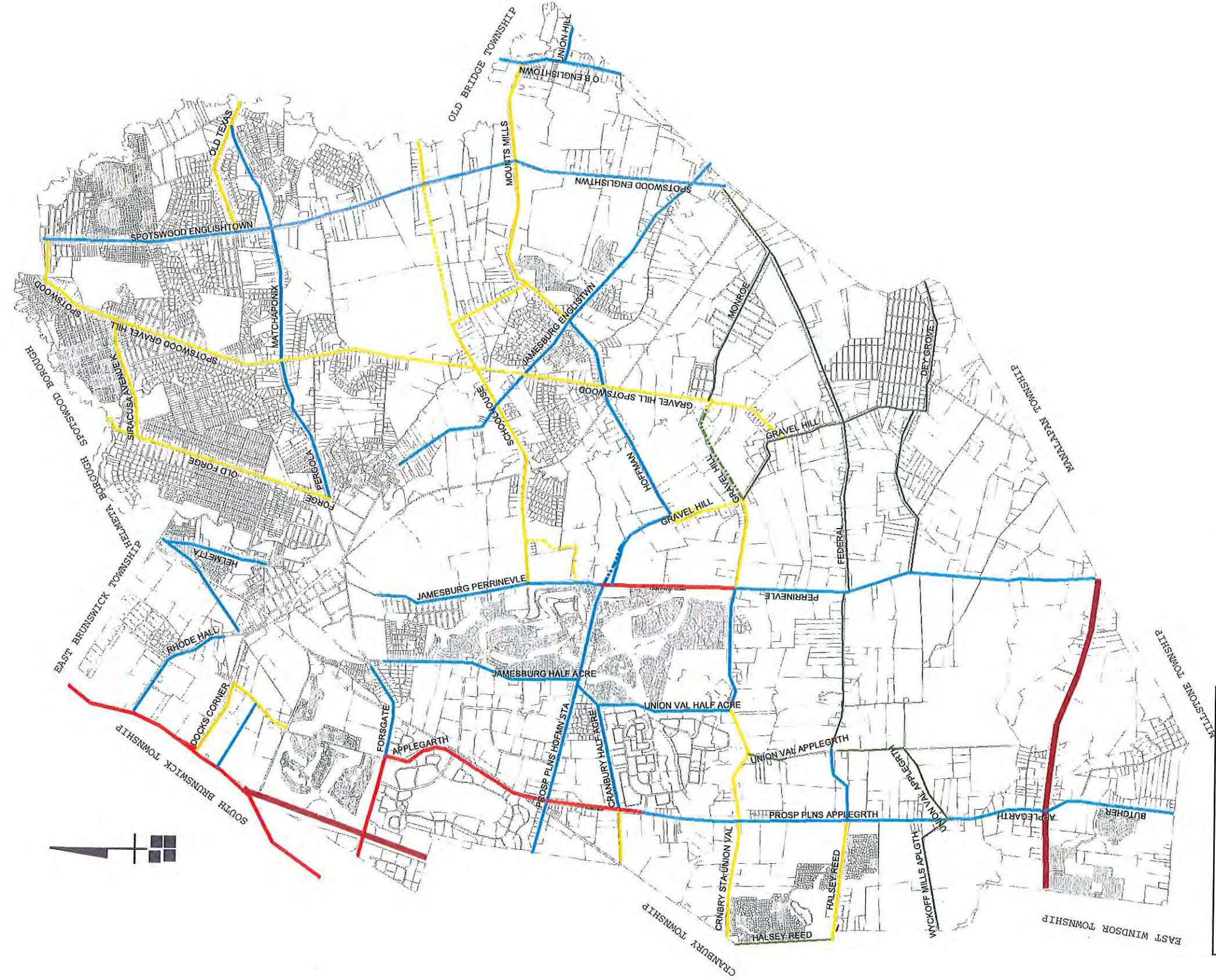
ROADWAY DESIGN STANDARDS

<u>Classification</u>	<u>Right-of-Way Width</u>	<u>Paved Width*</u>	<u>Number of Lanes</u>
Major Arterial	New Jersey State Highway		
Minor Arterial	70 feet	48 feet	2-4
Major Collector	60 feet	40 feet	2
Minor Collector	54 feet	34 feet	2
Rural Collector	50 feet	30 feet	2

*Including shoulders

State Highway Access Management Code

The purpose of the State Highway Access Management Code is to better coordinate transportation and land use planning. The Access code is a set of uniform standards designed to manage vehicular access to and from all State highways. These regulations became effective in April 1992. NJDOT has assigned an “access level” and a “desirable typical section” (DTS) to each State highway. Access level refers to the allowable turning movements to and from driveways on a State highway segment. The desirable typical section is NJDOT’s long-range plan for each State Highway. The NJDOT designation for Route 33 in Monroe Township is Access Level 3, which permits right turns to and from an access point with left turn access via jughandles where signalized spacing standards are met. This highway is defined by NJDOT as a high speed (>45 mph) Principal Arterial with urban characteristics. The long range Desirable Typical Section (DTS) for Route 33 reflects a six lane divided highway with a right-of-way width of 148 feet.



Legend

Functional Classifications

- NJ State Highway
- Minor Arterial
- Major Collector
- Minor Collector
- Rural Collector
- - - Proposed Major Collector
- - - Proposed Minor Collector
- - - Proposed Rural Collector



Functional Classifications

MONROE TOWNSHIP
Middlesex County

New Jersey

HEYER, GRUEL
& ASSOCIATES
COMMUNITY PLANNING CONSULTANTS

July 2003

CIRCULATION MASTER PLAN

The circulation element of the Master Plan addresses both existing transportation needs as well as those, which may result from future growth throughout the community. In general moderate to high density housing will continue to develop along the corridors of Applegarth Road, Perrineville Road north of Union Valley Road and Jamesburg-Englishtown Road. Wetlands in the southern portion of the Township will continue to inhibit roadway improvements as well as limit development potential. High volumes of through traffic will continue to impact Monroe Township with the potential for significant increases when Route 92 is constructed from New Jersey Turnpike Exit 8A to Route 1. The recommendations outlined below reflect not only the results of this current Master Plan examination but considers the suggestions contained in prior Master Plans as well. Each prior recommendation has been reviewed as part of this update process and only those still considered valid are included in this section of the Master Plan. Map VI-2 provides a summary of recommended improvements to the road network in Monroe Township.

Zoning Issues

Future zoning proposals will have a significant impact on traffic conditions within Monroe Township for years to come. This is of particular concern in areas where future roadway construction will be limited by wetlands constraints. Of all the roadways in Monroe Township this situation is best illustrated by Perrineville Road. Serving a north-south corridor through Monroe Township this roadway accommodates significant volumes of through traffic to and from Route 33. Roadway improvements are constrained by expansive wetlands abutting the roadway. For this reason we recommend limiting commercial zoning along Route 33 to avoid major shopping areas which will attract Monroe residents to Perrineville Road. Such development should be concentrated at Applegarth Road which can be improved to better accommodate future traffic volumes. Non-residential uses along Route 33, near Perrineville Road should be limited to employment centers such as office or industrial uses. High density residential development should also be minimized along Perrineville Road.

Improvements to Existing Roadways

Of all the roadways within the Township, Applegarth Road, Perrineville Road and Prospect Plains-Hoffman Station Road will be most impacted by future traffic volumes. The first two roadways accommodate the majority of north-south flow including a large percentage of traffic passing through Monroe to other destinations. Prospect Plains-Hoffman Station Road will likely become the primary east-west County road through the central part of the community. All three roadways will require significant improvement if they are to adequately accommodate future demands.

This is particularly true in light of the proposed construction of S-92 a major east-west highway which would connect New Jersey Turnpike Exit 8A and Route 1. While there is concern that this new road will attract additional traffic passing through Monroe Township there have been a number of changes made in the original design in an attempt to minimize this problem.

A. Applegarth Road

This County road carries the highest volume of north-south traffic between Route 33 and Forsgate Drive. It also serves an area, which will undergo significant residential development over the next several years. The following recommendations are designed to improve both safety and capacity.

1. Widen Applegarth Road to 40 feet between Route 33 and the main entrance to Clearbrook. The roadway should provide two travel lanes with full shoulders on both sides of the roadway. At key intersections the shoulders would transition to provide left turn lanes in each direction.
2. Applegarth Road should be improved at its intersection with Union Valley Road & Cranbury Station Road in connection with signalization and the need to provide dedicated turn lanes on all approaches. This improvement will be essential as large-scale residential development takes place south of Cranbury Station Road.
3. Roadway and signal improvements should be made at the intersection of Applegarth Road and Prospect Plains Road in conjunction with the large-scale residential development currently taking place south and east of that location.
4. Improvements are needed at the intersection of Applegarth Road and Forsgate Drive. The high volume of left turns from northbound Applegarth Road and westbound Forsgate Drive requires separate signal phasing to accommodate these movements. Physical changes would also be beneficial particularly in the southwest corner of the intersection where the existing channelizing island should be reconstructed.
5. Motorists turning to and from Rossmoor Drive at Applegarth Road have experienced safety problems attributed primarily to poor sight distance. This condition is caused by the change in horizontal alignment along Applegarth Road north of the Rossmoor access. The exit from Rossmoor has been restricted to right turns out only however, visibility to the left is still restricted by the curving

alignment along Applegarth Road. Since traffic signals have been installed at the north and south access points to Rossmoor it is recommended that the east gate be converted to an entrance only.

B. Perrineville Road

Transferred from municipal to County jurisdiction this roadway parallels Applegarth Road between Route 33 and Forsgate Drive. Perrineville Road experiences significant safety deficiencies due largely to the narrow cartway and abutting guide rail through the wetlands. Coupled with the narrow pavement are several abrupt changes in alignment. Pending the physical improvement of Perrineville Road a reduction in speed limit would help to improve safety. The County currently has plans to improve two of the bridges along Perrineville Road.

1. Notwithstanding existing wetland issues along segments of this roadway Perrineville Road should be widened between Union Valley Road and Route 33 to meet the standards of a Major Collector. Also, changes in alignment should be implemented at the following locations:

- Crossing Millstone Brook
- From South of Dey Grove Road to North of Federal Road

2. Restripe the pavement to provide a three lane cross-section between Union Valley Road and Prospect Plains Road. This would provide one through lane in each direction and a striped median, which could accommodate northbound left turns into Concordia, the shopping center, gas station and Prospect Plains Road. This section of Perrineville Road is designated as a minor arterial and should be widened in conjunction with future development along the east side of the road.

C. Prospect Plains Road & Hoffman Station Road

Prospect Plains Road and Hoffman Station Road serve an east-west corridor through the central part of Monroe Township. Prospect Plains Road has been improved between Perrineville Road and Applegarth Road in conjunction with the high density development that has taken place over the years. East of Perrineville Road however, the roadway lacks continuity terminating a short distance to the south at Hoffman Station Road. In order to create viable north-south and east-west collectors the following improvements are recommended.

1. Realign Hoffman Station Road to create a continuous north-south roadway with Prospect Plains Road. This new alignment would become the through street with Hoffman Station Road to the east creating a reconfigured "T" intersection.

2. Realign Mounts Mills Road in the area adjacent to its intersection with School House Road.
3. Both eastbound and westbound approaches of Prospect Plains Road at the signalized intersection with Applegarth Road exhibit capacity problems resulting from inadequate cartway widths. The roadway cross-section of Prospect Plains Road should be improved between Engelhard Drive and the Cranbury Township municipal line. Signal timing and phasing at the intersection of Applegarth Road and Prospect Plains Road should be studied by the County to evaluate possible modification.

D. Route 522 – Buckelew Avenue

Due to the anticipated growth in development related traffic along this roadway over the next several years it is recommended that Middlesex County re-evaluate their plans for widening and improving Route 522.

New Roadway Alignments

New roadway construction is recommended at the following locations to complete or complement the existing road network.

1. Create new east-west roadways at the rear of the commercial zones along Route 33 in order to reduce the need for travel along the state highway. This should be done on both sides of the highway.
2. Complete Spotswood-Gravel Hill Road between Jamesburg-Englishtown Road and School House Road.
3. Extend School House Road east from the point it turns 90 degrees to a point on Spotswood-Englishtown Road opposite Rue Road.
4. Realign Wyckoffs Mills-Applegarth Road to cross Applegarth Road north of its existing intersection. Extend that roadway further to the east to connect with Mount Road near its intersection with Old Church Road.
5. As part of future residential development east and south of the High School on Perrineville Road two new roadways should be built with connections to the school. A new north-south roadway should be built east of the High School property connecting to a new east-west roadway south of the High School. This will provide alternative access to the school from Schoolhouse Road.

6. Significant congestion has been identified as traffic on Spotswood-Englishtown Road enters Spotswood. The creation of a new roadway alignment to alleviate this condition cannot be accomplished by Monroe alone but rather requires a cooperative effort between several towns and Middlesex County. It is recommended that the County take the lead in conducting additional studies and developing potential roadway alignments in an effort to develop alternatives to the existing road network at the northeast corner of the community. In order to begin the process a joint committee should be established with representatives from Spotswood, Monroe and Middlesex County.
7. Extend Federal Road to the west so that it intersects Applegarth Road opposite Halsey-Reed Road. The resulting four-way intersection should be signalized and the vertical alignment of Applegarth Road improved south of Halsey Reed Road.

Additional Roadway Realignments

The following roadway realignments are recommended to improve overall safety and to provide continuity throughout the road network.

1. Jamesburg-Englishtown Road, ¼ mile north of Schoolhouse Road has one of the worst safety records for a non-intersection. Virtually all accidents were out of control vehicles running off the road. The cause of the problem clearly relates to the alignment of the roadway. In the long term the roadway should be realigned to eliminate the sharp horizontal curve. Possible short term measures include additional warning signs and possibly a pavement overlay with skid resistant material.
2. Perrineville Road should be realigned north of Dey Grove Rd. This location is dangerous because southbound vehicles cannot see a stopped car around the curve. Conditions will worsen significantly as development occurs along Dey Grove Road. A detailed study of wetlands implications will be needed to accomplish this improvement.
3. Realign roadways to create a four-way intersection at E. Union Valley Road, Monroe Blvd. and Gravel Hill-Spotswood Road.

Future Signalized Intersections






The following intersections are likely candidates for signalization in the immediate future. In most cases the addition of a traffic signal will address existing or potential safety concerns. Special volume studies must be undertaken prior to requesting a signal in order to demonstrate that the location meets warrants as established by the MUTCD (Manual on Uniform Traffic Control Devices). Since many of these locations fall within the jurisdiction of Middlesex County the Township must work in concert with the County to ensure the timely implementation of these recommendations.

1. Jamesburg-Englishtown Road & Mounts Mills Rd./Hoffman Station Rd.
2. Perrineville Road & Union Valley Road
3. Spotswood-Englishtown Road & Jamesburg-Englishtown Road
4. Applegarth Road, Cranbury Station Road & Union Valley Road
5. Applegarth Road & Entrance to Clearbrook
6. Halsey Reed Road and Applegarth Road
7. Cranbury-South River Road and the new Industrial Road extending west from Possum Hollow Road.
8. Prospect Plains Road & Entrances to Concordia and Greenbriar at Whittingham
9. Perrineville Road & Schoolhouse Road
10. Spotswood-Englishtown Road & Monmouth Road/Errickson Avenue



VI-2

Legend

-  New Roadway Alignment
-  Improve Existing Roadway Alignment
-  Future Traffic Signal
-  Existing Traffic Signal
-  Major Improvement of Interchange 8A by Turnpike Authority

Circulation Master Plan

MONROE TOWNSHIP
Middlesex County

HEYER, GRUEL
& ASSOCIATES
COMMUNITY PLANNING CONSULTANTS

New Jersey
July 2003

UTILITY SERVICE PLAN ELEMENT

The provision of adequate public utilities is an important health and safety issue in any developed municipality. Availability of public sewer and water capacity is often a precursor to any new development. This element deals with the present conditions of the water and sewerage systems in Monroe. In order to accommodate the anticipated growth, this infrastructure will have to be expanded. It is expected that developers will pay their fair share contributions to the costs of these expansions. In addition, there are significant water supply considerations, which must be addressed and solved if the planned growth is to continue.

Water and Sewer utilities are presently administered by the Monroe Township Municipal Utilities Authority (MTMUA). By reference, the MTMUA Water and Sewer Master Plans are made a part hereof.

WATER SERVICE - POTABLE

Water service in the Township is provided by the Monroe Township Municipal Utilities Authority. Currently, the MTMUA maintains service throughout most of the developed portions of the Township as shown on Map VII-1. The potable service network consists of one integrated distribution system. The potable water supply is provided from a combination of groundwater sources and one surface water source. The groundwater is drawn from six potable wells and two irrigation wells owned and operated by MTMUA. Due to the quality of the groundwater in these wells, only minimal treatment of the water is necessary on most of the wells. The surface supply is purchased in bulk quantities from the Elizabethtown Water Company. Table VII-1 shows the existing supplies and their capacities.

Much of the Township lies within Critical Area #1 and its margin (see Map VII-1) as created by the Water Supply Management Act Regulations. These regulations prohibit the development of new production wells within the critical area and its margin. As such, all of the MUA wells are located outside this area and any new well supplies must be as well. The area in which new wells may be successfully located is further constricted by the presence of both man-made and naturally occurring contaminants. Man-made contaminants include volatile organic chemicals and pesticides. Naturally occurring contaminants include iron and radionuclides.

Two new wells are in the offing – one under construction and one in design. These wells will likely add an additional 2,000 gpm (2.9 MGD) of pumping capacity, and hopefully will also require minimal treatment for iron. After these two wells, any possible additional wells will require costly treatment measures.

Well #	Pump Capacity	
	gpm	MGD
5	500*	0
8a	1,000	1.440
11	500	0.720
16a	1,100	1.584
17**	800	1.152
19	800	1.152
20	2,083	3.000
21	1,000	1.440
Elizabethtown Interconnect	347	0.500
Total	7,783	10.988
Firm Pumping Capacity	5,547	7.988
*currently inactive, will be used for irrigation beginning 2003		
** currently potable, will be used for irrigation beginning 2003		

Surface supply opportunities within Monroe Township are limited to small streams or bulk purchases from adjacent water purveyors. Allocations from these streams are difficult and will require large areas of land for treatment facilities and storage reservoirs. The MTMUA distribution system is interconnected with the Elizabethtown Water Company (EWCo) on the Monroe/Cranbury border along Prospect Plains Road. On the Monroe/Old Bridge border along Texas Road, the system is interconnected with the Old Bridge Township MUA (OBTMUA) distribution system. The MTMUA has a bulk purchase agreement with Elizabethtown Water Company to buy a minimum of 0.5 MGD. The interconnection is physically capable of generating another 0.94 MGD, but Elizabethtown Water Company has limited supply allocations itself. The MTMUA has no agreement yet with OBTMUA or the Middlesex Water Co. (MWCo.), which supplies the OBTMUA with water. The Texas Road interconnection can only supply water to the lowest pressure gradient in the township which comprises the Mill Lake and Outcalt areas of the Township.

The State of New Jersey Department of Environmental Protection (NJDEP) regulates water supply allocations and system pumping capacities. Allocations are expressed in terms of the total annual gallons and maximum monthly gallons allowed to be diverted

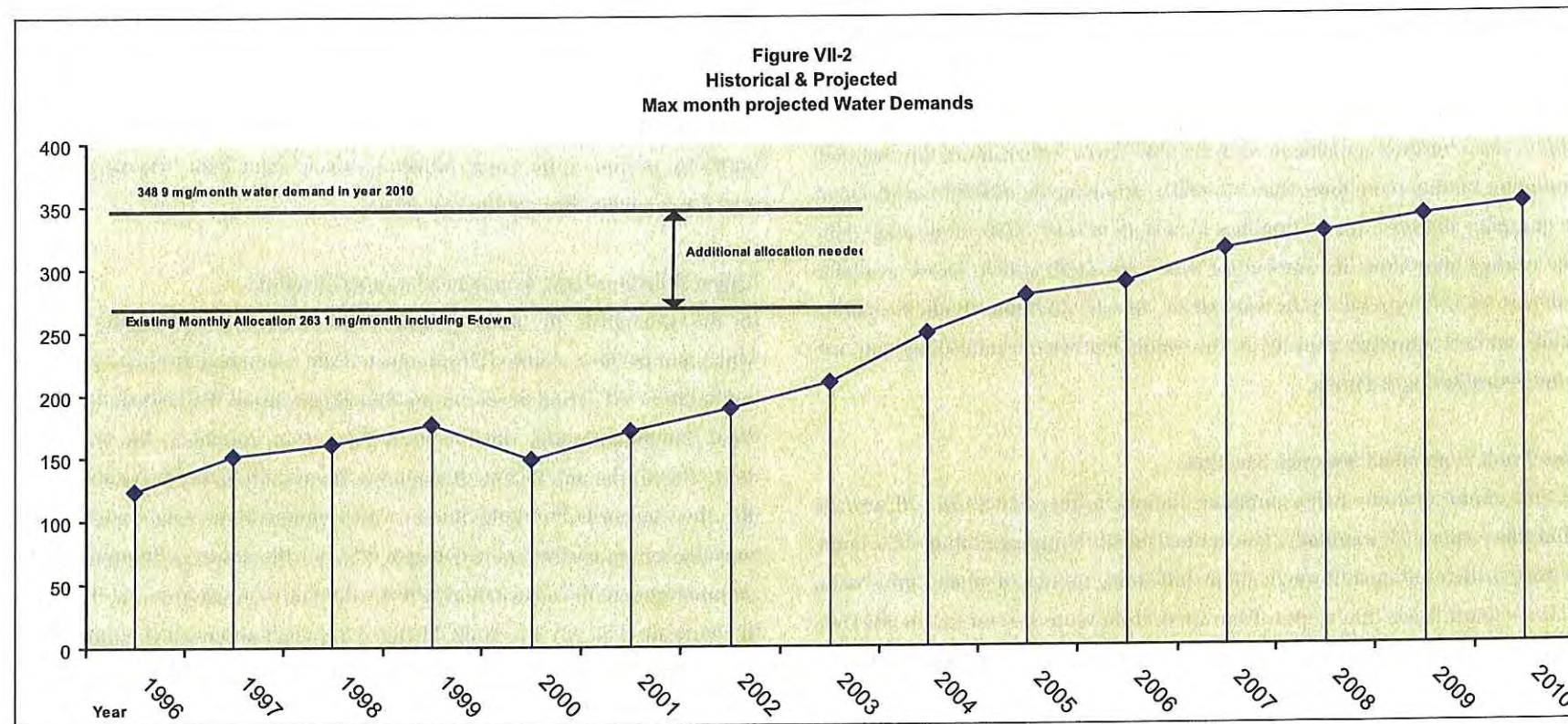
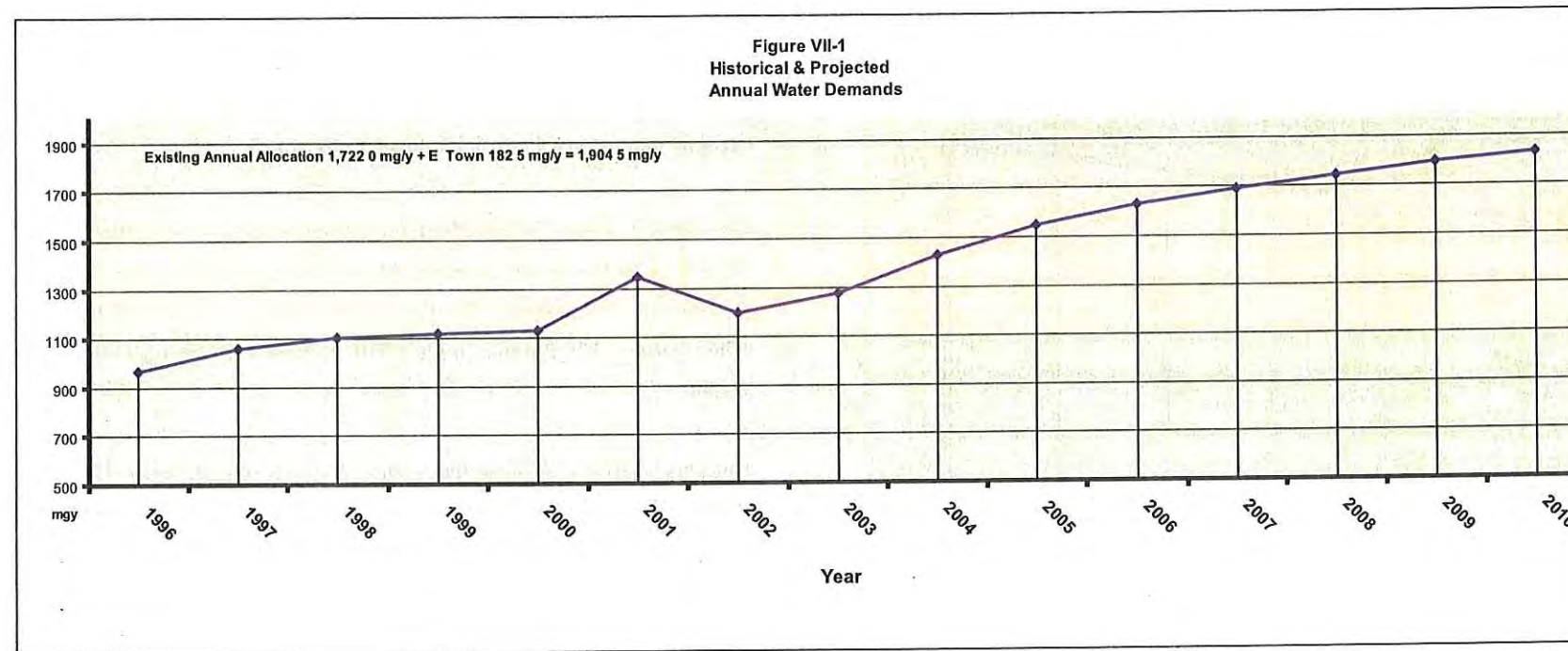
for use. Pumping capacities are expressed in gallons per minute (gpm) or million gallons per day (MGD). Both sufficient allocation and source capacity must exist for NJDEP to issue construction permits for new developments' water extensions.

Currently, the MTMUA's 10 year water allocation permit allows an annual limit of 1,722 million gallons per year (MG/yr) from six wells. The maximum monthly withdrawal is limited to 247.6 MG/mo. Figures VII-1 and VII-2 show the system demands relative to these limits on an annual and monthly basis respectively. If the rate of growth remains constant, the existing monthly allocations are sufficient only until the year 2004, while the annual allocations are sufficient through year 2010. The NJDEP is concerned about the long-term sustainability of these supplies. There is much competition for limited supplies, and the NJDEP doles it out sparingly. At present, the NJDEP has a backlog of allocation permit applications exceeding two years. From conception to startup a new production well typically will take 3 to 4 years. It is obvious that additional water allocations will be needed from NJDEP to reach build-out.

NJDEP regulations require that the "firm" pumping capacity (total with the largest well out of service) exceed the "peak daily demand". These comparisons are shown in figure VII-3. As can be seen from the figures, the foreseeable pumping capacities will be sufficient to handle the projected growth through year 2010, using historical usage for projecting demands.

At this point, it is important to note that the per unit water demands required by NJDEP to issue a water extension permit are far in excess (3 to 4 times) the real demands as derived from actual billings over the past five to ten years. The significance of this is that the water system supplies will be planned to meet real figures based on historical usages; it would be foolhardy to build three times the supplies needed and upon build-out not use two thirds of what you've built. This means that the water extension permit process will have a definite dampening effect on the rate of growth within Monroe Township.

Perhaps the single, largest water demand is that of irrigation. Summer demand peaks are 3 times the winter demands. Even allowing for the "snowbird" factor, the summer irrigation demands account for 66% of the needed supply infrastructure. This large irrigation demand need not be of the high quality required for potable purposes. In fact, the use of potable water to meet irrigation needs would be a waste of valuable resources. Accordingly, the MTMUA has adopted a policy of developing non-potable sources of water for irrigation in all future development.



WATER SERVICE - NONPOTABLE

The only existing sources of non-potable water in the Township are groundwater wells, which the MUA no longer utilizes for domestic consumption due to changes in New Jersey's radionuclide regulations. Potable supplies must meet ever-increasing strict standards of quality as new technology finds new potential for health risks. Currently, four major developments are in the process of utilizing MUA non-potable well water for irrigation.

Potential sources for non-potable supplies include: the Manalapan Brook, the Matchaponix Brook, the upper Millstone River and recycled water from either existing treatment plants such as Western Monmouth Utilities Authority (WMUA) and the State Home for Boys or possibly from future on-site package treatment plans built in large developments or commercial projects.

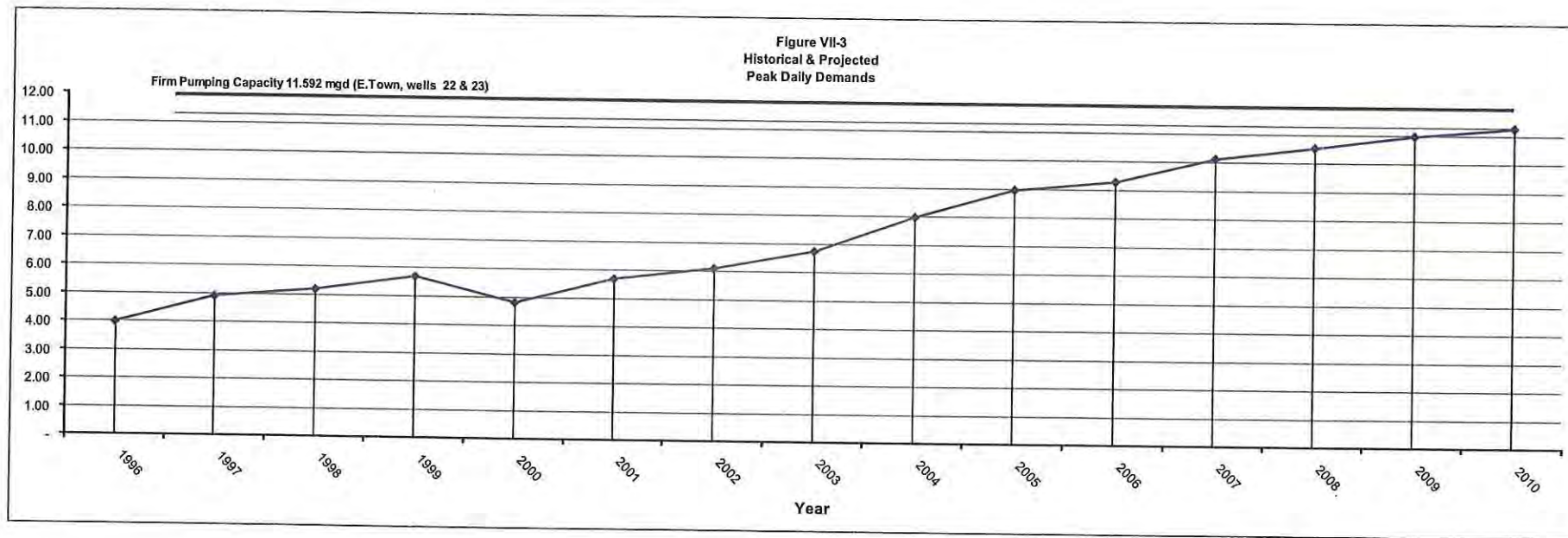
The streams mentioned above have limited flows during the summer irrigation season, so reservoirs are needed to store the water, which is available on a seasonal basis. Sites for reservoirs must be obtained which can satisfy NJDEP permits requirements. The use of recycled water (highly treated wastewater) is regulated by the NJDEP. While this can be a significant and reliable source of irrigation water, its actual use and deployment in residential lawn watering will only be feasible with changes in NJDEP regulations. Another source of irrigation supply is conservation. If changes in existing irrigation practices can reduce irrigation demand, then every gallon per day saved is just as good as a gallon per day of additional supply.

At a minimum, sufficient non-potable irrigation supplies should be developed to meet the peak seasonal demands at build-out. Since the projection of demands is nearly as much art as it is science (one industry with a sizable process demand changes everything), it is advisable to develop as much irrigation supply as is feasible.

Figure VII-3 depicts the projected demands versus developable supplies.

In order to help implement a non-potable irrigation water policy, the MTMUA is requiring all major subdivisions to install separate distribution mains for non-potable irrigation use. The Township can and should include the following provisions in its local land use ordinance:

1. Requirements for use of non-potable water for irrigation in new developments



2. Standards for providing on-site development of non-potable irrigation supplies (e.g. collection and reuse of stormwater runoff) including a requirement for the provision of on-site water storage
3. Standards for conservation measures

Finally, the Master Plan should balance growth to meet available water supplies by establishing land use densities consistent with water supply limits.

SANITARY SEWER SERVICE

With the exception of a limited amount of septic systems, all sanitary sewage generated within Monroe Township is collected and transported to Middlesex County Sewerage Authority's (MCUA) regional treatment plant in Sayreville, N.J. After treatment, the effluent is discharged to the Raritan Bay. Monroe Township lies within three small watersheds. Sewage flows from all three watersheds are pumped to the MCUA's South River Interceptor.

Matchaponix Brook Watershed Sewerage Facilities

There is only one pumping station in this watershed; it is located at the eastern terminus of Ashmall Avenue. All sewage within the watershed flows by gravity to this pumping station. From there, it is pumped out of the Township to the Old Bridge Township Municipal Utility Authority's (OBTMUA) Iresick Brook Trunk Sewer which carries it

to the MCUA South River Interceptor and ultimately to the MCUA sewage treatment plant for treatment and discharge to the Raritan Bay. There is one future pumping station planned along Mounts Mill Road to service the watershed south of the unnamed tributary to the Matchaponix Brook.

The MTMUA has a written agreement with the OBTMUA, which limits the Ashmall Avenue pumping station to no more than 2.0 MGD. Applying the NJDEP's peak factor of 2.5 for pumping stations, this station has a capacity of 0.67 MGD of average daily flow. The average daily flow for April 2002 was 0.48 MGD, which leaves available capacity of 0.19 MGD for growth in the watershed. Special attention should be paid to the available sanitary sewerage capacity in this watershed when establishing land use densities and considering rezoning.

Manalapan Brook Watershed Sewerage Facilities

There are four minor and one major pumping stations in this watershed. All sewage flows within this watershed eventually flow to the Outcalt Pumping Station off Avenue K. The sewage is then pumped through a four-mile long, 20 inch diameter force main to the MCUA's South River Interceptor from where it flows in the end to the MCUA's sewage treatment plant in Sayreville, N.J. The treated effluent is discharged into the Raritan Bay.

There are several existing major trunk sewers, which collect and transport sewage in the Manalapan Brook Watershed. These are shown on Map VII-2 as the Manalapan Brook Trunk Sewer, the Phase VII Trunk Sewer and the West Trunk Sewer. Other sewers, existing and proposed, are also shown on this map.

The capacity of the Outcalt pumping station is rated at 5.76 MGD. According to the MTMUA's 2003 Sewage Master Plan, build-out will require the O.P.S. capacity to be increased to 13.02 MGD. The parallel force main needed to accomplish this is under construction. The pumps, motors and control work at the pumping station are in design.

The Phase VII Trunk Sewer has a capacity limit of 8.43 MGD. This limit will restrict additional rezoning in the Millstone River Watershed as explained in that section of this chapter. Phase VII conveys flows to the O.P.S. from the Borough of Jamesburg, from portions of Monroe Township near Jamesburg, from the West Trunk Sewer and from the Upper Millstone River Watershed.

The West Trunk Sewer carries sewage by gravity flow from the middle and upper reaches of the watershed to the Phase VII Trunk Sewer. The capacity of this trunk sewer is adequate through 2010, but may not be adequate for the build-out.

The Manalapan Brook Trunk Sewer carries flows from the Borough of Helmetta and the northern portion of the Upper Millstone River Watershed. The capacity in this trunk sewer is adequate through the year 2010.

Upper Millstone River Watershed Sewerage Facilities

In this watershed, the major sewage facilities are i.) the Forsgate Pumping Station which pumps flows collected from much of the watershed through a 6 mile force main to the Phase VII Trunk Sewer in the Manalapan Brook Watershed, ii.) the Applegarth Road Pumping Station which collects flows from Rossmoor, the Forsgate Industrial Park, Greenbriar and Encore, then pumps them south to the Forsgate Pumping Station, iii.) the Concordia Pumping Station which pumps flows from a portion of Concordia and adjacent properties to the Forsgate P.S., iv.) the Route 33 Pumping Station (nearing commencement of construction) which will pump sewage from the Rte. 33 corridor to the Forsgate P.S., v.) the Molly Pitcher Pumping Station which pumps flows from the NJTPA Rest Stop 7A to the Applegarth Road P.S., vi.) several large diameter sewers as shown on Map VII-2.

The capacity of the Forsgate Pumping Station is 7.0 MGD influent and 3.5 MGD outgoing due to attenuation included in the design of the pumping station when it was converted from a sewage treatment plant. From the MTMUA's 2003 Sewerage Master Plan, the buildout sewage flows to this station are projected to be 11.87 MGD influent and 3.96 outgoing.

Due to changes in zoning since the 2000 Township and MTMUA Master Plans and anticipated further rezonings, this station's capacity will need to be watched closely. This station's capacity cannot directly be increased. Likewise, the Phase VII Trunk Sewer which receives the Forsgate P.S. flows bears watching. However, by redirecting the flows from the Applegarth Pumping Station to the Manalapan Brook Trunk Sewer, any needed extra capacity can be provided in both the Forsgate P.S. and the Phase VII Trunk Sewer.



COMMUNITY FACILITIES PLAN ELEMENT

INTRODUCTION

The community facilities Plan provides an evaluation of the public service and facility needs of Monroe Township such as fire protection, emergency medical services, libraries and schools. This plan evaluates municipal resources, existing service needs based on the Township's present and probable future population and demographic composition. The existing and proposed community facilities are shown on Community Facilities Map (VIII-1).

MUNICIPAL COMPLEX

In 1979, Monroe Township acquired a centrally located 18.8 acres parcel on Perrinville Road at the intersection of School House Road. A two-story, 26,000 square foot municipal building was constructed on this site and occupied in May 1981. It presently houses municipal administrative functions, a senior citizen center. Additional construction occurred on this site in 1982 when a public Works garage was added and in 1983 when a 7,000 square foot police station was constructed. However, with the increase in population and the subsequent growth of municipal functions and personnel, additional space was needed. In response, the Construction Department was moved to a vacant office building on a 33-acre site on Spotswood-Gravel Hill Road that the municipality acquired in 1994. This building provides sufficient room for present and future municipal functions. In fact, in 1996, the Township's Public Works Department was moved from the present municipal complex to the new site. The former Public Works Department building was refurbished and contains the First Aid and Emergency Services Department.



The improvements that are underway or will be completed in the near future are as follows:

- SENIOR CENTER AND TRANSPORTATION INTERIOR OFFICE CHANGES
- Fiber Optics to connect the four buildings at Municipal Plaza

- Repaving of the Parking Lot
- Municipal Building Generator
- Expansion of Municipal Court offices within existing building space

The relocation of the Senior Center and Transportation offices from the existing Municipal Building into a larger, stand-alone building must be considered as a future capital project, as Township's Senior population and service demands continue to grow. There are over 10,000 senior citizens registered who are being serviced by 15 employees and 60 volunteers working in these departments. The programming and respective participation in these programs continue to grow daily.

LIBRARY

The Monroe Township Public Library building is situated on a 4.5 acre wooded and landscaped, site. The 20,000 square foot building was opened in October 1997. Parking is provided for 100 cars, with spaces provided for both handicapped parking and short-term visits.



A beautiful and well-designed building holds a current materials collection of 82,000 items. Books, periodicals, videos, DVD's, Books on Tape, Books on CD, music CD's and electronic media comprise the collection. A very busy library, the average daily attendance is over 1000 people.

The library offers programs for all ages from 18 months through adult. Popular adult programs can draw an audience of 150 or more participants. As the community has grown rapidly, so has the use of the library and plans for an addition are being discussed.

SCHOOL FACILITIES

The Monroe Township school system presently consists of six schools that serve grades pre-kindergarten through twelfth grade. There are four elementary schools with various grade configurations. Brookside School contains grades 3-6, Woodland School contains grades 4-6, Mill Lake School houses grades Pre K-3 and Barclay Brook School houses Pre K-2. (The Pre K programs in these two schools are special education programs.) The Applegarth Middle School serves grades 7-8 and Monroe Township High School contains grades 9-12. The current school enrollment as indicated in Table VIII-1.



Table VIII-1
School Enrollment, February 2003 School Year

School	Acres	Grade	Current Enrollment
Elementary School			
Barclay Brook	19.87	PK,K,1,2	481
Mill Lake	20.40	PK,K,1,2,3	576
Woodland	19.07	4,5,6	453
Brookside School	20.11	3,4,5,6	560
Middle School			
Applegarth	15.6	7,8	566
High School			
Monroe Township High School	49.89	9,10,11,12	1158
TOTAL	144.94		3794

* Monroe Township Office of Superintendent

Table VIII-2
Historical Grade Pre K-12 Total Enrollments
1994-2003

	1994	1995	1996	1997	1998	1999	2000	2001	2002
ELEMENTARY									
K	184	181	172	193	186	174	229	247	248
1	201	199	208	199	213	219	224	298	305
2	197	194	186	212	194	211	228	238	308
3	189	200	186	190	220	199	230	259	256
4	182	192	211	194	200	222	218	269	277
5	181	184	200	213	201	215	237	246	287
6	175	182	201	201	220	203	229	266	264
TOTAL	1309	1332	1364	1402	1434	1443	1595	1823	1945
MIDDLE									
7	190	192	193	209	224	223	236	262	294
8	204	190	183	191	218	243	236	255	270
TOTAL	394	382	376	400	442	466	472	517	564
HIGH SCHOOL									
9	216	230	243.5	228	196	249	278	292	323
10	212.5	217	224.5	241	221	201	259	287	298
11	212.5	218	214	233.5	247	216	205	245	284
12	209.5	203	197	215	224.5	239	210	190	259
TOTAL	850.5	868	879	917.5	888.5	905	952	1014	1164
SE*	81	82	98	93	81	80	82	77	84
GRAND TOTAL	2651	2679	2727	2827	2865	2913	3123	3451	3757

Source: Dr. Richard S. Grip, Statistical Forecasting, Inc. and Monroe Township Office of Superintendent
 Through October 2002

The Township's student population has been steadily increasing, and is projected to increase through 2010. Enrollments from 1994 through 2002 are given in detail in the following table. As shown in the Table VIII-2 all grades, have experienced increases.

Elementary School Level enrollments has increased by 636 students, Middle School Level by 170 and High School Level enrollments has increased by 314 students from

1994 through 2002. Overall student population has increased by 1,106 individuals between 1994-2002 including Special Education.

ENROLLMENT PROJECTIONS IN THE MONROE TOWNSHIP SCHOOL DISTRICT
 The consultant, Statistical Forecasting prepared a school enrollment projection for the school years 2002/2003 through 2006/2007. The projections are presented in Table VIII-3.

In order to meet future enrollments as projected, the Board of Education has proposed the following school facilities plan.

The proposed plan will consist of a new 1,800 student high school for grades 9 through 12 which will be located on the north side of School House Road. The existing high school will be reconfigured for grades 6, 7 and 8 Middle School. The existing 7 and 8 Applegarth Middle School will be reconfigured into an Elementary School. The existing four elementary schools will remain as existing schools.

TABLE VIII-3					
Projected Grade Pre K to 12 Enrollments from 2003-2007					
Using MRT and a 3-Year Migration Ratio with Housing Effects					
	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007
ELEMENTARY					
K	258	281	266	282	276
1	315	328	357	338	358
2	309	325	338	367	348
3	261	335	351	365	395
4	284	287	362	378	393
5	296	312	315	394	412
6	267	319	337	339	422
TOTAL	1990	2187	2326	2463	2604
MIDDLE					
7	295	296	352	372	373
8	283	317	318	377	398
TOTAL	578	613	670	749	771
HIGH SCHOOL					
9	305	338	378	379	448
10	303	316	350	391	392
11	283	299	312	345	385
12	236	273	289	301	334
TOTAL	1127	1226	1329	1416	1559
SE*	117	126	134	142	150
GRAND TOTAL	3812	4152	4459	4770	5084

* SE=Special Education
 Source: Dr. Richard S. Grip, Statistical Forecasting Inc.

EMERGENCY MEDICAL SERVICES

HISTORY AND OVERVIEW

In 1991 the Monroe Township Municipal Ambulance Service was created. It became an official Division of the Department of Administration and Finance. The creation of this division became essential when the Mayor and Council determined that the volunteer force by itself could no longer meet the daily demands of providing emergency medical attention to the residents of Monroe Township. Presently, the ambulance service is comprised of 7 full time EMT employees, 10 per diem employees and volunteer members. The ambulance service provides 24-hour service for seven days a week to the community.

The EMT personnel staff both stations on two shifts; 7:00 am to 3:00 pm and 3:00 pm to 11:00 pm with assistance from the volunteers. The 11:00 pm to 7:00 am shift is served by volunteer members with some volunteers sleeping overnight at the facility in order to provide a quick response time.

Since the Township is home to five major Planned Retirement Communities (PRC) which constitute one-half the total Township population; two major concerns arise. First' the age groups from 51 and up which includes many PRC residents generate the greatest demand 69% of all 2002 responses on the emergency ambulance service.

The following table illustrates this fact:

TABLE VIII-4 Year 1997	
Patient Age	Number of calls
0 -- 10	77
11 -- 20	168
21 -- 30	151
31 -- 40	188
41 -- 50	168
51 -- 60	185
61 -- 70	375
71 -- 80	871
81 -- 90	755
91 -- 100	147
Unknown	324
TOTAL	3,409

TABLE VIII-5 Year 2002	
Patient Age	Number of calls
0 -- 10	129
11 -- 20	162
21 -- 30	173
31 -- 40	246
41 -- 50	309
51 -- 60	316
61 -- 70	471
71 -- 80	1,329
81 -- 90	1,509
91+	288
Unknown	717
TOTAL	5,649

Second, people of retirement age are not prime candidates to volunteer for ambulance service. The educational, physical and time requirements demand a total commitment, while a good portion of the PRC residents winter in warmer climates. Further, having one-half the population in the senior citizen age group leaves the remaining 50% of the population volunteering for ambulance service. Recent single-family subdivision activity in the community should provide future volunteers to augment the EMS personnel.

EXISTING AND FUTURE FACILITIES AND LOCATIONS

The Township presently utilizes two locations as their base of Emergency Medical Services (EMS) operations. The main facility is located at Monmouth Road. It is at this facility that all the training and record keeping is handled. The second facility is located at the Municipal Complex along Perrinville Road.

It is at the Municipal Complex location that the Township has established the main operational facility for the Municipal Ambulance Service. With the relocation of the Public Works Department to its new base of Operations along Gravel Hill-Spotswood Road; the Township has renovated the public works garage and create a permanent base of operations for the Municipal Ambulance Service.

This facility includes office, classroom, medical storage, vehicle repair and sleeping quarters. The permanent creation of an emergency facility at this location allows for continued quick response to emergency calls from the adult communities which are within close proximity to this location and also for non PRC housing developments in Monroe. This permanent facility will address a major EMS concern since a majority of the calls are from the adult communities.

The completion of the main facility at the Municipal Complex in 1998 provides excellent emergency response to the developed sections of the Township due to the central location of the facility. The long term goal of the EMS includes the creation of a third satellite Emergency Medical Services location in the southern section of the Township. This facility along Applegarth Road could provide rapid response capability for calls from the higher density Mt. Laurel housing development proposed for this area and south of Route 33.

HISTORY OF EMERGENCY CALLS 1991-2002

